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Chehalis River Basin Flood Damage Reduction Project

Wetland, Water, and Ordinary High Water Mark Delineation Report

Prepared for

U.S. Army Corps of Engineers, Washington Department of Ecology, Washington Department of Fish and Wildlife

Prepared by

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ABBREVIATIONS

1987 Manual	*Corps of Engineers Wetland Delineation Manual*
2010 Regional Supplement	*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*
AgACIS	Agricultural Applied Climate Information System
CLS	Chehalis-Centralia Airport
DEM	digital elevation model
DGPS	differential global positioning system
District	Chehalis River Basin Flood Control Zone District
Ecology	Washington Department of Ecology
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FRE	Flood Retention Expandable
HGM	hydrogeomorphic
LiDAR	Light Detection and Ranging
NOL	not on list
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	obligate wetland
OHWM	ordinary high water mark
PEM	palustrine emergent
PFO	palustrine forested
PHS	Priority Habitats and Species
Project	Chehalis River Basin Flood Damage Reduction Project
PSS	palustrine scrub-shrub
RM	river mile

TIN	triangular irregular network
UPL	upland
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WETS	Natural Resources Conservation Service Climate Analysis for Wetlands

1 INTRODUCTION

This report presents the results of wetland, waters, and ordinary high water mark (OHWM) delineations conducted as part of the Chehalis River Basin Flood Damage Reduction Project (Project). The Project applicant, Chehalis River Basin Flood Control Zone District (District), proposes to construct a flood retention facility and associated temporary reservoir, called a Flood Retention Expandable (FRE) facility, on the Chehalis River near Pe Ell, Washington. Along with the flood retention facility, the District proposes to raise and bump out a section of the existing Chehalis-Centralia Airport (CLS)[1] levee. See Figure 1 for a vicinity map that shows the general location of these project sites within the Chehalis River Basin. A description of the Project, as provided by the District, can be accessed electronically at www.chehalisbasinstrategy.com/eis. The field assessments focused on these study areas but may be supplemented in the future if different alternatives are selected by the Washington Department of Ecology (Ecology) for the State Environmental Policy Act Environmental Impact Statement or by the U.S. Army Corps of Engineers (USACE) for the National Environmental Policy Act Environmental Impact Statement.

The investigation for the proposed FRE facility encompassed an approximately 1,700-acre study area located within nine drainage basins in the upper Chehalis watershed (Water Resource Inventory Area 23; Ecology 2017a) between River Mile (RM) 108 and RM 116 along the mainstem Chehalis River near the town of Pe Ell, Washington (Chehalis study area; Figure 2). Field work within the Chehalis study area was performed in March, April, and May of 2017 by Anchor QEA, LLC wetland scientists and stream ecologists. The investigation for the airport levee encompassed the northwest corner of CLS where a potential "bumping" out of the levee may occur to avoid interference with the flight path of the airport runway (CLS study area). Field work within the CLS study area was performed in June 2017 (Figure 3).

Additional field work by Anchor QEA wetland scientists and stream ecologists was conducted in June 2018 within the Chehalis study area to collect data gaps information, refine the OHWM/Light Detection and Ranging (LiDAR) delineation data and methods, and address comments from previous Chehalis study area on-site visits conducted with Ecology, USACE, and the Washington Department of Fish and Wildlife (WDFW) on April 4 and August 27, 2017. A final on-site visit to the Chehalis study area was conducted on August 16, 2018, with Ecology, USACE, and WDFW. At that time, OHWM delineation methods and proposed deviations were discussed and subsequently incorporated into this report.

1 CLS is the three-letter airport code assigned to the Chehalis-Centralia Airport by the Federal Aviation Administration.

Anchor QEA wetland scientists and stream ecologists classified delineated wetlands based on the dominant vegetation types present and their location in the landscape and rated them using Ecology's wetland rating methods for Western Washington.

This report describes existing site conditions observed at the time of the site visits; presents the methods used to complete the wetland delineation, functions assessment, and ratings study; and describes each of the wetlands and other waters identified within the study areas. This report documents the investigation, best professional judgment, and conclusions of Anchor QEA wetland scientists and stream ecologists. It is correct and complete to the best of Anchor QEA's knowledge.

This report is intended to provide Ecology, USACE, and WDFW with documentation of the field investigations, including the following:

- General description of each study area
- Discussion of wetlands and waters as mapped by existing natural resource data sources
- Description of the methods used to complete the wetland and OHWM delineations
- Summary of the wetland and OHWM delineation results including the total acreage of wetlands and waters present within both study areas
- Discussion of the ratings assigned to each identified wetland

Wetlands – Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 Code of Federal Regulations 328.3(c)(4)). Wetlands typically require the presence of three diagnostic characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

Waters – Non-wetland waterbodies, including traditionally navigable and non-navigable tributaries, streams, rivers, ponds, lakes, and other drainageways.

Ordinary High Water Mark – The line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 Code of Federal Regulations 328.3(c)(6)).

2 STUDY AREA

The study area for this report includes the Chehalis study area (Figure 2) and CLS study area (Figure 3). Table 1 provides some general location information for each study area.

Table 1
Location Information for the Chehalis and CLS Study Areas

STUDY AREA	GENERAL LOCATION DESCRIPTION	PUBLIC LAND SURVEY SYSTEM TOWNSHIP, RANGE, AND SECTION	LEWIS COUNTY TAX PARCEL IDENTIFICATION NUMBERS
Chehalis Study Area	Along the mainstem of the upper Chehalis River between RM 108 and RM 116, approximately 2 miles south of Pe Ell	T12-0N R5-0W S14, T12-0N R5-0W S16, T12-0N R5-0W S27, T12-0N R5-0W S11, T12-0N R5-0W S21, T12-0N R5-0W S10, T12-0N R5-0W S15, T12-0N R5-0W S09, T12-0N R5-0W S03, T12-0N R5-0W S04, T12-0N R5-0W S23, T12-0N R5-0W S22, T12-0N R5-0W S33, T12-0N R5-0W S34	016569001000, 016575000000, 016565000000, 016591000000, 016539000000, 016504000000, 016522000000, 016521001000, 016439001000, 016392004000, 016763000000, 016746000000, 016690000000, 016623000000, 016647000000, 016640001000
CLS Study Area	Northwest of CLS in Chehalis	T14-0N R2-0W S19	021617000000, 021610001002, 005605080001

Land use in the Chehalis study area is privately-owned, forested property used for timber production and silviculture practices. The dominant features of the Chehalis study area include the Chehalis River and associated tributaries and multiple parcels of even-aged stands of coniferous forest habitat of various stages of growth and density following previous silviculture and timber practices. Development and infrastructure in the Chehalis study area is limited to bridges, culverts, and unpaved logging access roads with no power or water utilities. Logging access roads include maintained roads with current regular use and unmaintained roads that have not been used for several years or more. Land use in the surrounding vicinity of the Chehalis study area is also dominated by forested property. The community of Pe Ell is located north, and outside, of the Chehalis study area.

Land use in the CLS study area is primarily agricultural outside of NW Airport Road and airport operations and maintenance activities, such as mowing and private flight activities, within NW Airport Road. The dominant features within the CLS study area are agricultural fields, depressional wetlands, drainage ditches, a maintained levee trail, and paved public roads. Development and infrastructure at the CLS study area includes paved roads, maintained levee, aboveground power utilities, and belowground utilities.

3 REVIEW OF EXISTING INFORMATION

Prior to starting field work, multiple sources of information were reviewed to assist in developing the approach to the delineation study. As part of the analysis to identify and delineate stream and wetland resources in the study areas, Anchor QEA wetland scientists and stream ecologists reviewed the following sources of information to support field observations:

- Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA 2017)
- U.S. Fish and Wildlife Service (USFWS) Wetlands Mapper for National Wetlands Inventory (NWI) map information (USFWS 2017)
- Ecology's 2011 Modeled Wetland Inventory (Ecology 2011)
- WDFW Priority Habitats and Species (PHS) maps for priority aquatic habitats (WDFW 2017)
- WDFW Chehalis River floodplain land cover change detection analysis mapping (Pierce et al. 2017)
- Historical aerial photography (Google Earth)

3.1 Soil Survey Mapping

The NRCS online Web Soil Survey (NRCS 2017) maps 24 soil types within the Chehalis study area and four soil types within in the CLS study area (Appendix A). Table 2 summarizes the soil mapping information for the Chehalis study area. All these soil types are classified as non-hydric except for the Riverwash soil type, which is classified as hydric. Of the 23 mapped non-hydric soil types, four may contain hydric inclusions: Aquic Xerofluvents overflow; Olympic silty clay loam, 0 to 8% slopes; Winston loam, 0 to 8% slopes; and Winston gravelly loam, 0 to 8% slopes. Table 3 summarizes the soil mapping information for the CLS study area. All of the soil types mapped for that study area are classified as hydric except for the Chehalis silty clay soil type, which is classified as non-hydric but known to contain hydric inclusions of Alvor and Reed hydric soil types.

Table 2
Soils Mapped within the Chehalis Study Area

MAP UNIT	SOIL TYPE NAME	DRAINAGE CLASS	HYDROLOGIC SOIL GROUP[1]	HYDRIC RATING[2]	HYDRIC INCLUSIONS[3]	ACRES
4	Aquic Xerofluvents, overflow	Moderately well drained	A	10	Yes	43.2
22	Boistfort clay loam, 8-30% slopes	Well drained	B	0	No	61.1
29	Bunker loam, 8-30% slopes	Well drained	B	0	No	183.3
30	Bunker loam, 30-65% slopes	Well drained	B	0	No	143.8
108	Katula very cobbly loam, 8-30% slopes	Well drained	C	0	No	0.3
109	Katula very cobbly loam, 30-65% slopes	Well drained	C	0	No	102.6
110	Katula very cobbly loam, 65-90% slopes	Well drained	C	0	No	22.8
111	Katula-Bunker complex, 8-30% slopes	Well drained	B/C	0	No	6.6

MAP UNIT	SOIL TYPE NAME	DRAINAGE CLASS	HYDROLOGIC SOIL GROUP[1]	HYDRIC RATING[2]	HYDRIC INCLUSIONS[3]	ACRES
112	Katula-Bunker complex, 30-65% slopes	Well drained	B/C	0	No	37.9
113	Katula-Bunker complex, 65-90% slopes	Well drained	B/C	0	No	43.8
114	Katula-Rock outcrop complex, 30-65% slopes	Well drained	C	0	No	48
115	Katula-Rock outcrop complex, 65-90% slopes	Well drained	C	0	No	298
124	Lytell silt loam, 8-30% slopes	Well drained	B	0	No	3.7
125	Lytell silt loam, 30-65% slopes	Well drained	B	0	No	10.1
155	Olympic silty clay loam, 0-8% slopes	Well drained	C	3	Yes	2.4
166	Pits	NS	NS	0	No	9.3
180	Riverwash	NS	NS	100	N/A	4
181	Rock outcrop	NS	NS	0	No	7.3
222	Swem cobbly silt loam, 30-65% slopes	Moderately well drained	C	0	No	2.5
224	Thrash silty clay loam, 8-30% slopes	Well drained	B	0	No	18
237	Walville silt loam, 8-30% slopes	Well drained	B	0	No	1
238	Walville silt loam, 30-65% slopes	Well drained	B	0	No	73.1
242	Winston loam, 0-8% slopes	Well drained	B	5	Yes	573
243	Winston gravelly loam, 0-8% slopes	Well drained	B	5	Yes	13.6

Notes:

1. Hydrologic soil groups are based on runoff potential according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.
   a. Group B soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
   b. Group C soils have slow infiltration rates when thoroughly wet, caused by either an underlying layer that impedes the downward movement of water or soils of moderately fine or fine texture.
   c. Group D soils have a very slow infiltration rate (high runoff potential) when thoroughly wet and include soils consisting of clays with high shrink-swell potential, soils that have a high water table, soils that have a clay or claypan layer at or near the surface, and soils that are shallow over nearly impervious material.
2. The hydric rating refers to the percentage of the soil mapping unit that meets hydric soil criteria.
3. Non-hydric soils may have inclusions of hydric soil in the lower positions on the landform.

N/A = not applicable

NS = non-specified

Table 3
Soils Mapped within the Chehalis-Centralia Airport Study Area

MAP UNIT	SOIL TYPE NAME	DRAINAGE CLASS	HYDROLOGIC SOIL GROUP[1]	HYDRIC RATING[2]	HYDRIC INCLUSIONS[3]	ACRES
1	Alvor silty clay loam	Poorly drained	C	85	Yes	4.4
48	Chehalis silty clay	Well drained	B	10	Yes	6.4
172	Reed silty clay loam	Poorly drained	D	96	Yes	5.1
173	Reed silty clay loam, channeled	Poorly drained	C/D	95	Yes	1.7

Notes:
1. Hydrologic soil groups are based on runoff potential according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.
   a. Group B soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
   b. Group C soils have slow infiltration rates when thoroughly wet, caused by either an underlying layer that impedes the downward movement of water or soils of moderately fine or fine texture.
   c. Group D soils have a very slow infiltration rate (high runoff potential) when thoroughly wet and include soils consisting of clays with high shrink-swell potential, soils that have a high water table, soils that have a clay or claypan layer at or near the surface, and soils that are shallow over nearly impervious material.
2. The hydric rating refers to the percentage of the soil mapping unit that meets hydric soil criteria.
3. Non-hydric soils may have inclusions of hydric soil in the lower positions on the landform.

3.2 National Wetlands Inventory

The NWI Wetlands Mapper shows multiple mapped wetland and riparian resources within the 1,700-acre Chehalis study area (Appendix A, Figure A-3). Mapped wetland features include three individual wetlands and portions of the channels of Lester Creek, Crim Creek, Big Creek, Roger Creek, and an unnamed creek near the upstream end of the Chehalis study area. The individual wetlands include a combination palustrine, scrub-shrub, broad-leaved deciduous (PSS1)/palustrine, unconsolidated shore (PUS) seasonally flooded wetland along the Chehalis River just upstream from confluence with Crim Creek; a palustrine, unconsolidated bottom, permanently flooded, diked/impounded (PUBHh) wetland in Lester Creek; and a palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetland near the confluence of Big Creek and the Chehalis River. In addition to these wetland resources, the portions of Lester Creek, Crim Creek, Big Creek, Roger Creek, and the unnamed creek that occur within the study area boundary are mapped as palustrine, forested, broadleaved deciduous, seasonally-flooded (PFO1C) wetlands. In addition to wetland resources, the NWI Wetlands Mapper also maps most of the remaining stream network within the Chehalis study area as riparian resources. (Due to the large number of streams and drainages in the Chehalis study area, riparian habitat mapped by the NWI Wetlands Mapper is not shown in Figure A-3.)

The mainstem Chehalis River and downstream portions of several of its non-wetland mapped tributaries including Hull Creek, Smith Creek, and Alder Creek are identified as riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) riparian habitats; several of the smaller

tributaries that flow directly to the river are identified as riparian, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) riparian habitats; and the majority of the remaining, smaller streams that feed into these tributaries (and in some cases directly into the river) are classified as riverine, intermittent, streambed, seasonally flooded (R4SBC) riparian habitats.

For the CLS study area, the NWI Wetland Mapper shows a portion of one mapped wetland along the western boundary of that study area and an off-site wetland immediately adjacent to the northeastern portion of the study area boundary (Appendix A, Figure A-4). The on-site wetland is part of a larger off-site area that is mapped as a palustrine, emergent, persistent, temporarily flooded (PEM1A) wetland. The mapped wetland adjacent to the northeastern study area boundary is shown as an unconsolidated bottom, permanently-flooded (PUBH) wetland.

3.3 Modeled Wetland Inventory

Ecology's 2011 Modeled Wetland Inventory shows multiple palustrine forested (PFO) and palustrine scrub-shrub (PSS) wetlands mapped throughout the channels of both Crim Creek and Lester Creek in the Chehalis study area (Appendix A, Figure A-5). A small palustrine emergent (PEM) wetland is also shown near the confluence of Crim Creek and the Chehalis River. Both PSS and PFO wetlands are mapped along much of the Big Creek channel, with a few scattered PEM wetlands in the upstream portions near the study area boundary. In addition, a group of PSS and PFO wetlands are also mapped around the location where Roger Creek flows into the Chehalis River.

For the CLS study area, the 2011 Modeled Wetland Inventory shows multiple PEM wetlands, as well as areas identified as "potentially disturbed wetlands," both within and immediately adjacent to the study area boundary (Appendix A, Figure A-6). According to Ecology (2017b), the potentially disturbed wetland classification includes those areas that have a high potential to be wetland but appeared to have an agricultural land cover types (e.g., pasture, hayfield, cultivated field) on the aerial photography used to complete the inventory.

3.4 Priority Habitat and Species Mapping

The WDFW PHS online mapper (PHS on the Web) was reviewed for mapped occurrences of freshwater wetlands, fresh deepwater areas, and instream priority aquatic habitats within the Chehalis and CLS study areas. For the Chehalis study area, only one area of priority aquatic habitat, a freshwater PSS/PFO wetland, was identified near the confluence of Big Creek and the Chehalis River. For the CLS study area, mapped priority aquatic habitats included both freshwater PEM, PSS, and PFO wetlands showed wetland habitats. PHS data were not included on the figures because they are only viewable in table format.

3.5 Floodplain Land Cover Change Analysis Mapping

The land cover mapping performed by WDFW as part of a change detection analysis for the Chehalis River floodplain (Pierce et al. 2017), does not show any wetlands within the Chehalis study area. The

main channel of the Chehalis River is shown, but none of the major tributaries are mapped. Most of the Chehalis study area is shown as being forested, with areas of herbaceous and scrub-shrub vegetation occurring along the river. Areas of sand/gravel are also mapped in the channel.

For the CLS study area, the WDFW land cover change analysis mapping shows two large wetlands extending into the study area along the northwestern and northeastern boundaries. Areas of open water are also mapped in various locations. Most of the land cover is shown as herbaceous, along with areas of bare ground and built cover types.

3.6 Historical Aerial Photography

Review of Google Earth aerial photography from 1990 through 2018 was conducted for both study areas. Forestry management and silviculture practices within the Chehalis study area were the most common land uses observed throughout the review period, with land cover commonly changing between forested, clear-cut, and forest regeneration cover types. For the CLS study area, agriculture and seasonal crop rotation was consistent across all years of aerial photographs. Standing water and evidence of surface hydrology was also common in the reviewed aerial photos within the CLS study area.

4 PRECIPITATION DATA AND ANALYSIS

To provide additional information on the hydrologic conditions of the study areas, precipitation data were acquired for both sites from the Agricultural Applied Climate Information System (AgACIS) website (AgACIS 2018a). For the Chehalis study area, precipitation data for the months of November 2016 to August 2018 were obtained from weather station Dryad near Pe Ell (AgACIS 2018a). These data were compared to the 30th to 70th percentile normal range listed in the NRCS Climate Analysis for Wetlands (WETS) Table for WETS Station Centralia for the 30-year period between 1981 and 2010 (AgACIS 2018b) to determine the typical hydrologic conditions present at the time of the delineation site visits (Table 4). Monthly rainfall recorded during the 4 months preceding the March through June 2017 site visits was typically above the 30th to 70th percentile normal range for the area. Monthly rainfall recorded during the 4 months preceding the June 2018 site visits was either within, above, or below the normal range. Based on this information, Anchor QEA visited the Chehalis study area during a broad range of precipitation conditions (i.e., within, above, and below the normal range for the area), allowing for a greater understanding of local hydrology and thus the ability to find sufficient evidence during the field visits to determine the presence of wetland hydrology.

Table 4

Precipitation for 4 Months Prior to Chehalis Study Area Site Visits Compared to 1981-2010 U.S. Climate Normals

MONTH	ACTUAL MONTHLY PRECIPITATION (INCHES)[1]	30TH TO 70TH PERCENTILE NORMAL RANGE (INCHES)[2]	30TH TO 70TH PERCENTILE NORMAL RANGE
November 2016	11.81	5.44 to 9.28	No, above normal
December 2016	7.73	5.13 to 8.18	Yes
January 2017	4.11	4.49 to 8.13	No, below normal
February 2017	9.25	3.07 to 6.02	No, above normal
March 2017[3]	10.95	3.81 to 5.59	No, above normal
April 2017[3]	6.49	2.64 to 4.19	No, above normal
May 2017[3]	3.64	1.70 to 3.09	No, above normal
June 2017[3]	1.49	1.15 to 2.34	Yes
February 2018	4.88	3.07 to 6.02	Yes
March 2018	2.93	3.81 to 5.59	No, below normal
April 2018	8.8	2.64 to 4.19	No, above normal
May 2018	0.37	1.70 to 3.09	No, below normal
June 2018[3]	1.44	1.15 to 2.34	Yes
July 2018	0.26	0.32 to 0.73	No, below normal
August 2018	0.37	0.35 to 1.13	Yes

Notes:
1. Precipitation data obtained from the AgACIS website for weather station Dryad near Pe Ell (AgACIS 2018a).
2. Precipitation data obtained from the WETS Table for WETS Station Centralia from 1981 to 2010 (AgACIS 2018b).
3. Shaded rows indicate the months of the Chehalis study area delineation field work and site visits.

For the CLS study area, precipitation data for the months of February to June 2017 were obtained from weather station Centralia near Centralia, Washington (AgACIS 2018a). These data were compared to the 30th to 70th percentile normal range listed for the Centralia WETS Station (AgACIS 2018b) to determine the typical hydrologic conditions present at the time of the delineation site visits (Table 5). Monthly rainfall recorded during the 4 months preceding the June 2017 site visits was typically within the normal range for the area. As such, the hydrologic conditions observed in the field during the delineation site visit were considered to be indicative of normal conditions for the CLS study area.

Table 5

Precipitation for 4 Months Prior to CLS Study Area Site Visit Compared to 1981-2010 U.S. Climate Normals

MONTH	ACTUAL MONTHLY PRECIPITATION (INCHES)[1]	30TH TO 70TH PERCENTILE NORMAL RANGE (INCHES)[2]	WITHIN 30TH TO 70TH PERCENTILE NORMAL RANGE
February 2017	5.52	3.07 to 6.02	Yes
March 2017	5.09	3.81 to 5.59	Yes
April 2017	3.13	2.64 to 4.19	Yes
May 2017	2.45	1.70 to 3.09	Yes
June 2017[3]	1.01	1.15 to 2.34	No, Below Normal

Notes:

1. Precipitation data obtained from the AgACIS website for weather station Centralia (AgACIS 2018a).
2. Precipitation data obtained from the WETS Table for WETS Station Centralia from 1981 to 2010 (AgACIS 2018b).
3. Shaded row indicates the month of the CLS study area delineation field work.

5 WETLANDS DELINEATION

Anchor QEA ecologists identified, delineated, and performed a wetland rating analysis on 123 wetlands in the approximately 1,700-acre Chehalis Basin study area and 3 wetlands in the CLS study area. The wetland delineation methods and results described in this section are consistent with current federal and state agency requirements.

5.1 Wetland Delineation Methods

The wetland delineation was conducted according to the methods defined in the *Corps of Engineers Wetland Delineation Manual* (1987 Manual; Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (2010 Regional Supplement; USACE 2010), and Ecology's *Washington State Wetland Identification and Delineation Manual* (Ecology 1997). Delineation methods followed federal and state guidance; however, due to the number of wetlands encountered in the Chehalis study area in particular, the reporting of results deviated slightly from standard practices. These deviations are discussed in Section 5.1.5.

Paired data plots were collected and recorded at each wetland to document both the wetland and upland conditions used to define its boundary. Each data plot was identified by the wetland name, followed by a numerical value to designate it as either a wetland or upland plot. All wetland plots were identified by an odd number (e.g., DP01) and upland plots were identified by an even number (e.g., DP02). Vegetation, soils, and hydrology information were collected at each of the data plots and recorded on standard Wetland Determination Data Forms (Appendix B). Wetland boundaries were determined based on plot data (i.e., soils and hydrology) or visual observations of the wetland (i.e., vegetation and topography). That is, wetland boundaries were determined where one of the three criteria were absent, either through observations of data plots or visual hydrophytic vegetation. The locations of wetland boundaries and data plot locations were flagged in the field, and flag locations were recorded using mapping-grade (sub-meter) differential global positioning system (DGPS) receivers (Trimble GeoExplorer 6000 and Trimble R1 Global Navigation Satellite System receivers).

5.1.1 Vegetation

At each data plot, trees and woody vines within a 30-foot radius, shrubs within a 15-foot radius, and herbaceous vegetation within a 5-foot radius from the center of the plot were identified and recorded on data forms. If there was an abrupt change in the vegetation community due to topography or the proximity of a wetland-upland boundary, the size or shape of the vegetation plots was shifted to avoid overlapping the boundary and extending into an adjacent community that could exhibit different vegetation, soils, or hydrologic conditions. Percent cover for each plant species was estimated in the plot, and dominant plant species were identified. Dominant species were determined using the

50/20 rule, which defines dominants as the "most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total" (USACE 2010).

A plant indicator status (Table 6), as designated by the *National Wetland Plant List: 2016 Wetland Ratings* (Lichvar et al. 2016), was assigned to each species and a determination was made as to whether the vegetation in the plot was hydrophytic. Generally, the dominance test was used to determine whether hydrophytic vegetation was prevalent. To meet that hydrophytic vegetation indicator, more than 50% of the dominant species must have a wetland indicator status of obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC). In circumstances where the dominance test was not met, other hydrophytic vegetation indicators (e.g., prevalence index) were also used to verify whether hydrophytic vegetation was prevalent. An area was determined to have a prevalence of hydrophytic vegetation if any one of hydrophytic vegetation indicators was present.

Table 6
Wetland Plant Indicator Definitions

INDICATOR STATUS	DESCRIPTION
Obligate wetland (OBL)	Plant species occur almost always in wetlands (estimated probability greater than 99%) under natural conditions
Facultative wetland (FACW)	Plant species usually occur in wetlands (estimated probability 67% to 99%), but are occasionally found in non-wetlands
Facultative (FAC)	Plant species are equally likely to occur in wetlands or non-wetlands (estimated probability 34% to 66%)
Facultative upland (FACU)	Plant species usually occur in non-wetlands (estimated probability 67% to 99%), but are occasionally found in wetlands
Upland (UPL)	Plant species occur almost always in uplands (estimated probability greater than 99%) under natural conditions
Not on list (NOL)	Plant species does not occur on the *National Wetland Plant List*; frequently assumed to be UPL

5.1.2 Soils

Soils were sampled in each plot and evaluated for the presence of hydric soil indicators in their upper (i.e., top 12 inches) horizons. Soil pits were dug to a depth of 18 inches, unless prevented by impenetrable substrate. The soil profile at each pit was described on the data forms by its texture, predominant matrix color, and the prevalence and color of any redoximorphic features or gleying present in the profile. Soil colors were classified by their numerical description under the Munsell Soil Color System (Munsell Color 2009). Soil profile descriptions were compared with the hydric soil indicators provided in the 2010 Regional Supplement (USACE 2010) and *Field Indicators of Hydric Soils in the United States A Guide for Identifying and Delineating Hydric Soils, Version 8.1, 2017* (USDA and NRCS 2017). If any one of these indicators was determined to be met, the soil was considered hydric.

5.1.3 Hydrology

Wetland hydrology was evaluated at each data plot to determine if the site experiences 14 or more consecutive days of flooding or ponding, or has a water table 12 inches or less below the soil surface during the growing season at a minimum frequency of 5 years out of 10 (50% or higher probability; USACE 2010). Indicators of wetland hydrology are typically divided into primary and secondary indicators. Examples of primary indicators include the presence of surface water, saturation in the upper 12 inches of the soil column, water marks or lines on adjacent stationary objects (e.g., trees), sediment deposits or drift lines on vegetation, and oxidized rhizospheres along living roots, among others. Examples of secondary indicators include, but are not limited to, observable drainage patterns on the ground surface, visible saturation on aerial photography, geomorphic position, and raised ant mounds. According to the methodologies presented in the 1987 Manual and 2010 Regional Supplement, wetland hydrology is confirmed by the presence of one or more primary indicators or two or more secondary indicators (Environmental Laboratory 1987; USACE 2010).

At each plot, the presence or absence of primary and secondary wetland hydrology indicators was recorded on the data form. If present, the depth of any inundation was recorded in inches above the soil surface. The presence of current or recent saturation was determined using the pits excavated for soil samples. Within each pit, the depth to the saturated zone (if present) was recorded in inches from the soil surface, as was the depth to any free water (i.e., water that naturally entered from the bottom or sides of the pit after the hole had been opened) that collected in the pit during sampling. Wetland hydrology was determined to be present if one or more of the primary indicators, or two or more of the secondary indicators, listed on the data form were present.

5.1.4 Other Data Sources

Existing information was referenced to identify potential wetlands or site characteristics indicative of wetlands in the study areas. The sources of reference information that supported field observations are identified in Section 3.

5.1.5 Regulatory Meetings, Guidance, and Agreements

Due to the large size of the Chehalis study area and the number of wetland and water resources potentially present, Anchor QEA wetland scientists and stream ecologists met with representatives from USACE, Ecology, and WDFW on March 17, 2017, prior to conducting the wetland delineation work, to discuss the approach to the wetland, water, and OHWM delineation for that study area. At that meeting, it was determined that wetland delineations would follow established Ecology and USACE procedures, including the collection of data for each wetland and water identified in the field, and that OHWM identification would follow Ecology procedures. All ravines would be investigated and walked, and any topographical abnormalities (e.g., plateaus, benches, low gradient) along ravines would be examined. Additionally, all drainage basins or sub-basins within the Chehalis study area would be walked from top to bottom by at least two individuals meandering up and down the side slope and investigating any topographically low area or areas dominated by non-coniferous vegetation.

During the March 17 meeting, it was also decided that occasional agency field visits would occur during the delineation process to verify that the agreed-upon procedures were being followed and to review any questionable areas (e.g., disturbed areas that support wetland vegetation) encountered in the field. The proposed use of abbreviated reporting procedures was also discussed, including the lumping of wetlands by type, which the agencies agreed to consider as long as established procedures were used to perform the delineation.

The March 17, 2017 meeting was followed by in-field meetings on April 4 and August 24, 2017, and on August 16, 2018. Due to the large size of the Chehalis study area and the number of resources delineated, Anchor QEA worked with the agencies during and after the field visits to establish reporting methods and agreements on documentation of any deviations from standard delineation procedures. Delineation of wetlands, waters, and OHWM followed normal procedures, with one exception. For the larger waters (e.g., Chehalis River, Crim Creek, and Rogers Creek), LiDAR data were used to interpret the OHWM between OHWM data points collected in the field, following Ecology protocol. This procedure was field-verified during the August 16, 2018 field visit. Meeting notes are available in Appendix C, and resulting methods and reporting deviations are discussed in Section 6.1.

5.1.6 Wetland Naming Convention for Chehalis Study Area

Because of the large number of wetlands and waters identified within the Chehalis study area, a unique naming convention was required for that site. The wetland naming convention is discussed in this section; the naming methodology for streams and other waters is described in Section 6.3. For the CLS study area, which contained only a few wetland and water resources, identified wetlands were named alphabetically (e.g., Wetland A, Wetland B) or descriptively (e.g., Ditch Wetland).

In general, wetlands within the Chehalis study area that are not located adjacent to a stream channel or tributary were identified with a "W" designation for "wetland," which was followed in turn by a letter in alphabetical order to represent individual wetlands identified sequentially beginning at the downstream end of the study area and moving upstream (e.g., WA, WB, WC). Wetlands after "Z" were named by adding additional letters in alphabetical order after the first letter (e.g., WAA, WAB, WAC).

For wetlands that were found in association with major stream channels, an abbreviation of the stream drainage basin per the following list was added to the beginning of the wetland name:

- Upper Chehalis River (CR)
- Alder Creek (AC)
- Big Creek (BC)
- Browns Creek (NC)
- Crim Creek (CC)
- Hull Creek (HC)
- Lester Creek (LC)

- Roger Creek (RC)
- Smith Creek (SC)

Further modifiers were then added after the stream designation to indicate the wetland location on the main water channel (no designation) or the right bank (RB) or left bank (LB) of the stream's tributaries, numbered sequentially from its confluence with the Chehalis River to its upstream end. For example, the first wetland along the main channel of Crim Creek was named CC-WA, the first wetland identified on the left bank for the first tributary of Crim Creek up from its confluence with the Chehalis River was named CC-LB01-WA, and the first wetland on the left bank of the fifth Crim Creek tributary up from its confluence with the river was named CC-LB05-WA.

Wetlands associated with streams that flow subsurface before reaching one of the main stream systems were named according to the drainage basin where they occur, along with an "S" to indicate their flow is subsurface (i.e., no direct surface connection) and a sequential number to indicate their location relative to the downstream end of the basin. For example, the first wetland on an unnamed minor stream channel within the Chehalis Basin that eventually drains to the river via subsurface flow was named CR-S01-WA.

Additional examples of the wetland naming system for wetlands associated with streams are provided in Table 7.

Table 7
Wetland Naming Examples

STREAM DRAINAGE BASIN NAME AND ABBREVIATION	WETLAND ON MAIN CHANNEL[1]	WETLAND ON PRIMARY TRIBUTARY LEFT BANK[1,2,3]	WETLAND ON PRIMARY TRIBUTARY RIGHT BANK[1,2,3]	WETLAND ON FIRST SECONDARY TRIBUTARY[1,2,3]	WETLAND ON STREAM THAT FLOWS SUBSURFACE[1]
Upper Chehalis River (CR)	CR-WA	CR-LB01-WA	CR-RB01-WA	CR-LB01-T1-WA	CR-S01-WA
Alder Creek (AC)	AC-WB	AC-LB01-WB	AC-RB01-WB	AC-LB01-T1-WB	AC-S01-WB
Big Creek (BC)	BC-WA	BC-LB01-WA	BC-RB01-WA	BC-LB01-T1-WA	BC-S01-WA
Browns Creek (NC)	NC-WB	NC-LB01-WB	NC-RB01-WB	NC-LB01-T1-WB	NC-S01-WB
Crim Creek (CC)	CC-WA	CC-LB01-WA	CC-RB01-WA	CC-LB01-T1-WA	CC-S01-WA
Hull Creek (HC)	HC-WB	HC-LB01-WB	HC-RB01-WB	HC-LB01-T1-WB	HC-S01-WB
Lester Creek (LC)	LC-WA	LC-LB01-WA	LC-RB01-WA	LC-LB01-T1-WA	LC-S01-WA
Roger Creek (RC)	RC-WB	RC-LB01-WB	RC-RB01-WB	RC-LB01-T1-WB	RC-S01-WB
Smith Creek (SC)	SC-WA	SC-LB01-WA	SC-RB01-WA	SC-LB01-T1-WA	SC-S01-WA

Notes:
1. Wetlands are identified alphabetically, beginning at the downstream end of the study area and moving upstream.
2. The left and right bank designations refer to the bank locations when facing downstream.
3. Tributaries are numbered sequentially, starting from the stream's confluence with the Chehalis River (or another major stream) and moving upstream.

5.1.7 Wetland Classification

Wetland community types are discussed according to the USFWS classification developed by Cowardin et al. (1979) for use in the NWI. This system, published in 1979 by a team of USFWS scientists led by L.M. Cowardin, bases the classification of wetlands on their physical characteristics, such as the general type of vegetation in the wetland (e.g., trees, shrubs, grass) and how much, and where, water is present in the wetland. The Cowardin system provides a classification for every known wetland type that occurs throughout the United States and, under this system, a wetland can be classified as having one or more wetland classification types. Other wetland waters, streams, and rivers within the Study Areas were not classified using the Cowardin system, but were evaluated and delineated separately as OHWM features.

The following Cowardin classification wetland community types were found within the Chehalis and CLS study areas during this investigation:

- **PFO:** At least 30% cover of woody vegetation that is more than 20 feet high
- **PSS:** At least 30% cover of woody vegetation that is less than 20 feet high
- **PEM:** Erect, rooted, herbaceous vegetation present for most of the growing season in most years

5.1.8 State Hydrogeomorphic Classification System

Scientists have come to understand that wetlands can perform functions in different ways. The way a wetland functions depends to a large degree on hydrologic and geomorphic conditions. To recognize these differences among wetlands, a way to group or classify them has been developed. This classification system, called the hydrogeomorphic (HGM) classification system, groups wetlands into categories based on the geomorphic setting and the primary ways in which water moves within or through them, characteristics that control many functions.

The *Washington State Wetland Rating System – Western Washington: 2014 Update* (Hruby 2014) incorporates the HGM Classification system as part of the questionnaire for characterizing a wetland's functions. The rating system uses only the highest grouping in the classification, i.e., wetland class. Wetland HGM classes are based on geomorphic settings, such as depressional, slope, riverine, or lake-fringe. A classification key is provided within the rating form to help identify which of the following HGM classifications apply to the wetland: depressional; riverine; slope; lake-fringe; tidal fringe; or flats. The following HGM classifications were found in the study areas during this investigation (descriptions provided are derived from Hruby 2014):

- **Depressional:** Depressional wetlands occur in areas where elevations are lower than the surrounding landscape (i.e., depressions) and the movement of surface water and shallow subsurface water is toward the lowest point of the wetland.
- **Riverine:** Riverine wetlands are located in valleys associated with stream or river channels and occur within the active floodplain of the stream or river where they are frequently flooded by overbank flow during flooding events. Riverine wetlands may also receive water from sources such as groundwater discharge and slope discharges.

- **Slope:** Slope wetlands occur on hill or valley slopes where groundwater "daylights" and begins running along the surface, or immediately below the soil surface. Flow in these wetlands is unidirectional (downslope) and the gradient is steep enough that the water is not impounded.

5.1.9 Wetland Functions Assessment

Wetland functions were assessed as part of the wetland rating process using the methods presented in *Washington State Wetland Rating System – Western Washington: 2014 Update* (Hruby 2014) and its most recent update from January 1, 2015. Using Ecology's rating system, wetlands were assigned points in three functional categories (water quality, hydrologic functions, and wildlife habitat) based on their physical characteristics (site potential), their surrounding environment (landscape potential), and their importance to humans (value). Points were assigned by ranking the wetland's performance in multiple aspects of each category as being high, medium, or low. These qualitative values were then converted to numeric scores for each category based on the wetland's HGM type.

For each wetland identified in the Chehalis and CLS study areas, functions were evaluated using the Ecology wetland rating forms, and detailed tables were used to tabulate the results. Due to the large number of wetlands delineated in the Chehalis study area, wetland function score results are presented in tables in Appendix D rather than providing a description of the function assessment results for each wetland. Using this approach, the scoring of multiple wetlands could be presented more concisely for analysis than presenting each wetland with individual rating forms. While many of the wetlands in the Chehalis and CLS study areas have similar features and characteristics, each of the 126 wetlands was scored and rated independently following Ecology methodology. Tables in Appendix D also provide a description of the scoring approach for each of the rating form questions, identifying and describing which questions have answers that apply to every wetland or most of the wetlands, and which questions required analysis specific to each individual wetland.

5.1.10 Wetland Ratings

As stated in the Wetland Functions Assessment section, wetland ratings were determined using the most current version of Ecology's *Washington State Wetland Rating System – Western Washington: 2014 Update* (Hruby 2014). The system developed by Ecology is used to differentiate wetlands based on their sensitivity to disturbance, significance in the watershed, rarity, ability to be replaced, and the beneficial functions they provide to society. The Ecology rating system requires the user to collect specific information about the wetland in a step-by-step process. Three major functions are analyzed (water quality improvement, hydrologic functions, and wildlife habitat) as well as the presence of special characteristics specific to certain wetland types. Ratings are based on a point system, where points are given if a wetland meets specific criteria related to the wetland's potential and the opportunity to provide certain benefits.

Per Ecology's rating system, wetlands are categorized according to the following criteria and to points given:

- **Category I wetlands (23 or more points)** represent a unique or rare wetland type, are more sensitive to disturbance, or are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime.
- **Category II wetlands (20 to 22 points)** are difficult, though not impossible, to replace, and provide high levels of some functions.
- **Category III wetlands (16 to 19 points)** have moderate levels of functions. They have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.
- **Category IV wetlands (less than 16 points)** have the lowest levels of functions and are often heavily disturbed.

Wetland ratings were completed for each of the wetlands identified in the Chehalis and CLS study areas. Due to the large number of wetlands delineated in the Chehalis study area, the resulting wetland ratings are presented in tables in Appendix D rather than providing separate rating sheets for each wetland.

5.2 Wetland Delineation Results

Overall, Anchor QEA ecologists identified, delineated, and performed a wetland functions and rating analysis on 123 wetlands in the Chehalis study area and three wetlands in the CLS study area. Wetland delineation mapping for both study areas is provided in Appendix E. The results for the Chehalis study area are shown in Figures E-1, E-2, and E-3a through E-3z, and the results for the CLS study area are shown in Figure E-4. A complete list of all wetlands delineated at both study areas is presented in Appendix F, wetland delineation data forms are provided in Appendix B, and representative site photographs are provided in Appendix G.

5.2.1 Chehalis Study Area

A total of 123 wetlands totaling approximately 13.9 acres were identified in the Chehalis study area. As shown in Tables 8 and 9, most of these wetlands were found in the upper Chehalis River (74) and Crim Creek drainage basins (36), followed by the Hull Creek (5), Lester Creek (3), Big Creek (3), Roger Creek (1), and Smith Creek (1) basins. No wetlands were found in the Browns Creek or Alder Creek drainage basins.

Cowardin wetland classes found within the Chehalis study area include PEM, PSS, and PFO wetlands and various combinations of those types including PFO/PEM, PFO/PSS, PSS/PEM, and PFO/PSS/PEM (Table 8). Most of the wetlands identified in the Chehalis study area are a combination of PSS/PEM class wetlands (42). The next most common wetland type is PEM wetlands (40), followed by the PFO/PSS (16), PFO/PEM (11), PFO/PSS/PEM (7), PSS (4), and PFO (3) wetland types. Aside from PSS and PFO wetland types, which are more prevalent in the Crim Creek drainage basin, the upper Chehalis River drainage basin contains the majority of all other identified wetland types. The three wetland types that occupy

the most area included PSS/PEM (4.6 acres), PEM (3.4 acres), and PFO/PSS/PEM (2.5 acres). These were followed in turn by PFO/PSS (1.7 acres), PFO/PEM (0.8 acre), PFO (0.6 acre), and PSS (0.3 acre).

The HGM classes of wetlands found in the Chehalis study area include depressional, slope, and riverine wetland types (Table 9). The most common HGM class present are slope wetlands (95), followed by depressional wetlands (24); relatively few and riparian wetlands (4) are present. Most of the slope wetlands (56) and depressional wetland (17) occur in the upper Chehalis River drainage basin. The Crim Creek drainage basin also contains several (30) slope wetlands and a few (5) depressional wetlands. Single riverine wetlands are found in the upper Chehalis River, Crim Creek, Hull Creek, and Big Creek drainage basins. In terms of acreage, slope wetlands make up the largest class (8.6 acres), followed by depressional wetlands (4.9 acres), and riverine wetlands (0.4 acre).

A complete list of all wetlands, the Cowardin and HGM classifications, and the wetlands associations to stream channels in the Chehalis study area are presented in Appendix F. Wetlands are described in the following sections based on the stream drainage basin they occur, beginning with the upper Chehalis River drainage basin and moving upstream.

Table 8

Number and Area of Cowardin Class Wetlands by Drainage Basin within the Chehalis Study Area

		NUMBER OF WETLANDS IN BASIN BY COWARDIN CLASS								AREA OF WETLANDS IN BASIN BY COWARDIN CLASS							
BASIN NAME	BASIN AREA (ACRES)	PEM	PSS	PFO	PFO/ PEM	PFO/ PSS	PSS/ PEM	PFO/ PSS/ PEM	TOTAL	PEM	PSS	PFO	PFO/ PEM	PFO/ PSS	PSS/ PEM	PFO/ PSS/ PEM	TOTAL
Upper Chehalis River (CR)	1,160.9	26	1	1	8	8	24	6	**74**	2.45	0.01	0.37	0.56	1.21	2.42	2.22	**9.24**
Crim Creek (CC)	291.3	9	3	2	2	7	13	0	**36**	0.67	0.30	0.23	0.18	0.43	1.63	0	**3.44**
Lester Creek (LC)	62.5	0	0	0	0	1	1	1	**3**	0	0	0	0	0.06	0.25	0.26	**0.57**
Hull Creek (HC)	43.7	2	0	0	1	0	2	0	**5**	0.07	0	0	0.03	0	0.18	0	**0.28**
Browns Creek (NC)	29.4	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Big Creek (BC)	64.0	3	0	0	0	0	0	0	**3**	0.24	0	0	0	0	0	0	**0.24**
Roger Creek (RC)	49.0	0	0	0	0	0	1	0	**1**	0	0	0	0	0	0.01	0	**0.01**
Smith Creek (SC)	5.8	0	0	0	0	0	1	0	**1**	0	0	0	0	0	0.12	0	**0.12**
Alder Creek (AC)	2.5	0	0	0	0	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Total	**1,709.1**	**40**	**4**	**3**	**11**	**16**	**42**	**7**	**123**	**3.43**	**0.31**	**0.60**	**0.77**	**1.70**	**4.61**	**2.48**	**13.90**

Table 9

Number and Area of HGM Class Wetlands by Drainage Basin within the Chehalis Study Area

		NUMBER OF WETLANDS IN BASIN BY HGM CLASS				AREA OF WETLANDS IN BASIN BY HGM CLASS			
BASIN NAME	BASIN AREA (ACRES)	HGM DEPRESSIONAL WETLANDS	HGM SLOPE WETLANDS	HGM RIVERINE WETLANDS	TOTAL	HGM DEPRESSIONAL WETLANDS	HGM SLOPE WETLANDS	HGM RIVERINE WETLANDS	TOTAL
Upper Chehalis River (CR)	1,160.9	17	56	1	**74**	4.19	4.98	0.06	**9.23**
Crim Creek (CC)	291.3	5	30	1	**36**	0.64	2.79	0.01	**3.44**
Lester Creek (LC)	62.5	0	3	0	**3**	0	0.57	0	**0.57**
Hull Creek (HC)	43.7	0	4	1	**5**	0	0.10	0.18	**0.28**
Browns Creek (NC)	29.4	0	0	0	**0**	0	0	0	**0**
Big Creek (BC)	64.0	2	0	1	**3**	0.06	0	0.19	**0.25**
Roger Creek (RC)	49.0	0	1	0	**1**	0	0.01	0	**0.01**
Smith Creek (SC)	5.8	0	1	0	**1**	0	0.12	0	**0.12**
Alder Creek (AC)	2.5	0	0	0	**0**	0	0	0	**0**
Total	**1,709.1**	**24**	**95**	**4**	**123**	**4.89**	**8.57**	**0.44**	**13.90**

Wetlands classified as slope wetlands under the HGM classification were the most numerous (95). These wetlands are primarily associated with drainages, and form in areas where the slope levels out such that water moving downslope slows and inundates or saturates the soils. They are typically small and similar in vegetative composition, soils, and hydrology. Slope wetlands included all combinations of Cowardin wetland types encountered in the Chehalis study area.

Typical vegetation present in slope wetlands are species commonly found in forested environments and includes primarily red alder (*Alnus rubra*) in the overstory, with Western red cedar (*Thuja plicata*) present to a lesser extent. Salmon berry (*Rubus spectabilis*), vine maple (*Acer circinatum*), devils club (*Oplopanax horridus*), and red alder are dominant in the shrub layer. The herbaceous layer was sparse in most of these areas as water is often flowing, preventing the establishment of a dense herbaceous layer. Herbaceous species that are present are typically associated with mounded areas and include piggyback plant (*Tolmiea menziesii*), oxalis (*Oxalis oregana*), Pacific bleeding heart (*Dicentra Formosa*), Pacific waterleaf (*Hydrophyllum tenuipes*), Pacific golden-saxifrage (*Chrysosplenium glechomifolium*), and seaside bittercress (*Cardamine angulata*).

Soils found in slope wetlands were generally silt loam to sandy silt loam ranging in color from brown (7.5YR 4/2) to very dark brown (7.5YR 2.5/2) to gray (10YR 5/1) to dark grayish brown (10YR 4/2), very dark grayish brown (10YR 3/2) to black (10YR 2/1). Redox concentrations of varying colors were commonly present within the soil matrix and along pore linings, and some depleted layers occurred at or below the seasonal hydrology elevation. Overall, soils typically met the Depleted Matrix (F3) and/or Redox Dark Surface (F6) hydric soil indicators. Hydrology is mostly associated with drainages and these areas were typically inundated by water flowing through or beside the wetland, which often satisfied the Surface Water (A1) wetland hydrology indicator. Some areas were not inundated, but exhibited saturated soils or standing water in dug soil pits and met the High Water Table (A2) or Saturation (A3) wetland hydrology indicators. Additional wetland hydrology indicators observed in these types of wetlands included Hydrogen Sulfide Odor (C1), Oxidized Rhizospheres Along Living Roots (C3), and Sediment Deposits (B2). Wetland boundaries for these areas were delineated by the lack of one parameter and typically bounded by an abrupt topographical break of side slopes.

HGM classified depressional wetlands were the second-most abundant HGM wetland type in the Chehalis study area (24). These wetlands are typically not associated with any channelized flow or waters and are located in topographic depressions either on side slopes or in the valley bottom. As with the slope wetlands, depressional wetlands included all combinations of Cowardin wetland types encountered in the Chehalis study area. Typical vegetation of these wetlands also included red alder, salmonberry, and piggyback plant but also had more diversity of herbaceous plants including western lady fern (*Athyrium angustum*), Pacific golden-saxifrage, skunk cabbage (*Lysichiton americanus*), and water parsley (*Oenanthe sarmentosa*).

The depressional wetland soils were generally silt loam with a depleted matrix and redox concentrations similar to those observed in the slope wetlands, although a few areas underlain by clay soils or a thin

layer of soil over bedrock were also observed. Soils typically met the F3 and/or F6 hydric soil indicators. Hydrology was often characterized by saturated soils with some shallow inundation and even seasonal ponding, with wetland hydrology confirmed by the presence of one or more of the A1, A2, A3, C1, and C3 wetland hydrology indicators. The Soil Surface Cracks (B6) hydrology indicatory was also observed. The wetland boundary of depressional wetlands was determined by the lack of one wetland parameter and topography.

Wetlands classified as riverine under the HGM system were the least abundant wetland type in the Chehalis study area (4) and typically occurred directly adjacent to flowing channels where they are occasionally inundated by overbank flows. Cowardin types found in riverine wetlands included PEM, PFO, PFO/PSS, and PSS/PEM. These wetlands were typically dominated by red alder, salmonberry, creeping buttercup (*Ranunculus repens*), reed canary-grass (*Phalaris arundinacea*), and colonial bent grass (*Agrostis capillaris*). Western redcedar, California black currant (*Ribes bracteosum*), Pacific water leaf, stinging nettle (*Urtica dioica*), and oxalis were also commonly observed. Soils were generally sandy silt loams, were thin, and had restrictive layers of bedrock or coarse rock/cobble and typically met the F3 and/or F6 hydric soil indicators. Hydrology was strongly associated with fluctuation of the adjacent waters and perched water on the underlying bedrock and rock layers. Wetland hydrology indicators observed included A1, A2, A3, and C3. The wetland boundary was determined by the lack of one wetland parameter or in some instances the presence of OHWM as one boundary.

5.2.2 Wetland Function Scores and Ratings for Chehalis Study Area

Under the Ecology wetland rating system, a low, moderate, or high rating is based on three functions: 1) water quality improvement functions; 2) hydrologic functions; and 3) habitat functions. Within each of these three functions are three sub-function categories: 1) site potential; 2) landscape potential; and 3) value. Each of these sub-function categories is rated as low, moderate, or high. Wetland functional values and scores under the Ecology rating system for the 123 wetlands delineated in the study area are included in Appendix D. As described in the Section 5.1, due to the large number of wetlands delineated in the survey area, wetland scoring, and rating results are presented in tables instead of filling out an individual set of rating forms for each of the 123 wetlands.

While many of the wetlands in the survey area have similar features and characteristics, each of the delineated wetlands was scored and rated independently. Appendix D also provide a description of the scoring approach for each of the rating form questions, identifying and describing which questions have answers that apply to every wetland or most of the wetlands, and which questions required analysis specific to each individual wetland. Table 10 provides the number of Category II and Category III wetlands in the Chehalis study area by drainage basin.

Table 10

Number of Category II and Category III Wetlands in Chehalis Study Area by Drainage Basin

HGM CLASSIFICATIONS	NUMBER OF CATEGORY I WETLANDS	NUMBER OF CATEGORY II WETLANDS	NUMBER OF CATEGORY III WETLANDS	NUMBER OF CATEGORY IV WETLANDS	TOTAL NUMBER OF IDENTIFIED WETLANDS
Upper Chehalis River (CR)	0	9	65	0	**74**
Crim Creek (CC)	0	5	31	0	**36**
Lester Creek (LC)	0	0	3	0	**3**
Hull Creek (HC)	0	1	4	0	**5**
Browns Creek (NC)	0	0	0	0	**0**
Big Creek (BC)	0	0	3	0	**3**
Roger Creek (RC)	0	0	1	0	**1**
Smith Creek (SC)	0	0	1	0	**1**
Alder Creek (AC)	0	0	0	0	**0**
Total	**0**	**15**	**108**	**0**	**123**

The wetlands identified in the Chehalis study area include 15 Category II wetlands and 108 Category III wetlands. More Category III wetlands were found due to the high number of slope wetlands in the present in the Chehalis study area. Slope wetlands typically have less potential to detain and retain seasonal stormwater. Slope wetlands also tend to have only one or two hydroperiods and minimal to no storage capacity, which provide less function as compared to wetlands with multiple hydroperiods and more storage capacity. The lack of Category I wetlands in the Chehalis study area is related to the lack of any special wetland types (i.e., estuarine wetlands, wetlands of high conservation value, bogs, forested wetlands greater than 1 acre in size, coastal lagoon wetlands, interdunal wetlands) as well as the limited potential of the wetlands that are present to improve water quality (because these wetlands are not in areas with a high concentration of development or stormwater inputs/runoff). Similarly, there are also no Category IV wetlands in the Chehalis study area. The lack of Category IV wetlands is likely due to the low development and intact habitat types, which increases the habitat function scores. Appendix D lists the 2014 Ecology wetland rating and classification of each of the 123 wetlands delineated in the Chehalis study area.

5.2.3 CLS Study Area

A total of three wetlands (Wetlands A, B, and C) totaling 1.6 acres were identified in the CLS study area (Appendix E, Figure E-4). As shown in Table 11, all of these wetlands are classified as PEM wetland under the Cowardin system and depressional wetlands under the HGM system. All three wetlands extend outside the study area and connect to larger off-site wetlands in adjacent areas.

Table 11
Class and Area of Wetlands in the CLS Study Area

WETLAND NAME	COWARDIN CLASS	HGM CLASS	WETLAND AREA (ACRES)
Wetland A	PEM	Depressional	0.63
Wetland B	PEM	Depressional	0.51
Wetland C	PEM	Depressional	0.47
		Total	**1.61**

Wetlands A and B occur in association with relic river channels and oxbows; Wetland C occurs within an excavated drainage ditch. Wetland A is part of an agricultural field used to grow feed hay and is regularly subjected to agricultural-related disturbance (e.g., planting, harvesting). Both Wetlands A and B are dominated by reed canarygrass. Wetland C is dominated by reed canarygrass and broad-leaf cattail (*Typha latifolia*). Soils in all these wetlands consist of silt loams with matrix colors that range from brown (7.5YR 4/2) to very dark grayish brown (10YR 3/2) with various colored redoximorphic concentrations occurring both within the soil matrix and along pore linings. Soils typically met the F6 hydric soil indicator. Saturation, high water table, and some surface ponding were observed in these wetlands during the delineation, as were oxidized rhizospheres along living roots. As such, wetland hydrology was met by the presence of wetland hydrology indicators A2, A3, C3, and presence of reduced iron (C4). A full description of vegetation, soils, and hydrology data collected at each sample plot is presented in the field data forms in Appendix B.

5.2.4 Wetland Function Scores and Ratings for CLS Study Area

The wetlands delineated in the CLS study area include two Category II wetlands and one Category III wetland. Overall, the CLS wetlands had low habitat scores due to the proximity of development (airport) and ongoing agricultural practices. Water quality improvement scores were somewhat higher due to the potential opportunity to provide water quality improvement functions.

6 ORDINARY HIGH WATER MARK DELINEATION

The OHWM delineation methods and results are described in this section. The OHWM delineation methods used for most reaches were consistent with current federal and state agency requirements for performing stream OHWM delineations. The larger systems in the Chehalis study area, including the Chehalis River, Crim Creek, and the upstream reach of Roger Creek, were delineated using a combination of field measurements, data points, and LiDAR analysis. Those methods are further described in Section 6.2. The OHWM delineation results and figures for the Chehalis study area are presented in Appendix E.

6.1 Waters and OHWM Delineation Methods

To document waters and their associated OHWMs within the study areas, Anchor QEA wetland scientists and stream ecologists reviewed existing information, analyzed aerial photography, and conducted site visits in March, April, May, and June 2017 and June 2018. The delineation of waters was primarily performed over a total of 26 field days in the Chehalis study area and one day in the CLS study area. The OHWM delineation was completed by walking all ravines and drainages, identifying the OHWM with flagging, and collecting OHWM data with the same types of DGPS units used for the wetland delineation. Approximate locations were also documented by marking aerial photographs.

Anchor QEA wetland scientists and stream ecologists identified the OHWM boundaries consistent with Ecology Shoreline Management Act guidelines (Ecology 2017c), Chapter 90.58 of the Revised Code of Washington, and Chapter 173-22 of the Washington Administrative Code (WAC). The WAC defines the OHWM as:

> *"Ordinary high water line" means the mark on the shores of all waters that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland: Provided, that in any area where the ordinary high water line cannot be found the ordinary high water line adjoining saltwater shall be the line of mean higher high water and the ordinary high water line adjoining freshwater shall be the elevation of the mean annual flood.*

Guidance and policy documents from WDFW and Ecology use OHWM and "ordinary high water line" interchangeably; this report uses OHWM. This definition is essentially consistent with the federal OHWM definition found in Title 33 Code of Federal Regulations, Section 328.3(e):

> *The term* ordinary high water mark *means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

In discussions during agency site visits it was agreed that waters with channels 5 feet wide or less would be delineated with a series of single GPS-surveyed points and flagging, with the width of the OHWM documented and recorded at each point.

For stream channels wider than 5 feet wide, both the left and right banks were delineated and flagged, with DGPS points collected to determine channel width. Wherever channels changed direction or when the average channel widths changed, data points were collected to document OHWM width. Under this method, the lengths and widths of the stream channels can be summed to identify the total area of waters in the Chehalis Study area.

6.2 Alternative OHWM Delineation Methods

The OHWMs for the Crim Creek, Roger Creek, and the Chehalis River were delineated using a modified version of the previously described methods due to the length of their reaches within the study area, limitations on access caused by steep terrain and high flow conditions, and general safety considerations. Due to these factors, continuous polylines delineating OHWM could not be collected with GPS receivers along the length of each stream. Instead, where field conditions permitted, individual points were collected with GPS receivers at OHWM locations, following state OHWM determination guidance. These points were located at intervals that would enable reasonable delineation of OHWM via a desktop-based GIS analysis using LiDAR-generated topography to interpret the OHWM elevation between each point. This methodology was discussed during the August 24, 2017 agency site visit and verified during the August 16, 2018 site visit.

Source data required for this approach included the following:

- **Point locations that delineate OHWM boundaries:** Field reconnaissance by Anchor QEA captured definitive point locations using sub-meter Trimble GPS receivers where OHWM boundaries could be clearly identified along the target tributaries.
- **Digital elevation model (DEM):** A "bare earth" digital elevation model data supplied by GeoTerra was used as recent high-resolution reference topography (GeoTerra 2016).

- **Stream lines:** Stream polylines developed by ICF for use in their Ecosystem Diagnosis and Treatment model were used as reference lines along which to constrain the OHWM delineation analyses (ICF 2017).

6.2.1 OHWM/LiDAR Delineation Process

OHWM using LiDAR is best delineated by creating a polygon to represent the area that the LiDAR elevation occupies. OHWM/LiDAR elevation polygons for Crim Creek, Roger Creek, and the Chehalis River were created using the following workflow:

1. Bring field-collected GPS OHWM points into GIS.
2. Encode each OHWM point with the elevation from the underlying DEM. This elevation is the OHWM elevation at that point.
3. Construct a stream transect for each OHWM point such that it passes through the point and forms a perpendicular intersection with the stream polyline. Extend this transect laterally on each side of the stream polyline to capture the full lateral extent of the OHWM.
4. Encode each stream transect with the OHWM elevation assigned to the OHWM point that it intersects.
5. Create a triangular irregular network (TIN) using all stream transects. This TIN serves as a grade plane representation of the OHWM surface as determined from the transects. Convert this TIN into an OHWM raster surface to enable mathematical operations.
6. Subtract the bare earth DEM surface from the OHWM raster. The surface resulting from the subtraction reveals the areas within the footprint of the OHWM raster where ground surface elevations are lower than OHWM elevations and represents the areal extent of the OHWM for the stream.

The Python programming language was used with ArcGIS to create a geoprocessing script to delineate OHWM for these streams in an automated fashion.

6.3 Waters Naming Convention

There are nine named drainage basins in the study area: upper Chehalis River, Alder Creek, Big Creek, Browns Creek, Crim Creek, Hull Creek, Lester Creek, Roger Creek, and Smith Creek. The main channels of those drainage basins are identified with the same names and abbreviations in Section 5.1.6. Delineated water channels are named and organized based on their associated drainage basin names and their location along the main channel of each drainage basin. The initial part of the name is the two letter drainage basin abbreviation followed by an additional designation to indicate the location of the drainage as being either the main channel (no designation), on the right bank (RB) of the main channel, or on the left bank (LB) of the main channel. This location designation is followed by the tributary number, as determined sequentially beginning at its confluence with the main channel with the Chehalis River to its upstream end. For example, the first tributary along the right bank of Alder Creek was named AC-RB01 and the seventeenth tributary located along the left bank of the Chehalis River was named

CR-LB17. Drainages that are tributaries to a primary tributary are identified by the initial "T" followed by a sequential number moving upstream; bank location is not specified. For example, the first secondary tributary that extends off the first primary tributary along the right bank of Big Creek was named BC-RB01-T1.

As with the wetland naming convention, streams that flow subsurface before reaching one of the main stream systems were named according to the drainage basin where they occur, along with an "S" to indicate that their flow is subsurface (i.e., no direct surface connection) and a sequential number to indicate their location relative to the downstream end of the basin. For example, the second unnamed minor stream channel within the Chehalis Basin that eventually drains to the river via subsurface flow was named CR-S02.

Additional examples of the naming system for waters is provided in Table 12.

Table 12
Waters Naming Examples

DRAINAGE BASIN NAME AND ABBREVIATION	PRIMARY TRIBUTARY LEFT BANK[1,2,3]	PRIMARY TRIBUTARY RIGHT BANK[1,2,3]	FIRST SECONDARY TRIBUTARY LEFT BANK[1,2,3]	WATERS WITH NO DOWNSTREAM SURFACE CONNECTION (SUBSURFACE FLOW)
Upper Chehalis River (CR)	CR-LB01	CR-RB01	CR-LB01-T1	CR-S01
Alder Creek (AC)	AC-LB01	AC-RB01	AC-LB01-T1	AC-S01
Big Creek (BC)	BC-LB01	BC-RB01	BC-LB01-T1	BC-S01
Browns Creek (NC)	NC-LB01	NC-RB01	NC-LB01-T1	NC-S01
Crim Creek (CC)	CC-LB01	CC-RB01	CC-LB01-T1	CC-S01
Hull Creek (HC)	HC-LB01	HC-RB01	HC-LB01-T1	HC-S01
Lester Creek (LC)	LC-LB01	LC-RB01	LC-LB01-T1	LC-S01
Roger Creek (RC)	RC-LB01	RC-RB01	RC-LB01-T1	RC-S01
Smith Creek (SC)	SC-LB01	SC-RB01	SC-LB01-T1	SC-S01

Notes:
1. The left and right bank designations refer to the bank locations when facing downstream.
2. Primary tributaries are numbered sequentially beginning at stream's confluence with the Chehalis River (or another major stream) moving upstream. The location of the primary tributary on the left or right bank of the main channel is also designated. Secondary tributaries are identified with a "T" followed by a number indicating their location along a primary tributary. Numbering starts at the confluence of the two tributaries and increases sequentially moving upstream.
3. The bank positions of secondary tributaries are not designated.

6.4 Waters and OHWM Delineation Results

The OHWM of 190 waters were delineated within the Chehalis study area. No waters were identified within the CLS study area. Delineated water resources range from large river and stream systems, to primary and secondary tributaries of these systems, to isolated channels that flow subsurface before

reaching a flowing channel. As described in Section 6.1, the OHWM delineation included waters with perennial or annual seasonal flow.

There are nine named drainage basins in the study area, the upper Chehalis River, and the eight stream systems that flow into the Chehalis River (Alder Creek, Big Creek, Browns Creek, Crim Creek, Hull Creek, Lester Creek, Roger Creek, and Smith Creek). Delineated water resources are named based on the drainage basin they occur, as described in Section 6.3. The total number of named waters including the total length (feet) and area (acres) is presented in Table 13. The characteristics (name, length, average width, and area) of each named water to the Chehalis River drainage basin are presented in Appendix H. Delineated waters are described in the following sections based on the drainage basin where they occur, beginning with the Chehalis River drainage basin and moving upstream. Information on the waters also includes the length, width range, and total channel area of delineated channels. Figures showing the results of the OHWM delineation are presented in Appendix E. A complete list of all 190 OHWM delineated water resources are presented in Appendix H.

Table 13
Characteristics of Drainages within the Chehalis Study Area

BASIN NAME	TOTAL NAMED WATERS	TOTAL LENGTH (FEET)	TOTAL AREA (ACRES)
Upper Chehalis River (CR)	101	88,051	116.68
Crim Creek (CC)	42	28,224	16.90
Lester Creek (LC)	10	12,700	3.84
Hull Creek (HC)	6	5,346	0.95
Browns Creek (NC)	6	4,151	1.14
Big Creek (BC)	11	7,569	2.91
Rogers Creek (RC)	6	119,476	5.39
Smith Creek (SC)	6	1,372	0.22
Alder Creek (AC)	2	568	0.25
Total	**190**	**267,457**	**148.28**

6.4.1 Upper Chehalis River

The upper Chehalis River is the main water feature in the Chehalis study area. There are 101 delineated water features associated with the portion of the upper Chehalis River that occur in the Chehalis study area excluding the other eight named basins. The upper Chehalis River tributaries include left bank and right bank tributaries to the upper Chehalis River within the study area. There are several isolated stream systems that had evidence of seasonal or existing surface flows that did not connect or flow into other mapped or delineated waters or OHWM and just infiltrated into the soil.

6.4.2 Crim Creek Drainage Basin

The Crim Creek drainage basin is located on the left bank of the Chehalis River. There are 42 delineated stream features in the Crim Creek drainage basin, excluding one named basin (Lester Creek) that flows into Crim Creek. Crim tributaries include left bank and right bank tributaries to Crim Creek within the

study area. There are also several isolated stream systems that exhibit surface flows that disappear into the ground as they move downslope, eventually discharging into other delineated, mapped, and named OHWM features via subsurface flow. The total number of named streams including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each named stream to Crim Creek drainage basin are presented in Appendix H.

6.4.3 Lester Creek Drainage Basin

The Lester Creek drainage basin is located on the left bank of Crim Creek. There are 10 delineated stream features in the Lester Creek drainage basin, with no named basins contributing. Lester Creek streams include left bank and right bank tributaries to Crim Creek within the study area. There are no isolated water systems delineated within the Lester Creek basin. The total number of named streams including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each named waters to Lester Creek drainage basin are presented in Appendix H.

6.4.4 Hull Creek Drainage Basin

The Hull Creek drainage basin is located on the right bank of the Chehalis River. There are six delineated features in the Hull Creek drainage basin, with no named basins contributing. Hull Creek streams include left bank and right bank tributaries to Hull Creek within the study area. There are no isolated stream systems delineated within the Hull Creek basin. The total number of named waters including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each named water to Hull Creek drainage basin are presented in Appendix H.

6.4.5 Browns Creek Drainage Basin

The Browns Creek drainage basin is located on the right bank of the Chehalis River. There are six delineated features in the Browns Creek drainage basin, with no named basins contributing. Browns Creek streams include left bank and right bank tributaries to Browns Creek within the study area. There are no isolated stream systems delineated within the Browns Creek basin. The total number of named waters including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each named water to Browns Creek drainage basin are presented in Appendix H.

6.4.6 Big Creek Drainage Basin

The Big Creek drainage basin is located on the right bank of the Chehalis River. There are 11 delineated stream features in the Big Creek drainage basin, with no named basins contributing. Big Creek streams include left bank and right bank tributaries to Big Creek within the study area. There are no isolated stream systems delineated within the Big Creek basin. The total number of named waters including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each of the named waters to Big Creek drainage basin are presented in Appendix H.

6.4.7 Rogers Creek Drainage Basin

The Rogers Creek drainage basin is located on the right bank of the Chehalis River. There are six delineated water features in the Rogers Creek drainage basin, with no named basins contributing. Rogers Creek streams include left bank and right bank tributaries to Rogers Creek within the study area. There are no isolated stream systems delineated within the Rogers Creek basin. The total number of named waters including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each of the named waters to Rogers Creek drainage basin are presented in Appendix H.

6.4.8 Smith Creek Drainage Basin

The Smith Creek drainage basin is located on the left bank of the Chehalis River. There are six delineated water features in the Smith Creek drainage basin, with no named basins contributing. Smith Creek streams include left bank and right bank tributaries to Smith Creek within the study area. There are no isolated stream systems delineated within the Smith Creek basin. The total number of named waters including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each of the named waters to Smith Creek drainage basin are presented in Appendix H.

6.4.9 Alder Creek Drainage Basin

The Alder Creek drainage basin is located on the left bank of the Chehalis River. There are two delineated water features in the Alder Creek drainage basin, with no named basins contributing. Alder Creek waters include only one right bank tributary and Alder Creek within the study area. There are no isolated stream systems delineated within the Alder Creek basin. The total number of named waters including the total length (feet) and area (square feet) is presented in Table 13. The characteristics (name, length, average width, and area) of each of the named waters to Alder Creek drainage basin are presented in Appendix H.

7 RESULTS AND CONCLUSIONS

A total of 123 wetlands, totaling 13.9 acres, were delineated within the Chehalis study area. These areas included a variety of Cowardin types, including:

- 40 PEM wetlands (3.4 acre) ranging in size from less than 0.1 acre to 1.2 acres
- 4 PSS wetland (0.3 acre) ranging in size from less than 0.1 acre to 0.214 acre
- 3 PFO wetlands (0.6 acre) ranging in size from less than 0.1 acre to 0.4 acre
- 11 PFO/PEM wetlands (0.8 acre) ranging in size from less than 0.1 acre to 0.241 acre
- 16 PFO/PSS wetlands (1.7 acres) ranging in size from less than 0.1 acre to 0.8 acre
- 42 PSS/PEM wetlands (4.6 acres) ranging in size from less than 0.1 acre to 0.4 acre
- 7 PFO/PSS/PEM wetlands (2.5 acres) ranging in size from 0.1 acre to 1.1 acre

HGM wetland types identified during the Chehalis study area delineation include the following:

- 95 slope wetlands (8.6 acres) ranging in size from less than 0.1 acre to 0.8 acre
- 24 depressional wetlands (4.9 acres) ranging in size from less than 0.1 acre to 0.2 acre
- 4 riverine wetlands (0.4 acre) ranging in size from less than 0.1 acre to 0.2 acre

The wetlands identified within the Chehalis study area were rated as either Category II (15) wetlands or Category III (108) wetlands according to the *Washington State Wetland Rating System – Western Washington: 2014 Update* (Hruby 2014). While many of these wetlands were relatively undisturbed and provided higher habitat-related functions, their ability to improve water quality is limited, as are opportunities to provide such functions. No Category I or Category IV wetlands occurred in either study area.

A total of 190 waters (streams, rivers, and drainages) were identified and their OHWMs delineated within the Chehalis study area, totaling 267,457 feet in length and 148.3 acres. The largest was the Chehalis River, totaling 88,051 feet in length and 116.7 acres. The remainder are tributaries and total 179,406 feet and 31.6 acres. Some waters are intermittent in nature; however, most are perennial.

Overall, both wetlands and waters in the Chehalis study area were found within or near valley bottoms, and within the historical floodplains of the upper Chehalis River and its associated tributaries. Most wetlands were slope wetlands associated with past landslides and debris jams.

The delineation results for the Chehalis study area varied considerably when compared to the NWI and 2011 Modeled Wetland Inventory mapping (Appendix A, Figures A-3 through A-6). Far more wetlands were found within the Chehalis study area than are shown in the existing NWI mapping. In contrast, the stream systems mapped by NWI for the Chehalis study area were more comparable to what was identified during the OHWM delineation. When compared to the 2011 Modeled Wetland Inventory, the delineation results for the Chehalis study identified far fewer wetlands in Crim Creek and Lester Creek,

which were mostly mapped as perennial streams, but picked up other wetlands that were not identified in the 2011 Modeled Wetland Inventory.

Three wetlands (Wetlands A, B, and C) totaling 1.6 acres were delineated within the CLS study area, but no streams, rivers, or drainages were found to be present. Wetlands A, B, and C were classified as PEM under the Cowardin system and depressional under the HGM system. These wetlands formed in relic Chehalis River channels and filled in oxbow-like depressions in the floodplain. Wetlands A and B were rated as Category II wetlands, while Wetland C was rated as a Category III wetland. These ratings were influenced by the location of the wetlands in an area that is regularly disturbed by agricultural practices and other human disturbance (e.g., airport use), which increases their opportunity to provide water quality functions and their value to society. However, due to their disturbed nature, their ability to provide habitat functions is limited. In general, the locations of the delineated wetlands were comparable to the NWI and 2011 Modeled Wetland Inventory wetland mapping.

Additional details on the results of this investigation are included in Appendices B through H.

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Figures

Figure 1
Vicinity Map

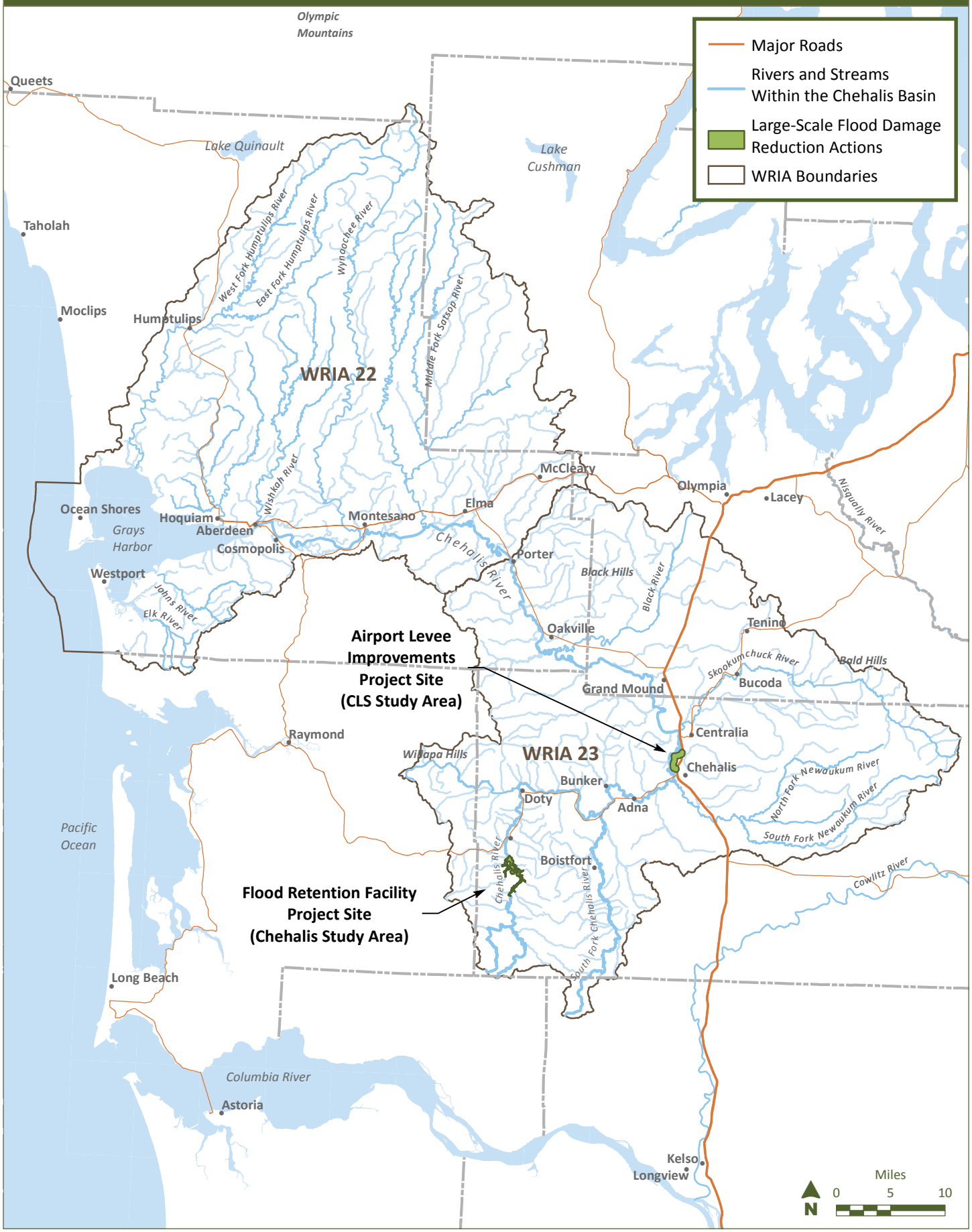


Figure 2
Flood Retention Facility Project Site Study Area (Chehalis Study Area)

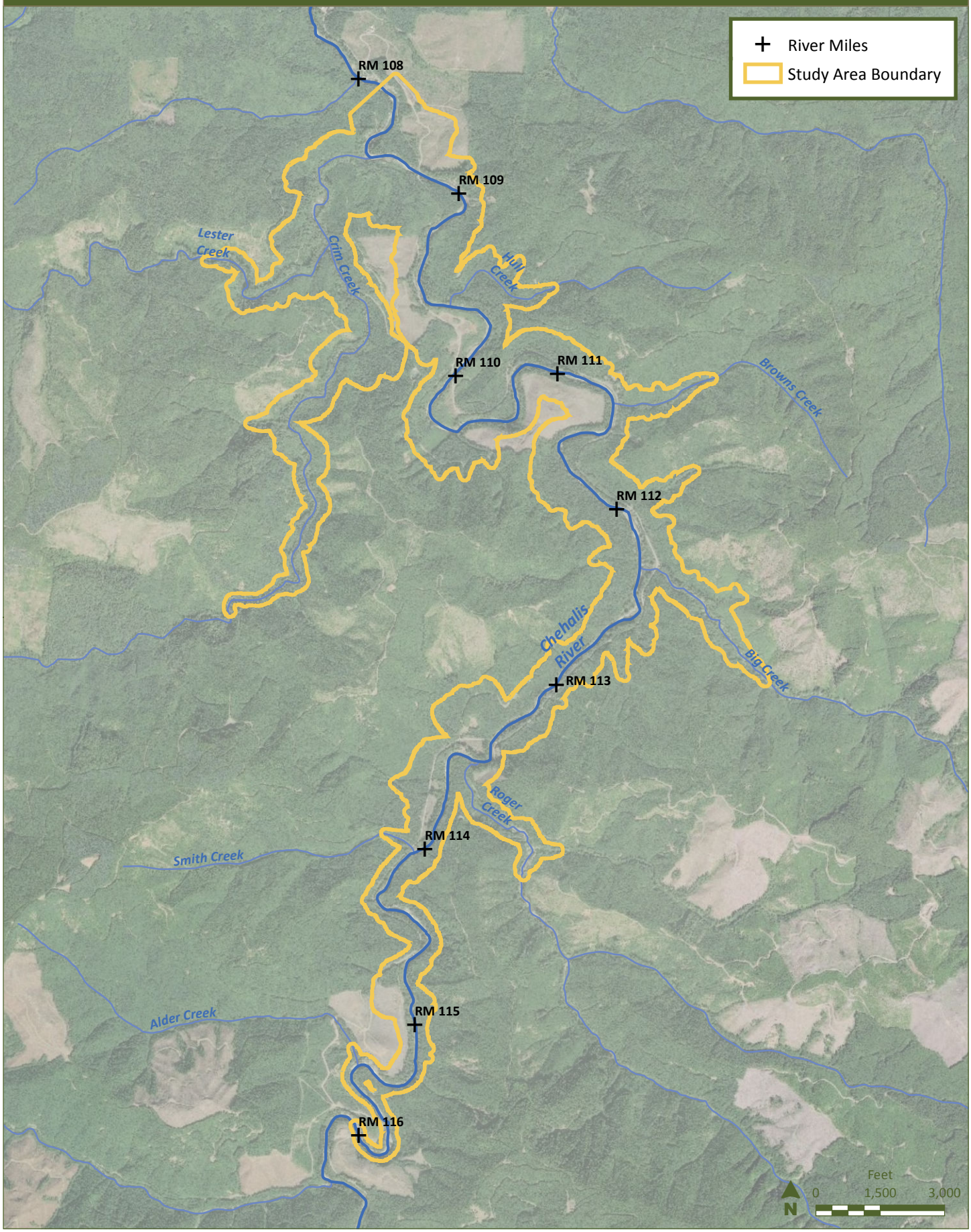


Figure 3
Chehalis-Centralia Airport Improvements Project Study Area (CLS Study Area)



Appendix A
Existing Natural Resource Data

Figure A-1
Chehalis Study Area Soils Map

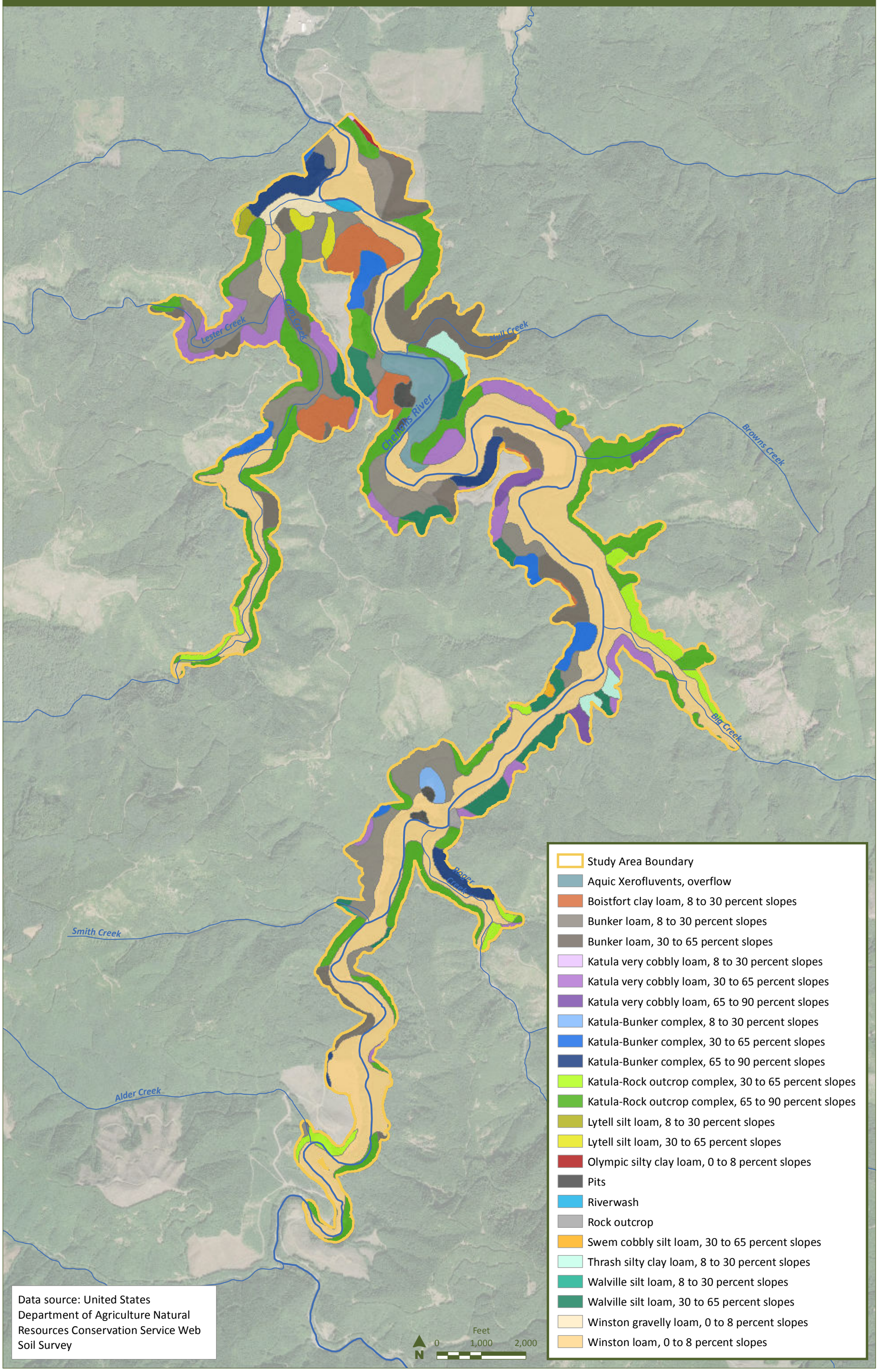


Figure A-2
Chehalis-Centralia Airport Study Area Soils Map



Figure A-3
Chehalis Study Area National Wetland Inventory Map

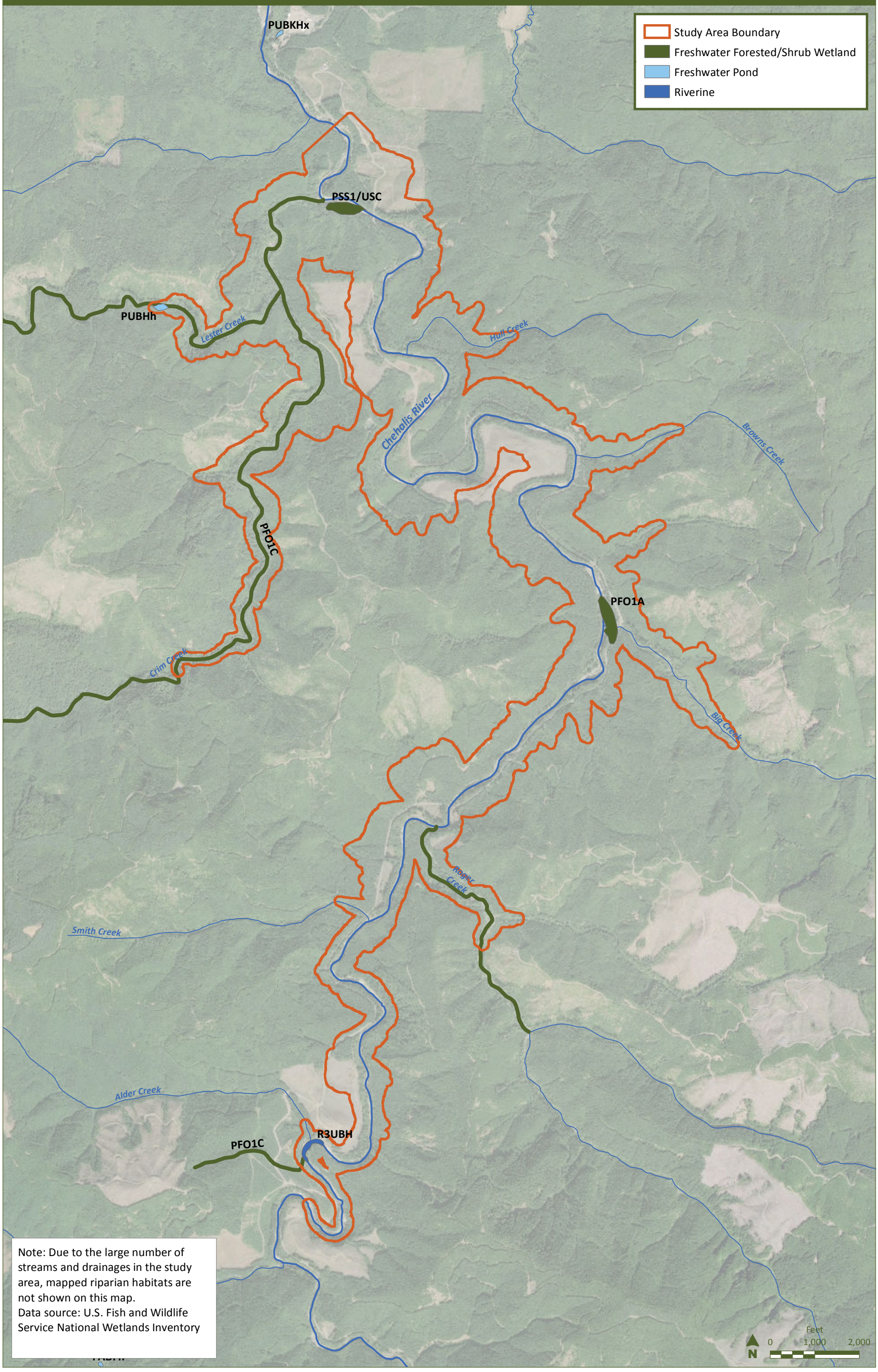


Figure A-4
Chehalis-Centralia Airport Study Area National Wetland Inventory Map



Figure A-5
Chehalis Study Area Washington State Department of Ecology Modeled Wetlands

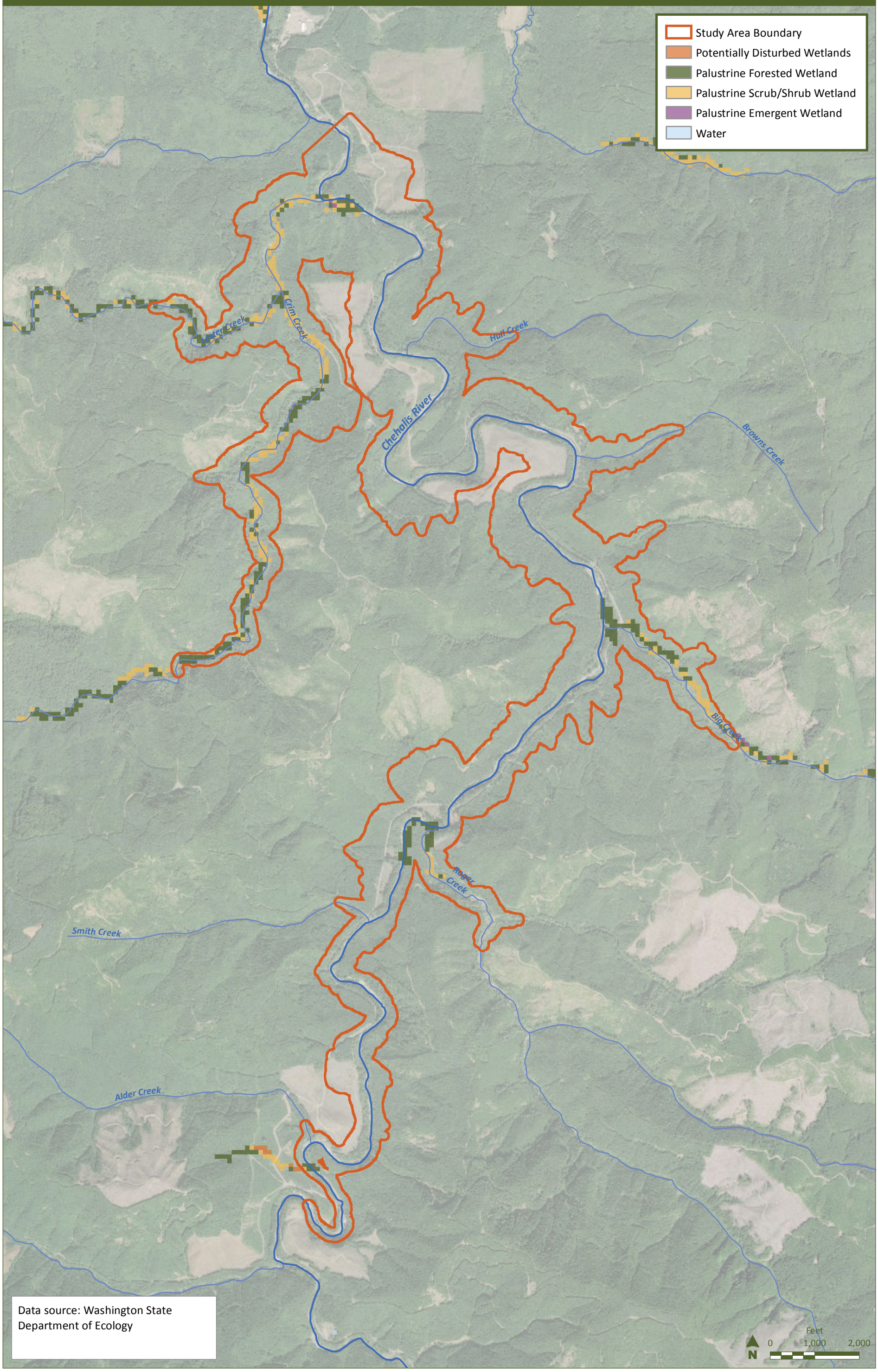


Figure A-6
Chehalis-Centralia Airport Study Area Washington State Department of Ecology Modeled Wetlands



Appendix B
U.S. Army Corps of Engineers Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/4/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WE-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53190006 Long: -123.2839689 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No _____	**Is the Sampled Area within a Wetland?**	**Yes X No** _____
Hydric Soil Present?	Yes **X** No _____		
Wetland Hydrology Present?	Yes **X** No _____		

Remarks:
PFO/PSS/PEM
slope/riverine

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	75	Yes	FAC
2.			
3.			
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Oplopanax horridus*	5	No	FAC
3. *Ribes bracteosum*	10	Yes	FAC
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	70	Yes	FACU
2. *Tolmiea menziesii*	15	No	FAC
3. *Galium aparine*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**80**	x4 =	**320**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**710** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No** _____

Remarks:

SOIL

Sampling Point: HC-WE-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	100					SiL	
3-5	7.5YR 3/3	60	7.5YR 5/8	30	C	M	SiL	
	7.5YR 3/1	10						mixed matrix
5-12	7.5YR 3/2	95	7.5YR 4/6	5	C	M	SiL	
12-16	7.5YR 4/2	70	7.5YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/5/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WE-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53184215 Long: -123.2839587 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes _____	No **X**	

Remarks:
PFO/PSS/PEM
slope/riverine

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	100	Yes	FAC
2.			
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Oplopanax horridus*	25	Yes	FAC
2. *Rubus spectabilis*	5	No	FAC
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	50	Yes	FACU
2. *Polystichum munitum*	25	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**75**	x4 =	**300**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**690** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: HC-WE-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					SiL	
6-14	7.5YR 3/4	100					SiL	
14-16	7.5YR 3/4	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil moist but no wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WD-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53200862 Long: -123.2846662 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM/PFO

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	95	Yes	FAC
2.			
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Ribes bracteosum*	60	Yes	FAC
2. *Rubus spectabilis*	10	No	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Athyrium angustum*	40	Yes	FAC
3. *Oxalis oregana*	15	No	FACU
4. *Cardamine angulata*	20	Yes	FACW
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**20**	x2 =	**40**
FAC species	**225**	x3 =	**675**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**260** (A)		**775** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: HC-WD-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					SL	
4-8	10YR 2/1	95	10YR 4/6	5	C	M	SL	
8-16	7.5YR 2.5/2	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/4/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WD-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53205326 Long: -123.2846308 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PEM/PFO

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	55	Yes	FACU
2. *Acer macrophyllum*	15	Yes	FACU
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	5	No	FAC
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	20	Yes	FACU
3. *Hydrophyllum tenuipes*	15	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**45**	x3 =	**135**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**655** (B)
Prevalence Index = B/A =	**3.7**		

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: HC-WD-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					SiL	
7-16	7.5YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WC-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 21%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53193439 Long: -123.2854197 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	70	Yes	FAC
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: 5 feet)			
1. *Athyrium angustum*	60	Yes	FAC
2. *Tolmiea menziesii*	15	No	FAC
3. *Oxalis oregana*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**145**	x3 =	**435**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**160** (A)		**495** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: HC-WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	7.5YR 5/8	5	C	M	SL	
8-16	10YR 4/2	90	7.5YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water table Present?	Yes X	No ___	Depth (inches): 6		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WC-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 21%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53189327 Long: -123.285469 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PEM

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	100	Yes	FACU
2.			
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	50	Yes	FACU
2. *Oemleria cerasiformis*	5	No	FACU
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Dicentra formosa*	10	No	FACU
3. *Oxalis oregana*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**250**	x4 =	**1000**
UPL species	**0**	x5 =	**0**
Column Totals:	**250** (A)		**1000** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: HC-WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	100					SiL	
10-16	7.5YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology. Moist soil.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WB-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53364 Long: -123.288882 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	
Is the Sampled Area within a Wetland?	**Yes X**	**No**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover:	**40**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Ribes bracteosum*	40	Yes	FAC
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover:	**60**		
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Cardamine angulata*	10	No	FACW
3. *Chrysosplenium glechomaefolium*	30	Yes	-
4. *Galium aparine*	5	No	FACU
5. *Hydrophyllum tenuipes*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover:	**70**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**125**	x3 =	**375**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**415** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: HC-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SL	
6-16	10YR 4/2	70	5YR 5/8	30	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WB-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53364844 Long: -123.2889474 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	100	Yes	FACU
2.			
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**200**	x4 =	**800**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**800** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: HC-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53198995 Long: -123.2912523 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
old stream bed
PEM
95% seasonally inundated

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	45	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	15	Yes	FACU
2. *Athyrium angustum*	25	Yes	FAC
3. *Tolmiea menziesii*	15	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 27.5 20%= 11 Total Cover: **55**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **45** % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**125** (A)		**390** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: HC-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10Y 2.5/1	95	2.5YR 4/4	5	C	M	S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock and woody debris

Depth (inches): 6 bgs

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: HC-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53201278 Long: -123.291288 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	10	Yes	FAC
2. *Pseudotsuga menziesii*	30	Yes	FACU
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Oemleria cerasiformis*	40	Yes	FACU
2. *Acer circinatum*	40	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	30	Yes	FACU
2. *Dicentra formosa*	10	Yes	FACU
3. *Tolmiea menziesii*	5	No	FAC
4. *Cardamine angulata*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**55**	x3 =	**165**
FACU species	**110**	x4 =	**440**
UPL species	**0**	x5 =	**0**
Column Totals:	**170** (A)		**615** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: HC-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 3/2	100					SiL	
14-16	7.5YR 4/2	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Weyerhaeuser State: WA Sampling Point: WZ-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52240201 Long: -123.278774 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
PEM
ditch-like

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	60	Yes	FAC
2. *Ranunculus repens*	15	No	FAC
3. *Viola glabella*	5	No	FACW
4. *Urtica dioica*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**80**	x3 =	**240**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**85** (A)		**250** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: WZ-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	90	10YR 5/6	10	C	M	SiL	
6-12	10YR 4/2	70	5YR 4/6	30	C	M	SiL	
12-16	10YR 4/1	60	7.5YR 6/8	40	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Weyerhaeuser State: WA Sampling Point: WZ-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5224064 Long: -123.2788487 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No _____	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____ No **X**		
Wetland Hydrology Present?	Yes _____ No **X**		

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover:	**60**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	15	Yes	FAC
2. *Rubus spectabilis*	5	No	FAC
3. *Rubus parviflorus*	5	No	FACU
4. *Acer circinatum*	30	Yes	FAC
5.			
50%= 27.5 20%= 11 Total Cover:	**55**		
Herb Stratum (Plot size: 5 feet)			
1. *Urtica dioica*	15	Yes	FAC
2. *Polystichum munitum*	40	Yes	FACU
3. *Tolmiea menziesii*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover:	**65**		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**135**	x3 =	**405**
FACU species	**45**	x4 =	**180**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**585** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:

SOIL

Sampling Point: 4/6/2017

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3	100					SiL	some gravel present
10-16	10YR 4/2	100					SiL	no redox features

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Weyerhaeuser State: WA Sampling Point: WAA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52065887 Long: -123.2773095 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
PEM/PSS
seasonally inundated 80%

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	25	Yes	FAC
2.			
3.			
4.			
5.			
50%= 12.5 20%= 5 Total Cover: **25**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	25	Yes	FAC
2. *Rubus spectabilis*	30	Yes	FAC
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: 5 feet)			
1. *Athyrium angustum*	30	Yes	FAC
2. *Viola glabella*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**20**	x2 =	**40**
FAC species	**110**	x3 =	**330**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**130** (A)		**370** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: WAA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	95	10YR 5/8	5	C	M	SiL	
4-11	10YR 2/1	95	10YR 5/8	5	C	M	SiL	
11-16	7.5YR 3/2	75	7.5YR 4/1	10	D	M	SiL	
			7.5YR 5/8	15	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Weyerhaeuser State: WA Sampling Point: WAA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52066842 Long: -123.2773545 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	80	Yes	FAC
2. *Pseudotsuga menziesii*	10	No	FACU
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	10	No	FACU
2. *Tolmiea menziesii*	5	No	FAC
3. *Hydrophyllum tenuipes*	20	No	FAC
4. *Viola glabella*	10	No	FACW
5. *Dicentra formosa*	15	No	FACU
6. *Athyrium angustum*	90	Yes	FAC
7.			
8.			
9.			
50%= 75 20%= 30 Total Cover: **150**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**200**	x3 =	**600**
FACU species	**35**	x4 =	**140**
UPL species	**0**	x5 =	**0**
Column Totals:	**245** (A)		**760** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WAA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					SiL	
12-16	N/A							100% roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: roots

Depth (inches): 12 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Weyerhaeuser State: WA Sampling Point: CR-WG-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5187649 Long: -123.2743459 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes X No**
Hydric Soil Present?	Yes **X** No		
Wetland Hydrology Present?	Yes **X** No		

Remarks:
PEM/PSS

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	15	Yes	FAC
2. *Alnus rubra*	20	Yes	FAC
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: 5 feet)			
1. *Festuca rubra*	60	Yes	FAC
2. *Epilobium ciliatum*	10	No	FACW
3. *Cerastium arvense*	20	Yes	FACU
4. *Equisetum arvense*	5	No	FAC
5. *Juncus effusus*	5	No	FACW
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**15**	x2 =	**30**
FAC species	**100**	x3 =	**300**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**410** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-WG-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					SL	
8-12	10YR 4/2	95	5YR 5/8	5	C	M	SL	
12-16	10YR 4/2	80	5YR 5/8	20	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-3

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Weyerhaeuser State: WA Sampling Point: CR-WG-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51878246 Long: -123.2743542 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes** **No X**
Hydric Soil Present?	Yes No **X**		
Wetland Hydrology Present?	Yes No **X**		

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	10	Yes	FAC
2. *Acer circinatum*	10	Yes	FAC
3. *Rubus parviflorus*	15	Yes	FACU
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: 5 feet)			
1. *Festuca rubra*	40	Yes	FAC
2. *Juncus effusus*	5	No	FACW
3. *Cerastium arvense*	10	No	FACU
4. *Phalaris arundinacea*	20	Yes	FACW
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**25**	x2 =	**50**
FAC species	**60**	x3 =	**180**
FACU species	**25**	x4 =	**100**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**330** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WG-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SL	no redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WV-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): roadbed Local relief (concave, convex, none): none Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53059821 Long: -123.29059473 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
Wetland in northern portion of sorting yard adjacent to several debris piles and dirt piles. Observed areas of ponding and saturation in compacted roadbed. Wetland drains into excavated ditch along edge of sorting yard that conveys flow to Wetland WT.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Juncus effusus*	40	Yes	FACW
2. *Festuca rubra*	25	Yes	FAC
3. *Agrostis capillaris*	30	Yes	FAC
4. *Phalaris arundinacea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**45**	x2 =	**90**
FAC species	**55**	x3 =	**165**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**100** (A)		**255** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: WV-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					SiL	
4-12	10YR 4/1	95	2.5YR 3/4	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted aggregate

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 3

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WV-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53060698 Long: -123.29057395 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	20	Yes	FACU
2. *Rubus armeniacus*	25	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover:	45		
Herb Stratum (Plot size: r = 5 feet)			
1. *Festuca rubra*	75	Yes	FAC
2. *Agrostis capillaris*	25	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	125	x3 =	375
FACU species	20	x4 =	80
UPL species	0	x5 =	0
Column Totals:	145 (A)		455 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WV-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					SiL	
4-10	10YR 2/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted aggregate

Depth (inches): 10

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WT-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): stormwater basins Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53103206 Long: -123.29270277 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes ____ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No ____	**Is the Sampled Area within a Wetland?**	**Yes X No** ____
Hydric Soil Present?	Yes **X** No ____		
Wetland Hydrology Present?	Yes **X** No ____		

Remarks:
Wetland consists of a series of 3 excavated stormwater basins that are rectangular in shape and connected to each other by a serpentine channel. Wetland WT receives water from an excavated ditch that is connected to Wetland WV.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	85	Yes	FAC
2.			
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus armeniacus*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**50**	x2 =	**100**
FAC species	**95**	x3 =	**285**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**145** (A)		**385** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No** ____

Remarks:

SOIL

Sampling Point: WT-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	98	5YR 5/8	2	C	M	SiL	
6-14	10YR 3/2	75	10YR 4/6	20	C	M	SiL	
			10YR 5/1	5	D	M		
14-16	10YR 4/1	70	10YR 5/8	30	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WT-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53106727 Long: -123.29267584 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes _____	No **X**	

Remarks:
Data plot located on side slope of excavated stormwater basin.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2. *Acer macrophyllum*	20	Yes	FACU
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover:	**80**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	1	No	FACU
2. *Rubus ursinus*	10	Yes	FACU
3.			
4.			
5.			
50%= 5.5 20%= 2.2 Total Cover:	**11**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	30	Yes	FACW
2. *Polypodium glycyrrhiza*	2	No	NOL
3. *Tolmiea menziesii*	3	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 17.5 20%= 7 Total Cover:	**35**		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **65** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**30**	x2 =	**60**
FAC species	**63**	x3 =	**189**
FACU species	**31**	x4 =	**124**
UPL species	**0**	x5 =	**0**
Column Totals:	**124** (A)		**373** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks: NOL = not on list (species is not listed on the 2016 National Wetland Plant List)

SOIL

Sampling Point: WT-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/3	100					SL	
3-16	7.5YR 3/2	100					LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: #N/A
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WT-DP-03
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): convex Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53113544 Long: -123.29301142 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No _____	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____ No **X**		
Wetland Hydrology Present?	Yes _____ No **X**		

Remarks:
Data plot located in relatively flat stormwater drainage area northwest of Wetland WT.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	5	Yes	FACU
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Viola adunca*	20	Yes	FAC
3. *Urtica dioica*	5	No	FAC
4. *Dicentra formosa*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**45**	x3 =	**135**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**55** (A)		**175** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:

SOIL

Sampling Point: WT-DP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					SiL	
3-6	10YR 3/2	95	10YR 4/1	5	D	M	SiL	
6-16	10YR 3/3	95	10YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB02-WA-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53114053 Long: -123.29470493 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
Bench wetland located between stream and side slope. Hydrology seeps out of side slope into wetland.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Scirpus microcarpus*	20	Yes	OBL
3. *Tolmiea menziesii*	15	No	FAC
4. *Cardamine angulata*	10	No	FACW
5. *Veronica cusickii*	5	No	FAC
6. *Epilobium ciliatum*	5	No	FACW
7. *Agrostis capillaris*	5	No	FAC
8. *Stachys chamissonis*	5	No	FACW
9. *Cirsium arvense*	5	No	FAC
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**20**	x2 =	**40**
FAC species	**30**	x3 =	**90**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**90** (A)		**230** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: CR-LB02-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	90	10YR 5/8	5	C	M	SiL	
			10YR 4/1	5	D	M		
3-6	10YR 4/1	85	7.5YR 5/8	15	C	M	SiL	
6-16	N 3/0	80	7.5YR 5/8	5	C	PL	SiL	oxidized rhizospheres
			7.5YR 5/8	10	C	M		
			2.5YR 3/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB02-WA-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53115724 Long: -123.29468155 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes **X**	No _____	

Remarks:
Data plot located on side slope adjacent to wetland.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	90	Yes	FACU
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	25	Yes	FACU
2. *Oxalis oregana*	10	No	FACU
3. *Galium trifidum*	10	No	FACW
4. *Agrostis capillaris*	10	No	FAC
5. *Verbascum thapsus*	5	No	FACU
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**10**	x3 =	**30**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**150** (A)		**570** (B)

Prevalence Index = B/A = **3.8**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: CR-LB02-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/4	100					SiL	
12-16	7.5YR 3/4	95	7.5YR 5/1	5	D	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 13

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB02-WA-DP-03
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53094479 Long: -123.29410558 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes **X**	No _____	
Wetland Hydrology Present?	Yes **X**	No _____	

Remarks:
Bench wetland located between stream and side slope. Hydrology seeps out of side slope into wetland.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	30	Yes	FACU
2. *Polystichum munitum*	10	Yes	FACU
3. *Tolmiea menziesii*	5	No	FAC
4. *Oenanthe sarmentosa*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x1 =	**5**
FACW species	**0**	x2 =	**0**
FAC species	**40**	x3 =	**120**
FACU species	**40**	x4 =	**160**
UPL species	**0**	x5 =	**0**
Column Totals:	**85** (A)		**285** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: CR-LB02-WA-DP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/3	100					SiL	
4-11	7.5YR 4/1	75	5YR 5/8	25	C	M	SiL	
11-16	7.5YR 4/1	75	5YR 5/8	20	C	M	SiL	
			5YR 5/8	5	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB02-WA-DP-04
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53092737 Long: -123.29413090 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes **X**	No _____	
Wetland Hydrology Present?	Yes _____	No **X**	

Remarks:
Data plot located on side slope adjacent to wetland.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	80	Yes	FACU
2. *Alnus rubra*	20	Yes	FAC
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Claytonia perfoliata*	10	No	FAC
2. *Oxalis oregana*	20	Yes	FACU
3. *Polystichum munitum*	15	Yes	FACU
4. *Galium aparine*	5	No	FACU
5. *Agrostis capillaris*	10	No	FAC
6. *Heracleum maximum*	1	No	FAC
7.			
8.			
9.			
50%= 30.5 20%= 12.2 Total Cover: **61**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **39** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**51**	x3 =	**153**
FACU species	**120**	x4 =	**480**
UPL species	**0**	x5 =	**0**
Column Totals:	**171** (A)		**633** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: CR-LB02-WA-DP-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/3	100					SiL	
6-16	7.5YR 3/2	70	7.5YR 5/8	10	C	M	SiL	
			7.5YR 5/6	15	C	M		
			2.5YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB02-WA-DP-05
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53097022 Long: -123.29361068 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Data plot adjacent to shallow ponded area of wetland.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	25	Yes	FAC
2. *Salix* sp.	20	Yes	-
3. *Rubus armeniacus*	10	No	FAC
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	50	Yes	FACW
2. *Scirpus microcarpus*	5	No	OBL
3. *Plantago altissima*	5	No	-
4. *Urtica dioica*	15	No	FAC
5. *Veronica cusickii*	5	No	FAC
6. *Oenanthe sarmentosa*	10	No	OBL
7. *Ranunculus repens*	5	No	FAC
8. *Claytonia virginica*	5	No	NI
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**15**	x1 =	**15**
FACW species	**50**	x2 =	**100**
FAC species	**60**	x3 =	**180**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**125** (A)		**295** (B)

Prevalence Index = B/A = **2.4**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB02-WA-DP-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	95	10YR 5/8	5	C	M	SiL	
6-16	N 2.5/0	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB02-WA-DP-06
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53099397 Long: -123.29361188 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Salix lasiandra*	60	Yes	FACW
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	85	Yes	FAC
2. *Oemleria cerasiformis*	5	No	FACU
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Urtica dioica*	10	No	FAC
2. *Tolmiea menziesii*	20	Yes	FAC
3. *Polystichum munitum*	20	Yes	FACU
4. *Carex deweyana*	5	No	FAC
5. *Ranunculus repens*	5	No	FAC
6. *Phalaris arundinacea*	1	No	FACW
7.			
8.			
9.			
50%= 30.5 20%= 12.2 Total Cover: **61**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **39** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**61**	x2 =	**122**
FAC species	**125**	x3 =	**375**
FACU species	**25**	x4 =	**100**
UPL species	**0**	x5 =	**0**
Column Totals:	**211** (A)		**597** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: CR-LB02-WA-DP-06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	99	10YR 5/8	1	C		SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes **X** No _____ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes **X** No _____ Depth (inches): 14

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WU-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53007027 Long: -123.29267594 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	10	Yes	FACU
2. *Impatiens capensis*	1	No	FACW
3. *Tolmiea menziesii*	10	Yes	FAC
4. *Hydrophyllum tenuipes*	10	Yes	FAC
5. *Polystichum munitum*	5	No	FACU
6.			
7.			
8.			
9.			
50%= 18 20%= 7.2 Total Cover: **36**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **64** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**1**	x2 =	**2**
FAC species	**20**	x3 =	**60**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**36** (A)		**122** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Sword fern rooted in upland knolls within wetland; only small percentage in wetland.

SOIL

Sampling Point: WU-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	100					SL	
2-6	10YR 3/1	90	10YR 4/6	10	C	M	SL	
6-16	10YR 3/3	95	10YR 4/6	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 13

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Also surface satuation 0 to 3 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WU-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53004018 Long: -123.29267538 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes **X**	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	95	Yes	FACU
2.			
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	5	No	FAC
2. *Polystichum munitum*	25	Yes	FACU
3. *Tolmiea menziesii*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 17.5 20%= 7 Total Cover: **35**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **65** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**10**	x3 =	**30**
FACU species	**120**	x4 =	**480**
UPL species	**0**	x5 =	**0**
Column Totals:	**130** (A)		**510** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WU-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					SL	
8-16	10YR 3/6	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes **X** No ___ Depth (inches): 14

Saturation Present? (includes capillary fringe) Yes **X** No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** **X** **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WW-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52929979 Long: -123.28885547 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Populus balsamifera ssp. Trichocarpa*	30	Yes	FAC
2. *Alnus rubra*	20	Yes	FAC
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus armeniacus*	5	Yes	FAC
2. *Salix scouleriana*	5	Yes	FAC
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Carex obnupta*	20	Yes	OBL
3. *Oenanthe sarmentosa*	20	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **7** (A)
Total Number of Dominant Species Across All Strata: **7** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**40**	x1 =	**40**
FACW species	**20**	x2 =	**40**
FAC species	**60**	x3 =	**180**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**120** (A)		**260** (B)

Prevalence Index = B/A = **2.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WW-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 2.5/2	100					SL	
7-14	10Y 3/1		5YR 3/4	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Cobble

Depth (inches): 14

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WW-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52927700 Long: -123.28880888 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	60	Yes	FAC
2. *Rubus spectabilis*	10	No	FAC
3. *Rubus ursinus*	1	No	FACU
4.			
5.			
50%= 35.5 20%= 14.2 Total Cover: **71**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Ranunculus repens*	50	Yes	FAC
2. *Oxalis oregana*	10	No	FACU
3. *Tolmiea menziesii*	10	No	FAC
4. *Claytonia virginica*	1	No	NI
5. *Phalaris arundinacea*	1	No	FACW
6.			
7.			
8.			
9.			
50%= 36 20%= 14.4 Total Cover: **72**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **28** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**1**	x2 =	**2**
FAC species	**130**	x3 =	**390**
FACU species	**11**	x4 =	**44**
UPL species	**0**	x5 =	**0**
Column Totals:	**142** (A)		**436** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: WW-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 2.5/2	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WW-DP-03
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52950813 Long: -123.28965960 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	**Is the Sampled Area within a Wetland?** **Yes X** **No**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes **X**	No	

Remarks:
Data plot located in a depressional area between fiill mounds.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus laciniatus*	5	No	FACU
2. *Alnus rubra*	30	Yes	FAC
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	75	Yes	FACW
2. *Agrostis capillaris*	25	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**75**	x2 =	**150**
FAC species	**55**	x3 =	**165**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**335** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL

Sampling Point: WW-DP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/2	93	5YR 5/8	5	C	M	SiL	
			5YR 5/8	2	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted aggregate and soil

Depth (inches): 14

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Some ponded areas nearby

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WW-DP-04
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52950596 Long: -123.28974749 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No **X**
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	5	No	FAC
2. *Pseudotsuga menziesii*	25	Yes	FACU
3. *Rubus ursinus*	1	No	FACU
4.			
5.			
50%= 15.5 20%= 6.2 Total Cover: **31**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Agrostis capillaris*	100	Yes	FAC
2. *Phalaris arundinacea*	1	No	FACW
3. *Polystichum munitum*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 51.5 20%= 20.6 Total Cover: **103**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**1**	x2 =	**2**
FAC species	**105**	x3 =	**315**
FACU species	**28**	x4 =	**112**
UPL species	**0**	x5 =	**0**
Column Totals:	**134** (A)		**429** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
5 - Wetland Non-Vascular Plants[1]
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No** **X**

Remarks:

SOIL

Sampling Point: WW-DP-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/3	100					SiL	abundant aggregate in silt loam
6-8	7.5YR 4/3	90	7.5YR 5/8	10	C	M	SiL	
8-16	7.5YR 4/3	95	7.5YR 4/6	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks: Soil contains mix of fill material and aggregate of various sizes.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB01-WA-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53268594 Long: -123.29489905 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Wetland drains to roadside ditch that flows to a failed culvert under the main road. Culvert discharges partial flow to Chehalis River.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Herb Stratum (Plot size: r = 5 feet)			
1. *Petasites frigidus*	5	No	FACW
2. *Polystichum munitum*	5	No	FACU
3. *Tolmiea menziesii*	10	Yes	FAC
4. *Cardamine angulata*	5	No	FACW
5. *Claytonia virginica*	5	No	NI
6.			
7.			
8.			
9.			
50%= 15 20%= 6 Total Cover:	30		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	10	x2 =	20
FAC species	10	x3 =	30
FACU species	5	x4 =	20
UPL species	0	x5 =	0
Column Totals:	25 (A)		70 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/2	100					SL	
3-11	10YR 3/2	60	10YR 6/8	40			SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted aggregate

Depth (inches): 11

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 9

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface satuation also present from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/30/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB01-WA-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53264782 Long: -123.29488384 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Frangula purshiana*	5	No	FAC
2. *Sambucus racemosa*	40	Yes	FACU
3. *Oemleria cerasiformis*	10	No	FACU
4. *Rubus spectabilis*	5	No	FAC
5. *Rubus ursinus*	5	No	FACU
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	20	Yes	FACU
2. *Petasites frigidus*	5	No	FACW
3. *Phalaris arundinacea*	5	No	FACW
4. *Galium trifidum*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 17.5 20%= 7 Total Cover: **35**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **65** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**15**	x2 =	**30**
FAC species	**60**	x3 =	**180**
FACU species	**75**	x4 =	**300**
UPL species	**0**	x5 =	**0**
Column Totals:	**150** (A)		**510** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	90	10YR 5/8	10	C	M	SL	
2-14	10YR 3/3	90	10YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes **X** No ___ Depth (inches): 0-2

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *Surface satuation only from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WS-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53340699 Long: -123.29486918 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Wetland drains to same roadside ditch as Wetland CR-LB-01-WA.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2. *Rubus parviflorus*	5	Yes	FACU
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover:	10		
Herb Stratum (Plot size: r = 5 feet)			
1. *Petasites frigidus*	5	No	FACW
2. *Tolmiea menziesii*	10	Yes	FAC
3. *Viola glabella*	10	Yes	FACW
4. *Rumex occidentalis*	5	No	FACW
5. *Hydrophyllum tenuipes*	10	Yes	FAC
6. *Phalaris arundinacea*	5	No	FACW
7.			
8.			
9.			
50%= 22.5 20%= 9 Total Cover:	45		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 55 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	25	x2 =	50
FAC species	25	x3 =	75
FACU species	5	x4 =	20
UPL species	0	x5 =	0
Column Totals:	55 (A)		145 (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WS-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/2	100					SL	
3-11	10YR 3/2	60	10YR 6/8	40			SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 9

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface satuation also present from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WS-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53337261 Long: -123.29487655 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	60	Yes	FAC
2. *Acer macrophyllum*	10	No	FACU
3. *Thuja plicata*	10	No	FAC
4. *Oemleria cerasiformis*	10	No	FACU
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	60	Yes	FACU
2. *Dicentra formosa*	10	No	FACU
3. *Sambucus racemosa*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**70**	x3 =	**210**
FACU species	**100**	x4 =	**400**
UPL species	**0**	x5 =	**0**
Column Totals:	**170** (A)		**610** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WS-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	90	10YR 5/8	10	C	M	SL	
2-14	10YR 3/3	90	10YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-2

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface satuation only from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WB-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52843395 Long: -123.29646165 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
Slope/PSS/PEM seep wetland. Water from wetland feeds into stream by seepage.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Athyrium angustum*	5	No	FAC
3. *Tolmiea menziesii*	15	Yes	FAC
4. *Equisetum arvense*	5	No	FAC
5. *Cardamine angulata*	20	Yes	FACW
6. *Hydrophyllum tenuipes*	5	No	FAC
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**20**	x2 =	**40**
FAC species	**35**	x3 =	**105**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**75** (A)		**225** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: CC-RB06-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	90	10YR 4/1	5	D	M	SiL	
			5YR 5/8	5	C	M		
6-11	10YR 3/2	70	2.5YR 5/8	30	C	M	SiL	
11-16	10GY 4/1	50	2.5YR 5/8	20	C	M	SiL	
	N 2.5/1	30						mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Some ponded areas nearby.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WB-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52847081 Long: -123.29644966 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes _____	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	40	Yes	FAC
2. *Rubus spectabilis*	5	No	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	5	No	FAC
2. *Oxalis oregana*	5	No	FACU
3. *Polystichum munitum*	20	Yes	FACU
4. *Carex deweyana*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 17.5 20%= 7 Total Cover: **35**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **65** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**55**	x3 =	**165**
FACU species	**25**	x4 =	**100**
UPL species	**0**	x5 =	**0**
Column Totals:	**80** (A)		**265** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: CC-RB06-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					SiL	
12-16	10YR 3/6	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-T1-WA-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52695552 Long: -123.29924787 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Headwater seep wetland

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	5	No	FAC
2. *Tolmiea menziesii*	15	Yes	FAC
3. *Athyrium angustum*	5	No	FAC
4. *Cardamine angulata*	15	Yes	FACW
5. *Oxalis oregana*	10	Yes	FACU
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**15**	x2 =	**30**
FAC species	**25**	x3 =	**75**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**50** (A)		**145** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Moss present on bare ground

SOIL

Sampling Point: CC-RB07-T1-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	90	10YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-T1-WA-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52695368 Long: -123.29921234 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	60	Yes	FACU
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	70	Yes	FACU
2. *Oxalis oregana*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**15**	x3 =	**45**
FACU species	**140**	x4 =	**560**
UPL species	**0**	x5 =	**0**
Column Totals:	**155** (A)		**605** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB07-T1-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/6	100					SiL	
7-14	10YR 6/4	70	10YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-WA-DP-01
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52767891 Long: -123.29857430 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Headwater seep wetland

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	5	No	FAC
2. *Tolmiea menziesii*	15	Yes	FAC
3. *Athyrium angustum*	5	No	FAC
4. *Cardamine angulata*	15	Yes	FACW
5. *Oxalis oregana*	10	Yes	FACU
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**15**	x2 =	**30**
FAC species	**25**	x3 =	**75**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**50** (A)		**145** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Moss present on bare ground

SOIL

Sampling Point: CC-RB07-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	90	10YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-WA-DP-02
Investigator(s): Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52768814 Long: -123.29847775 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	60	Yes	FACU
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	70	Yes	FACU
2. *Oxalis oregana*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**15**	x3 =	**45**
FACU species	**140**	x4 =	**560**
UPL species	**0**	x5 =	**0**
Column Totals:	**155** (A)		**605** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB07-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/6	100					SiL	
7-14	10YR 6/4	70	10YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB01-WA-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54248426 Long: -123.297164 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover:	**80**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	30	Yes	FACU
2. *Sambucus racemosa*	10	No	FACU
3. *Acer circinatum*	10	No	FAC
4. *Rubus spectabilis*	5	No	FAC
5.			
50%= 27.5 20%= 11 Total Cover:	**55**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	40	Yes	FAC
2. *Oxalis oregana*	15	No	FACU
3. *Mentha arvensis*	5	No	FACW
4. *Athyrium angustum*	5	No	FAC
5. *Dicentra formosa*	5	No	FACU
6. *Ranunculus repens*	10	No	FAC
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover:	**80**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**150**	x3 =	**450**
FACU species	**60**	x4 =	**240**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**700** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: CR-RB01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-10	10YR 3/2	98	7.5YR 4/4	2	C	M	SiL	
10-16	10YR 3/2	90	7.5YR 4/4	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 1

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Flowing surface water within 5 feet of data plot.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB01-WA-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54241642 Long: -123.2971153 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2. *Pseudotsuga menziesii*	40	Yes	FACU
3. *Acer macrophyllum*	10	No	FACU
4.			
5.			
50%= 50 20%= 20 Total Cover:	**100**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	30	Yes	FAC
2. *Sambucus racemosa*	25	Yes	FACU
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover:	**55**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Viola glabella*	10	Yes	FACW
2. *Dicentra formosa*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 10 20%= 4 Total Cover:	**20**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **80** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**80**	x3 =	**240**
FACU species	**85**	x4 =	**340**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**600** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-RB01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					SiL	with organics
2-11	10YR 3/2	100					SiL	
11-18	10YR 3/2	99	7.5YR 5/6	1	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil moist but not saturated and no water table present in soil pit.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/28/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S01-WA-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54226758 Long: -123.2949317 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	5	No	FAC
2. *Rubus spectabilis*	45	Yes	FAC
3. *Salix hookeriana*	15	Yes	FACW
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Ranunculus repens*	20	Yes	FAC
2. *Tolmiea menziesii*	15	Yes	FAC
3. *Equisetum arvense*	15	Yes	FAC
4. *Juncus effusus*	15	Yes	FACW
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**30**	x2 =	**60**
FAC species	**100**	x3 =	**300**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**130** (A)		**360** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-S01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	100					SL	
2-10	10YR 4/2	93	10YR 5/8	5			SiL	
			5YR 5/8	2	C	M		oxidized rhizospheres
10-14	10YR 4/3	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Cobble

Depth (inches): 14

Hydric Soil Present? **Yes** X **No** ___

Remarks: Undiggable cobble begins at 14 inches bgs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S01-WA-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54229525 Long: -123.2949666 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer macrophyllum*	10	Yes	FACU
2. *Pseudotsuga menziesii*	10	Yes	FACU
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	29	Yes	FACU
2. *Cirsium arvense*	40	Yes	FAC
3. *Rumex occidentalis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
50%= 37 20%= 14.8 Total Cover: **74**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **26** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **25%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**40**	x3 =	**120**
FACU species	**49**	x4 =	**196**
UPL species	**0**	x5 =	**0**
Column Totals:	**94** (A)		**326** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-S01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-8	10YR 3/2	99	7.5YR 5/8	1	C	M	SiL	
8-16	10YR 4/3	60	10YR 3/1	38	C	M	SiL	
			10YR 5/8	2	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soils moist due to precipitation, but not saturated.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/28/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WQ-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 11%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54218461 Long: -123.2931103 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks: Area recently logged.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Pseudotsuga menziesii*	1	No	FACU
2. *Alnus rubra*	5	Yes	FAC
3. *Rubus spectabilis*	1	No	FAC
4.			
5.			
50%= 3.5 20%= 1.4 Total Cover: **7**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Cirsium arvense*	25	Yes	FAC
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Ranunculus repens*	10	No	FAC
4. *Rumex occidentalis*	10	No	FACW
5. *Stachys chamissonis*	1	No	FACW
6. *Tolmiea menziesii*	1	No	FAC
7. *Agrostis capillaris*	30	Yes	FAC
8. *Juncus effusus*	1	No	FACW
9. *Ludwigia repens*	1	No	OBL
50%= 49.5 20%= 19.8 Total Cover: **99**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **1** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**1**	x1 =	**1**
FACW species	**32**	x2 =	**64**
FAC species	**72**	x3 =	**216**
FACU species	**1**	x4 =	**4**
UPL species	**0**	x5 =	**0**
Column Totals:	**106** (A)		**285** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WQ-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	99	7.5YR 5/6	1	C	M	SiL	
6-12	10YR 4/1	70	5YR 5/8	30	C	M	SiL	evidence of relic oxidixed rhizospheres
12-16	10YR 3/3	90	7.5YR 5/8	5	C	M	SiL	some charcoal present from past burn
			2.5YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 13

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 10

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/28/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WQ-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 11%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54217133 Long: -123.2931335 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks: Area recently logged.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	5	Yes	FAC
2. *Pseudotsuga menziesii*	5	Yes	FACU
3. *Rubus parviflorus*	5	Yes	FACU
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Agrostis capillaris*	25	Yes	FAC
2. *Festuca rubra*	30	Yes	FAC
3. *Ranunculus repens*	20	Yes	FAC
4. *Tolmiea menziesii*	5	No	FAC
5. *Phlox diffusa*	1	No	NI
6. *Stachys chamissonis*	1	No	FACW
7. *Brassica rapa*	1	No	FACU
8. *Carex deweyana*	1	No	FAC
9.			
50%= 42 20%= 16.8 Total Cover: **84**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **16** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**1**	x2 =	**2**
FAC species	**86**	x3 =	**258**
FACU species	**11**	x4 =	**44**
UPL species	**0**	x5 =	**0**
Column Totals:	**98** (A)		**304** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: WQ-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-8	10YR 3/2	98	7.5YR 5/8	2	C	M	SiL	
8-16	7.5YR 3/3	98	7.5YR 5/8	2	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators. Soil dry and crumbly.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WP-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope: 10%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54000592 Long: -123.2943186 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Slope wetland associated with seep along cutbank.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Scirpus microcarpus*	25	Yes	OBL
2. *Petasites frigidus*	5	No	FACW
3. *Tolmiea menziesii*	20	Yes	FAC
4. *Ranunculus repens*	5	No	FAC
5. *Equisetum arvense*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x1 =	**25**
FACW species	**5**	x2 =	**10**
FAC species	**30**	x3 =	**90**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**60** (A)		**125** (B)

Prevalence Index = B/A = **2.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WP-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	90	10YR 5/8	10	C	M	SiL	
4-8	10YR 4/3	95	10YR 5/8	5	C	M	SiL	Cobbles
8-16	10YR 4/6	100					SiL	Cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: Cobbles present from 4 to 16 inches bgs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface water adjacent to soil plot and associated with seep water.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/28/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WP-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope: 10%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54002703 Long: -123.2943105 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes **X**	No _____	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	20	Yes	FACU
2. *Acer macrophyllum*	50	Yes	FACU
3. *Alnus rubra*	10	No	FAC
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Symphoricarpos albus*	20	Yes	FACU
2. *Sambucus racemosa*	2	No	FACU
3.			
4.			
5.			
50%= 11 20%= 4.4 Total Cover: **22**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	25	Yes	FACU
2. *Dicentra formosa*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 15 20%= 6 Total Cover: **30**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **70** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**10**	x3 =	**30**
FACU species	**122**	x4 =	**488**
UPL species	**0**	x5 =	**0**
Column Totals:	**132** (A)		**518** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: WP-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	95	10YR 5/8	5	C	M	SiL	
6-8	10YR 4/3	60	10YR 4/1	30	C	M	SiL	
			10YR 5/8	10	C	M		
8-13	10YR 4/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 13

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Seep water moving through soil plot.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WD-DP-01
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52640822 Long: -123.2964639 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Upstream of culvert. Fed by stream backed up from road and spring on northeast side.

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover:	**40**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover:	**30**		
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	10	Yes	FAC
2. *Oxalis oregana*	10	Yes	FACU
3. *Ranunculus repens*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 20 20%= 8 Total Cover:	**40**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **60** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**340** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: 30% open water

SOIL

Sampling Point: CC-RB06-WD-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	7.5YR 5/8	5	C	M	SiL	
8-16	7.5YR 4/2	70	7.5YR 5/8	20	C	M	SiL	
			5YR 5/8	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-2

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface satuation also present from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WD-DP-02
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52642685 Long: -123.2964973 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Upstream of culvert. Fed by stream backed up from road and spring on northeast side.

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	80	Yes	FACU
2. *Alnus rubra*	10	No	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	60	Yes	FACU
2. *Oxalis oregana*	10	No	FACU
3. *Dicentra formosa*	1	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35.5 20%= 14.2 Total Cover: **71**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **29** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**20**	x3 =	**60**
FACU species	**151**	x4 =	**604**
UPL species	**0**	x5 =	**0**
Column Totals:	**171** (A)		**664** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB06-WD-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/3	95	7.5YR 5/8	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WC-DP-01
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 6%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52765257 Long: -123.2965041 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Bench off creek. Pockets of inundation.

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Oxalis oregana*	20	Yes	FACU
3. *Ranunculus repens*	20	Yes	FAC
4. *Polystichum munitum*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**25**	x4 =	**100**
UPL species	**0**	x5 =	**0**
Column Totals:	**125** (A)		**400** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-RB06-WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	90	10YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Roots

Depth (inches): 10 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-10

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Pockets of inundation

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WC-DP-02
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 6%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52765627 Long: -123.2963914 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	80	Yes	FACU
2. *Alnus rubra*	10	No	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	90	Yes	FACU
2. *Oxalis oregana*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**20**	x3 =	**60**
FACU species	**175**	x4 =	**700**
UPL species	**0**	x5 =	**0**
Column Totals:	**195** (A)		**760** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB06-WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/6	100					SiL	
7-14	10YR 6/4	70	10YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Roots

Depth (inches): 14 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WA-DP-01
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52841944 Long: -123.2988985 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	70	Yes	FAC
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Tolmiea menziesii*	20	Yes	FAC
3. *Hydrophyllum tenuipes*	10	No	FAC
4. *Oenanthe sarmentosa*	10	No	OBL
5. *Lysichiton americanus*	10	No	OBL
6. *Polystichum munitum*	5	No	FACU
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**160**	x3 =	**480**
FACU species	**25**	x4 =	**100**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**600** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-RB06-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	90	10YR 4/1	5	D	M	SiL	
			5YR 5/8	5	C	M		
6-11	10YR 3/2	70	2.5YR 5/8	30	C	M	SiL	
11-16	10GY 4/1	50	2.5YR 5/8	20	C	M	SiL	
	N 2.5/1	30						mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-3

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturated to surface. Flowing water present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB06-WA-DP-02
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52842959 Long: -123.298869 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2. *Pseudotsuga menziesii*	40	Yes	FACU
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	20	Yes	FAC
2. *Acer circinatum*	40	Yes	FAC
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**100**	x4 =	**400**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**700** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB06-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					SiL	
12-16	10YR 3/6	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-WB-DP-01
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52690754 Long: -123.2985083 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Sambucus racemosa*	1	No	FACU
3.			
4.			
5.			
50%= 10.5 20%= 4.2 Total Cover: **21**			
Herb Stratum (Plot size: 5 feet)			
1. *Ranunculus repens*	30	Yes	FAC
2. *Oxalis oregana*	10	Yes	FACU
3. *Hydrophyllum tenuipes*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)
Total Number of Dominant Species Across All Strata: **5** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**120**	x3 =	**360**
FACU species	**11**	x4 =	**44**
UPL species	**0**	x5 =	**0**
Column Totals:	**131** (A)		**404** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-RB07-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	90	10YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Roots

Depth (inches): 10

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Pockets of inundation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-WB-DP-02
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0.011046
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52691493 Long: -123.2985317 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	80	Yes	FACU
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	90	Yes	FACU
2. *Oxalis oregana*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**10**	x3 =	**30**
FACU species	**175**	x4 =	**700**
UPL species	**0**	x5 =	**0**
Column Totals:	**185** (A)		**730** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB07-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/6	100					SiL	
7-14	10YR 6/4	70	10YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Roots

Depth (inches): 14

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-WC-DP-01
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0.056584
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52622382 Long: -123.2985887 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	**Is the Sampled Area within a Wetland?** **Yes X** **No**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes **X**	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: 5 feet)			
1. *Ranunculus repens*	10	Yes	FAC
2. *Oxalis oregana*	10	Yes	FACU
3. *Hydrophyllum tenuipes*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 12.5 20%= 5 Total Cover: **25**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **75** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**105** (A)		**325** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-RB07-WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	90	10YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Roots

Depth (inches): 10

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Pockets of inundation

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB07-WC-DP-02
Investigator(s): Greg Summers and Matt Kuziensky Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0.056584
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52621828 Long: -123.2986169 Datum: NAD83
Soil Map Unit Name: Boistfort clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	60	Yes	FACU
2. *Oxalis oregana*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**60**	x3 =	**180**
FACU species	**80**	x4 =	**320**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**500** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-RB07-WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/6	100					SiL	
7-14	10YR 6/4	70	10YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Roots

Depth (inches): 14

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WC-DP-01
Investigator(s): Joe Pursley and Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53212108 Long: -123.3002915 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks: Crim Creek drainage, slope/PEM-PSS

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Ribes lacustre*	15	Yes	FAC
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	70	Yes	FAC
2. *Oxalis oregana*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**125**	x3 =	**375**
FACU species	**30**	x4 =	**120**
UPL species	**0**	x5 =	**0**
Column Totals:	**155** (A)		**495** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CC-WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					SiL	
8-18	10YR 3/1	90	10YR 4/4	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4 bgs

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/29/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WC-DP-02
Investigator(s): Joe Pursley and Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53216112 Long: -123.3003063 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks: Crim Creek drainage

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Thuja plicata*	40	Yes	FAC
2. *Acer macrophyllum*	35	Yes	FACU
3. *Alnus rubra*	45	Yes	FAC
4.			
5.			
50%= 60 20%= 24 Total Cover: **120**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oplopanax horridus*	10	Yes	FAC
2. *Acer circinatum*	5	Yes	FAC
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Oxalis oregana*	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 57.5 20%= 23 Total Cover: **115**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **57%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**150**	x4 =	**600**
UPL species	**0**	x5 =	**0**
Column Totals:	**250** (A)		**900** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 3/4	100					SiL	10% gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WI-DP-01
Investigator(s): Joe Pursley and Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53045906 Long: -123.2984714 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: PFO & PEM, seasonally inundated, saturated, woody debris

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	1	Yes	FAC
2.			
3.			
4.			
5.			
50%= 0.5 20%= 0.2 Total Cover: **1**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Lysichiton americanus*	25	Yes	OBL
2. *Leersia oryzoides*	10	No	OBL
3. *Athyrium angustum*	40	Yes	FAC
4. *Oenanthe sarmentosa*	10	No	OBL
5. *Tolmiea menziesii*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**45**	x1 =	**45**
FACW species	**0**	x2 =	**0**
FAC species	**91**	x3 =	**273**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**136** (A)		**318** (B)

Prevalence Index = B/A = **2.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WI-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	100					SiL	
10-16	10YR 3/1	95	10YR 3/4	5	C	M	SiL	
16-18	10YR 3/1	100					S	Coarse sand (gravel)

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: matted leaves

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 3/31/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WI-DP-02
Investigator(s): Joe Pursley and Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53048338 Long: -123.2984346 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	45	Yes	FACU
2.			
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	20	Yes	FACU
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	50	Yes	FACU
2. *Polystichum munitum*	50	Yes	FACU
3. *Hydrophyllum tenuipes*	1	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50.5 20%= 20.2 Total Cover: **101**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**1**	x3 =	**3**
FACU species	**165**	x4 =	**660**
UPL species	**0**	x5 =	**0**
Column Totals:	**166** (A)		**663** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WI-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB03-WA-DP-01
Investigator(s): Joe Pursley and Calvin Douglas Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52497999 Long: -123.2931067 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Seep out of hillside above Chehalis OHWM. Widths ranging from 6-20 feet. Mostly bedrock with some soils in depressions and at toe.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2. *Salix scouleriana*	10	Yes	FAC
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	25	Yes	FAC
2. *Rumex occidentalis*	5	No	FACW
3. *Ludwigia palustris*	10	No	OBL
4. *Juncus effusus*	5	No	FACW
5. *Athyrium angustum*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 27.5 20%= 11 Total Cover: **55**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **45** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**10**	x2 =	**20**
FAC species	**55**	x3 =	**165**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**75** (A)		**195** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB03-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 5/8	10	C	M	SL	See Remarks below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks: Soil substrate consists of 80% bedrock and the remaining 20% consists of thin and sparse soils and root mats.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Seep over 70% of bedrock

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB03-WA-DP-02
Investigator(s): Joe Pursley and Calvin Douglas Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52500422 Long: -123.2931519 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	75	Yes	FACU
2. *Alnus rubra*	20	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus ursinus*	10	No	FACU
2. *Pseudotsuga menziesii*	20	Yes	FACU
3. *Alnus rubra*	40	Yes	FAC
4. *Acer circinatum*	15	No	FAC
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	5	No	FACW
2. *Polystichum munitum*	20	Yes	FACU
3. *Galium aparine*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 15 20%= 6 Total Cover: **30**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **70** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**75**	x3 =	**225**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**755** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB03-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/6	100					L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology. Moist soils but not saturated.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/5/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WF-DP-01
Investigator(s): Julie Fox and Joe Pursley Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52799667 Long: -123.2845737 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	15	Yes	FAC
2. *Rumex occidentalis*	5	No	FACW
3. *Petasites frigidus*	5	No	FACW
4. *Viola glabella*	10	No	FACW
5. *Athyrium angustum*	5	No	FAC
6. *Urtica dioica*	5	No	FAC
7. *Cardamine angulata*	10	No	FACW
8.			
9.			
50%= 27.5 20%= 11 Total Cover: **55**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **45** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**30**	x2 =	**60**
FAC species	**75**	x3 =	**225**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**105** (A)		**285** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WF-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					SiL	
8-10	10YR 4/2	60	10YR 6/4	40	C	M	SiL	
10-16	10YR 4/2	60	10YR 6/4	20	C	M	SiL	
			7.5YR 4/6	20	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/4/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WF-DP-02
Investigator(s): Julie Fox and Joe Pursley Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52798634 Long: -123.2845435 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	50	Yes	FACU
2. *Alnus rubra*	40	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	30	Yes	FAC
2. *Pseudotsuga menziesii*	5	No	FACU
3. *Rubus ursinus*	10	Yes	FACU
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	25	Yes	FACU
2. *Tolmiea menziesii*	20	Yes	FAC
3. *Petasites frigidus*	1	No	FACW
4. *Festuca rubra*	1	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 23.5 20%= 9.4 Total Cover: **47**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **53** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**1**	x2 =	**2**
FAC species	**91**	x3 =	**273**
FACU species	**90**	x4 =	**360**
UPL species	**0**	x5 =	**0**
Column Totals:	**182** (A)		**635** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: CR-WF-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/2	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB03-WB-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 20%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.524222 Long: -123.2948005 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes **X**	No	

Remarks:
Braided stream channels flow through wetland. Stream flowing above and below. Saturated to surface. Inundation in channels.

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	5	No	FACU
2. *Rubus spectabilis*	20	Yes	FAC
3. *Ribes bracteosum*	5	No	FAC
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	40	Yes	FACU
2. *Ranunculus repens*	10	No	FAC
3. *Dicentra formosa*	5	No	FACU
4. *Hydrophyllum tenuipes*	5	No	FAC
5. *Pteridium aquilinum*	5	No	FACU
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**40**	x3 =	**120**
FACU species	**55**	x4 =	**220**
UPL species	**0**	x5 =	**0**
Column Totals:	**95** (A)		**340** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB03-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/3	100					SiL	
4-11	7.5YR 4/1	75	5YR 5/8	25	C	M	SiL	
11-16	7.5YR 4/1	75	5YR 5/8	20	C	M	SiL	
			5YR 5/8	5	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 2-4
Water table Present?	Yes	___	No	X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB03-WB-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 20%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52419793 Long: -123.294806 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	50	Yes	FACU
2. *Alnus rubra*	15	Yes	FAC
3. *Acer macrophyllum*	10	No	FACU
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	25	Yes	FACU
2. *Acer circinatum*	35	Yes	FAC
3. *Rubus spectabilis*	5	No	FAC
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	90	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)
Total Number of Dominant Species Across All Strata: **5** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**55**	x3 =	**165**
FACU species	**175**	x4 =	**700**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**865** (B)

Prevalence Index = B/A = **3.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB03-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/3	100					SiL	
6-16	7.5YR 3/2	70	7.5YR 5/8	10	C	M	SiL	
			7.5YR 5/6	15	C	M		
			2.5YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WD-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52331931 Long: -123.2913981 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Wetland located on top of old slide that covered stream; only hydrology is at toe near Chehalis River.

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Juncus effusus*	5	No	FACW
2. *Phalaris arundinacea*	10	No	FACW
3. *Agrostis capillaris*	40	Yes	FAC
4. *Tolmiea menziesii*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**15**	x2 =	**30**
FAC species	**125**	x3 =	**375**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**405** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WD-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-3

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Running water in adjacent stream

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WD-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52328912 Long: -123.2914303 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	15	Yes	FACU
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Digitalis purpurea*	5	Yes	FACU
2. *Tolmiea menziesii*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 10 20%= 4 Total Cover: **20**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **80** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**115** (A)		**365** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WD-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SL	
6-8	10YR 5/8	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WE-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 14%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5232377 Long: -123.2911509 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	25	Yes	FACW
2. *Scirpus microcarpus*	10	No	OBL
3. *Agrostis capillaris*	40	Yes	FAC
4. *Equisetum arvense*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**25**	x2 =	**50**
FAC species	**130**	x3 =	**390**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**165** (A)		**450** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WE-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1-3
Water table Present?	Yes	___	No	X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0-4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface saturation only from 0 to 4 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WE-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 14%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52321849 Long: -123.2912115 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	15	Yes	FACU
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Digitalis purpurea*	5	Yes	FACU
2. *Tolmiea menziesii*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 10 20%= 4 Total Cover: **20**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **80** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**115** (A)		**365** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WE-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SL	
6-8	10YR 5/8	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WC-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 9%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52337715 Long: -123.2916759 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: 5 feet)			
1. *Scirpus microcarpus*	20	Yes	OBL
2. *Agrostis capillaris*	20	Yes	FAC
3. *Ranunculus repens*	15	No	FAC
4. *Rumex crispus*	5	No	FAC
5. *Phalaris arundinacea*	15	No	FACW
6. *Equisetum arvense*	10	No	FAC
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**15**	x2 =	**30**
FAC species	**90**	x3 =	**270**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**125** (A)		**320** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1-3
Water table Present?	Yes	___	No	X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0-4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface saturation only from 0 to 4 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WC-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 9%
Subregion (LRR): Northwest Forests and Coast (LRA A) Lat: 46.52333314 Long: -123.2916799 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	15	Yes	FACU
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Digitalis purpurea*	5	Yes	FACU
2. *Tolmiea menziesii*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 10 20%= 4 Total Cover: **20**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **80** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**115** (A)		**365** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SL	
6-8	10YR 5/8	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WB-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52377095 Long: -123.2926922 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Linear wetland fed by spring

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Herb Stratum (Plot size: 5 feet)			
1. *Oenanthe sarmentosa*	15	Yes	OBL
2. *Ranunculus repens*	5	Yes	FAC
3. *Tolmiea menziesii*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 12.5 20%= 5 Total Cover: **25**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **75** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**15**	x1 =	**15**
FACW species	**0**	x2 =	**0**
FAC species	**60**	x3 =	**180**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**75** (A)		**195** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Herb stratum was submerged

SOIL

Sampling Point: CR-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1-3
Water table Present?	Yes	___	No	X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0-4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface saturation only from 0 to 4 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WB-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52371806 Long: -123.2927244 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	25	Yes	FACU
2. *Pseudotsuga menziesii*	15	Yes	FACU
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Oemleria cerasiformis*	5	No	FACU
2. *Rubus spectabilis*	50	Yes	FAC
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: 5 feet)			
1. *Ranunculus repens*	10	No	FAC
2. *Agrostis capillaris*	10	No	FAC
3. *Tolmiea menziesii*	10	No	FAC
4. *Rumex crispus*	20	Yes	FAC
5. *Polystichum munitum*	10	No	FACU
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**55**	x4 =	**220**
UPL species	**0**	x5 =	**0**
Column Totals:	**155** (A)		**520** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SL	
6-8	10YR 5/8	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB04-WA-DP-01
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52315665 Long: -123.2902685 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2. *Alnus rubra*	15	Yes	FAC
3.			
4.			
5.			
50%= 12.5 20%= 5 Total Cover: **25**			
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	20	No	FACW
2. *Agrostis capillaris*	50	Yes	FAC
3. *Ranunculus repens*	20	No	FAC
4. *Oenanthe sarmentosa*	20	No	OBL
5. *Scutellaria lateriflora*	25	No	FACW
6. *Tolmiea menziesii*	10	No	FAC
7.			
8.			
9.			
50%= 72.5 20%= 29 Total Cover: **145**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**45**	x2 =	**90**
FAC species	**105**	x3 =	**315**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**170** (A)		**425** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB04-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 4/4	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1-3
Water table Present?	Yes	___	No	X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0-4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface saturation only from 0 to 4 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB04-WA-DP-02
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52313892 Long: -123.2902499 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes** **No X**
Hydric Soil Present?	Yes No **X**		
Wetland Hydrology Present?	Yes No **X**		

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	5	Yes	FACU
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover:	**5**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	60	Yes	FAC
2. *Sambucus racemosa*	5	No	FACU
3. *Ribes bracteosum*	10	No	FAC
4. *Rubus ursinus*	5	No	FACU
5.			
50%= 40 20%= 16 Total Cover:	**80**		
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Polystichum munitum*	30	Yes	FACU
3. *Phalaris arundinacea*	1	No	FACW
4. *Claytonia sibirica*	15	No	FAC
5. *Epilobium ciliatum*	10	No	FACW
6. *Agrostis capillaris*	20	Yes	FAC
7.			
8.			
9.			
50%= 48 20%= 19.2 Total Cover:	**96**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **4** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**11**	x2 =	**22**
FAC species	**125**	x3 =	**375**
FACU species	**45**	x4 =	**180**
UPL species	**0**	x5 =	**0**
Column Totals:	**181** (A)		**577** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB04-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/4	100					SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 7 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/4/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WY-DP-01
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52870401 Long: -123.284195 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Depressional PEM

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	100	Yes	FACW
2. *Urtica dioica*	1	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50.5 20%= 20.2 Total Cover: **101**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**100**	x2 =	**200**
FAC species	**6**	x3 =	**18**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**106** (A)		**218** (B)

Prevalence Index = B/A = **2.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WY-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	98	7.5YR 5/8	2	C	M	CL	
6-18	10YR 3/1	95	7.5YR 5/8	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No sign of drainage input. No visible outflow.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WY-DP-02
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52871578 Long: -123.2840866 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Depressional

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	35	Yes	FAC
2.			
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	90	Yes	FACW
2. *Galium aparine*	15	No	FACU
3. *Urtica dioica*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 55 20%= 22 Total Cover: **110**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**90**	x2 =	**180**
FAC species	**55**	x3 =	**165**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**160** (A)		**405** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Decomposted leaves

SOIL

Sampling Point: WY-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100					SiL	
5-18	10YR 3/3	60	10YR 3/4	40	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WX-DP-01
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52821199 Long: -123.2883147 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PSS, PEM
Depressional
No outlet

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	50	Yes	FAC
2. *Acer circinatum*	10	No	FAC
3. *Ribes bracteosum*	25	Yes	FAC
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: 5 feet)			
1. *Scirpus microcarpus*	25	Yes	OBL
2. *Tolmiea menziesii*	15	No	FAC
3. *Galium aparine*	5	No	FACU
4. *Ranunculus repens*	40	Yes	FAC
5. *Viola brittoniana*	10	No	NI
6. *Equisetum arvense*	1	No	FAC
7.			
8.			
9.			
50%= 48 20%= 19.2 Total Cover: **96**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **4** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x1 =	**25**
FACW species	**0**	x2 =	**0**
FAC species	**141**	x3 =	**423**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**171** (A)		**468** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WX-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	100					CL	
6-18	10BG 2.5/1	95	2.5YR 4/4	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 9

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WX-DP-02
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52824332 Long: -123.2883256 Datum: NAD83
Soil Map Unit Name: Aquic Xerofluvents, overflow NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	15	Yes	FACU
2. *Alnus rubra*	50	Yes	FAC
3.			
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Acer circinatum*	15	No	FAC
3. *Alnus rubra*	25	Yes	FAC
4. *Symphoricarpos albus*	15	No	FACU
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Ranunculus repens*	50	Yes	FAC
3. *Tolmiea menziesii*	5	No	FAC
4. *Viola brittoniana*	1	No	NI
5.			
6.			
7.			
8.			
9.			
50%= 38 20%= 15.2 Total Cover: **76**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **24** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)
Total Number of Dominant Species Across All Strata: **6** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**170**	x3 =	**510**
FACU species	**50**	x4 =	**200**
UPL species	**0**	x5 =	**0**
Column Totals:	**220** (A)		**710** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: WX-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAC-DP-01
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52073286 Long: -123.2778231 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM, PSS, PFO
Depressional with culvert outlet. Isolated area with standing water, snags, and LWD. Many pockets of matted/water stained leaves.

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	70	Yes	FAC
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover:	**70**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	70	Yes	FAC
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover:	**70**		
Herb Stratum (Plot size: 5 feet)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 0 20%= 0 Total Cover:	**0**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **100** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**140**	x3 =	**420**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**420** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Emergent portions of wetland contain *Phalaris arundinacea* and *Ranunculus repens*.

SOIL

Sampling Point: WAC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/1	100					CL	leaf litter in 0-1 inches bgs
7-18	10YR 4/1	95	7.5YR 5/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/6/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAC-DP-02
Investigator(s): C. Douglas, S. Montgomery Section, Township, Range: T12-0N R5-0W S14
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52077712 Long: -123.2778124 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes** **No X**
Hydric Soil Present?	Yes No **X**		
Wetland Hydrology Present?	Yes No **X**		

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Acer circinatum*	40	Yes	FAC
3. *Sambucus racemosa*	10	No	FACU
4.			
5.			
50%= 55 20%= 22 Total Cover: **110**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	70	Yes	FACU
2. *Maianthemum dilatatum*	25	No	FAC
3. *Dicentra formosa*	10	No	FACU
4. *Tolmiea menziesii*	10	No	FAC
5. *Galium aparine*	10	No	FACU
6. *Claytonia sibirica*	5	No	FAC
7.			
8.			
9.			
50%= 65 20%= 26 Total Cover: **130**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**220**	x3 =	**660**
FACU species	**100**	x4 =	**400**
UPL species	**0**	x5 =	**0**
Column Totals:	**320** (A)		**1060** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WAC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3						SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB10-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50855879 Long: -123.2783619 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: 5 feet)			
1. *Ranunculus repens*	50	Yes	FAC
2. *Ludwigia repens*	20	Yes	OBL
3. *Tolmiea menziesii*	10	No	FAC
4. *Equisetum arvense*	10	No	FAC
5. *Festuca rubra*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**85**	x3 =	**255**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**105** (A)		**275** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB10-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/2	60	10YR 4/8	20	C	M	SiL	
			5YR 5/8	20	C	M		
6-12	7.5YR 2.5/1	65	2.5YR 5/8	5	C	PL	SiL	oxidixed rhizospheres
			2.5YR 5/8	30	C	M		
12-16	N 2.5/1	100					S	gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB10-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50854536 Long: -123.2783454 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	95	Yes	FAC
2.			
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	35	Yes	FAC
2. *Sambucus racemosa*	20	Yes	FACU
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: 5 feet)			
1. *Hydrophyllum tenuipes*	25	Yes	FAC
2. *Polystichum munitum*	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**155**	x3 =	**465**
FACU species	**60**	x4 =	**240**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**705** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB10-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 3/2	98	5YR 5/8	2	C	M	SiL	
7-16	7.5YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB10-T1-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5081127 Long: -123.2777049 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	75	Yes	FAC
2.			
3.			
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	15	No	FAC
2. *Ribes bracteosum*	80	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Herb Stratum (Plot size: 5 feet)			
1. *Cardamine angulata*	25	Yes	FACW
2. *Athyrium angustum*	40	Yes	FAC
3. *Tolmiea menziesii*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**25**	x2 =	**50**
FAC species	**230**	x3 =	**690**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**255** (A)		**740** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB10-T1-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					SiL	
2-16	10YR 4/2	70	7.5YR 5/8	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 2
Water table Present?	Yes	X	No	___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB10-T1-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50815263 Long: -123.2776359 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	100	Yes	FAC
2.			
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Acer circinatum*	50	Yes	FAC
2. *Rubus spectabilis*	15	Yes	FAC
3.			
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	90	Yes	FACU
2. *Oxalis oregana*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**165**	x3 =	**495**
FACU species	**95**	x4 =	**380**
UPL species	**0**	x5 =	**0**
Column Totals:	**260** (A)		**875** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: CR-RB10-T1-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SiL	
6-16	10YR 3/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAE-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50908423 Long: -123.2771516 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	30	Yes	FAC
2. *Frangula purshiana*	15	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	70	Yes	FAC
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: 5 feet)			
1. *Athyrium angustum*	20	No	FAC
2. *Equisetum arvense*	15	No	FAC
3. *Tolmiea menziesii*	20	No	FAC
4. *Chrysosplenium glechomifolium*	40	Yes	OBL
5. *Cardamine angulata*	15	No	FACW
6.			
7.			
8.			
9.			
50%= 55 20%= 22 Total Cover: **110**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)
Total Number of Dominant Species Across All Strata: **4** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**40**	x1 =	**40**
FACW species	**15**	x2 =	**30**
FAC species	**170**	x3 =	**510**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**225** (A)		**580** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WAE-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-9	10YR 4/2	88	10YR 6/8	10	C	M	SiL	
			5YR 5/8	2	C	M		
9-16	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAE-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5090988 Long: -123.2771659 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes **X**	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	25	Yes	FACU
2. *Alnus rubra*	25	Yes	FAC
3. *Frangula purshiana*	20	Yes	FAC
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	50	Yes	FACU
2. *Acer circinatum*	40	Yes	FAC
3. *Rubus spectabilis*	10	No	FAC
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	10	No	FAC
2. *Polystichum munitum*	50	Yes	FACU
3. *Hydrophyllum tenuipes*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**115**	x3 =	**345**
FACU species	**125**	x4 =	**500**
UPL species	**0**	x5 =	**0**
Column Totals:	**240** (A)		**845** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WAE-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 3

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WK-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 22%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50931366 Long: -123.2774851 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: 5 feet)			
1. *Chrysosplenium glechomifolium*	40	Yes	OBL
2. *Hydrophyllum tenuipes*	10	No	FAC
3. *Urtica dioica*	5	No	FAC
4. *Tolmiea menziesii*	15	No	FAC
5. *Festuca rubra*	5	No	FAC
6. *Equisetum arvense*	5	No	FAC
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**40**	x1 =	**40**
FACW species	**0**	x2 =	**0**
FAC species	**140**	x3 =	**420**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**460** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WK-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	85	7.5YR 5/8	10	C	M	SiL	
			10YR 4/2	5	D	M		
4-16	10YR 4/2	60	7.5YR 5/8	10	C	M	SiL	
	N 2.5/1	23	7.5YR 5/8	5	C	M		mixed matrix
			7.5YR 5/8	2	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-3

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WK-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 22%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50931801 Long: -123.2774535 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	90	Yes	FAC
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	15	Yes	FACU
2. *Rubus parviflorus*	25	Yes	FACU
3. *Rubus spectabilis*	20	Yes	FAC
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	60	Yes	FACU
2. *Hydrophyllum tenuipes*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**100**	x4 =	**400**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**790** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WK-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WH-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 14%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51086494 Long: -123.2756131 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	50	Yes	FAC
2. *Rubus spectabilis*	20	Yes	FAC
3. *Ribes bracteosum*	20	Yes	FAC
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	25	Yes	FAC
2. *Oenanthe sarmentosa*	10	No	OBL
3. *Equisetum arvense*	15	No	FAC
4. *Cardamine angulata*	15	No	FACW
5. *Athyrium angustum*	20	Yes	FAC
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**10**	x1 = **10**
FACW species	**15**	x2 = **30**
FAC species	**150**	x3 = **450**
FACU species	**0**	x4 = **0**
UPL species	**0**	x5 = **0**
Column Totals:	**175** (A)	**490** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WH-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 2.5/2	100					SiL	
7-16	7.5YR 3/1	80	2.5YR 5/8	5	C	PL	SiL	oxidized rhizospheres
			2.5YR 5/8	10	C	M		
			7.5YR 6/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WH-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 14%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51085297 Long: -123.2755798 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	70	Yes	FAC
2. *Frangula purshiana*	25	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover:	**95**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	75	Yes	FAC
2.			
3.			
4.			
5.			
50%= 37.5 20%= 15 Total Cover:	**75**		
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Polystichum munitum*	75	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover:	**95**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**170**	x3 =	**510**
FACU species	**95**	x4 =	**380**
UPL species	**0**	x5 =	**0**
Column Totals:	**265** (A)		**890** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WH-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB09-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51009518 Long: -123.2750525 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	50	Yes	FAC
2. *Alnus rubra*	10	No	FAC
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: 5 feet)			
1. *Heracleum maximum*	10	No	FAC
2. *Chrysosplenium glechomifolium*	60	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**60**	x1 =	**60**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**170** (A)		**390** (B)

Prevalence Index = B/A = **2.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: 0

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 2.5/2	100					SiL	
5-9	7.5YR 2.5/2	85	7.5YR 5/8	5	C	M	SiL	
	10YR 2/1	10						mixed matrix
9-16	7.5YR 4/1	60	2.5YR 4/8	10	C	M	SiL	
			5YR 6/8	30	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB09-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51011918 Long: -123.2750042 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	70	Yes	FACU
2. *Frangula purshiana*	15	No	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	80	Yes	FACU
2. *Oxalis oregana*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**25**	x3 =	**75**
FACU species	**160**	x4 =	**640**
UPL species	**0**	x5 =	**0**
Column Totals:	**185** (A)		**715** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-RB09-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 3/3	100					SiL	
14-16	7.5YR 4/2	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB09-WB-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50833824 Long: -123.2743185 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	95	Yes	FAC
2.			
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	25	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3. *Rubus spectabilis*	25	Yes	FAC
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Chrysosplenium glechomifolium*	20	Yes	OBL
3. *Ranunculus repens*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **7** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**205**	x3 =	**615**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**225** (A)		**635** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB09-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	90	7.5YR 6/8	10	C	M	SiL	
6-9	7.5YR 3/2	70	7.5YR 6/8	20	C	M	SiL	
			7.5YR 6/3	10	C	M		
9-16	7.5YR 4/1	60	2.5YR 5/8	28	C	M	SiL	
			5YR 6/8	10	C	M		
			2.5YR 5/8	2	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB09-WB-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50833838 Long: -123.274365 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	60	Yes	FAC
2. *Frangula purshiana*	40	Yes	FAC
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**80**	x4 =	**320**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**620** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-RB09-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/4	95	7.5YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 6 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: BC-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51342185 Long: -123.2683301 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	15	Yes	FACW
2. *Rumex occidentalis*	10	No	FACW
3. *Ludwigia repens*	25	Yes	OBL
4. *Lemna minor*	5	No	OBL
5. *Urtica dioica*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**30**	x1 = **30**
FACW species	**25**	x2 = **50**
FAC species	**5**	x3 = **15**
FACU species	**0**	x4 = **0**
UPL species	**0**	x5 = **0**
Column Totals:	**60** (A)	**95** (B)

Prevalence Index = B/A = **1.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: 25% of unvegetated plot contained surface water

SOIL

Sampling Point: BC-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					SiL	
2-8	10Y 2.5/1	90	7.5YR 4/4	10	C	PL	LS	oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble; no soil

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 14

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: BC-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51342285 Long: -123.2682912 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	25	Yes	FAC
2.			
3.			
4.			
5.			
50%= 12.5 20%= 5 Total Cover: **25**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	65	Yes	FAC
2. *Rubus spectabilis*	10	No	FAC
3. *Thuja plicata*	5	No	FAC
4. *Frangula purshiana*	5	No	FAC
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	5	No	FAC
2. *Ranunculus repens*	10	Yes	FAC
3. *Claytonia sibirica*	5	No	FAC
4. *Equisetum arvense*	15	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 17.5 20%= 7 Total Cover: **35**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **65** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**145**	x3 =	**435**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**145** (A)		**435** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: BC-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					CS	gravelly sand
4-16	10YR 3/2	100					CS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB14-WA-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50401268 Long: -123.2869621 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	45	Yes	FAC
2.			
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: 5 feet)			
1. *Athyrium angustum*	50	Yes	FAC
2. *Tolmiea menziesii*	20	Yes	FAC
3. *Oxalis oregana*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**115**	x3 =	**345**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**120** (A)		**365** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB14-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-9	10YR 2/2	75	7.5YR 4/6	25	C	M	SiL	
9-16	7.5YR 5/1	95	5YR 4/6	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1-3
Water table Present?	Yes	X	No	___	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB14-WA-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5040359 Long: -123.2869713 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	75	Yes	FACU
2. *Alnus rubra*	10	No	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Sambucus racemosa*	5	No	FACU
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	5	No	FACU
2. *Hydrophyllum tenuipes*	5	No	FAC
3. *Polystichum munitum*	50	Yes	FACU
4. *Dicentra formosa*	1	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 30.5 20%= 12.2 Total Cover: **61**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **39** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**40**	x3 =	**120**
FACU species	**136**	x4 =	**544**
UPL species	**0**	x5 =	**0**
Column Totals:	**176** (A)		**664** (B)

Prevalence Index = B/A = **3.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB14-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/2	100					SiL	
5-16	10YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wet from rain. No hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/12/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-WC-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50320971 Long: -123.2907675 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	75	Yes	FAC
2. *Salix scouleriana*	25	Yes	FAC
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Herb Stratum (Plot size: 5 feet)			
1. *Tolmiea menziesii*	50	Yes	FAC
2. *Athyrium angustum*	25	Yes	FAC
3. *Agrostis stolonifera*	10	No	FAC
4. *Ranunculus repens*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**195**	x3 =	**585**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**195** (A)		**585** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB16-WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					SiL	
4-12	10YR 3/2	75	7.5YR 4/1	20	C	M	SiL	
			7.5YR 4/6	5	C	M		
12-16	7.5YR 3/2	95	7.5YR 4/6	5	C	PL	SiL	oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 2
Water table Present?	Yes	X	No	___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 14

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/12/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-WC-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50322808 Long: -123.2907833 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	50	Yes	FACU
2. *Frangula purshiana*	20	Yes	FAC
3. *Alnus rubra*	25	Yes	FAC
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	10	No	FACU
2. *Acer circinatum*	25	Yes	FAC
3. *Alnus rubra*	10	No	FAC
4. *Symphoricarpos albus*	20	Yes	FACU
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	50	Yes	FACU
2. *Tolmiea menziesii*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)
Total Number of Dominant Species Across All Strata: **7** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **57%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**820** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB16-WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					SiL	
12-18	10YR 2/2	100					SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-WB-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5026947 Long: -123.2911521 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	75	Yes	FAC
2. *Acer circinatum*	20	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Herb Stratum (Plot size: 5 feet)			
1. *Oenanthe sarmentosa*	15	Yes	OBL
2. *Ludwigia repens*	10	Yes	OBL
3. *Athyrium angustum*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 17.5 20%= 7 Total Cover: **35**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **65** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x1 =	**25**
FACW species	**0**	x2 =	**0**
FAC species	**105**	x3 =	**315**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**130** (A)		**340** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB16-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Si	
2-8	7.5YR 2.5/1	60	7.5YR 4/3	40	C	M	SiL	
9-17	7.5YR 3/1	100						with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-4

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/12/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-WB-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50273009 Long: -123.291199 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	20	Yes	FACU
2. *Alnus rubra*	50	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	15	Yes	FAC
2. *Sambucus racemosa*	20	Yes	FACU
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Tolmiea menziesii*	10	No	FAC
3. *Oxalis oregana*	10	No	FACU
4. *Ranunculus repens*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**80**	x3 =	**240**
FACU species	**125**	x4 =	**500**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**740** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB16-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WL-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50496895 Long: -123.2832989 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Seep into Chehalis OHWM

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	15	Yes	FAC
2. *Ribes bracteosum*	30	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: 5 feet)			
1. *Athyrium angustum*	20	No	FAC
2. *Hedera helix*	40	Yes	FACU
3. *Tolmiea menziesii*	15	No	FAC
4. *Oenanthe sarmentosa*	15	No	OBL
5. *Stachys chamissonis*	10	No	FACW
6. *Juncus effusus*	5	No	FACW
7. *Chrysosplenium glechomifolium*	5	No	OBL
8.			
9.			
50%= 55 20%= 22 Total Cover: **110**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**15**	x2 =	**30**
FAC species	**80**	x3 =	**240**
FACU species	**40**	x4 =	**160**
UPL species	**0**	x5 =	**0**
Column Totals:	**155** (A)		**450** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WL-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock and cobble

Depth (inches): 0 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks: Water over bedrock and cobble. No soils available, but hydric soils assumed to develop if soil present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-3

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WL-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50494913 Long: -123.2834011 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:
Seep into Chehalis OHWM

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	40	Yes	FACU
2. *Alnus rubra*	50	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover:	**90**		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Sambucus racemosa*	10	No	FACU
2. *Rubus spectabilis*	15	Yes	FAC
3. *Vaccinium parvifolium*	45	Yes	FACU
4.			
5.			
50%= 35 20%= 14 Total Cover:	**70**		
Herb Stratum (Plot size: 5 feet)			
1. *Cardamine angulata*	10	No	FACW
2. *Polystichum munitum*	30	Yes	FACU
3. *Ranunculus repens*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover:	**60**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**85**	x3 =	**255**
FACU species	**125**	x4 =	**500**
UPL species	**0**	x5 =	**0**
Column Totals:	**220** (A)		**775** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: CR-WL-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	98	7.5YR 6/8	2	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Shallow soils over bedrock

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB13-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50518123 Long: -123.2820138 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Sambucus racemosa*	15	Yes	FACU
3. *Alnus rubra*	20	Yes	FAC
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: 5 feet)			
1. *Equisetum arvense*	20	Yes	FAC
2. *Tolmiea menziesii*	25	Yes	FAC
3. *Athyrium angustum*	40	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **83%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**145** (A)		**450** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB13-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	98	10YR 5/8	2	C	M	SiL	
6-11	10YR 3/2	60	7.5YR 6/6	30	C	M	SiL	
			10YR 4/3	10	C	M		
11-16	10YR 4/2	60	7.5YR 6/8	40	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2-4

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Stream flows through wetland. Surface water 2 feet away

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/7/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB13-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50520663 Long: -123.282047 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	90	Yes	FAC
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Frangula purshiana*	45	Yes	FAC
2. *Sambucus racemosa*	40	Yes	FACU
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	35	Yes	FACU
2. *Dicentra formosa*	10	No	FACU
3. *Hydrophyllum tenuipes*	10	No	FAC
4. *Oxalis oregana*	15	Yes	FACU
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**145**	x3 =	**435**
FACU species	**100**	x4 =	**400**
UPL species	**0**	x5 =	**0**
Column Totals:	**245** (A)		**835** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-RB13-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					SiL	
8-16	10YR 3/2	98	7.5YR 5/8	2	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB10-T1-WB-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 14%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50778259 Long: -123.2771647 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope/PFO/PSS; Stream Trib 1 to Stream 201

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	40	Yes	FAC
3.			
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Cardamine angulata*	15	No	FACW
2. *Athyrium angustum*	50	Yes	FAC
3. *Tolmiea menziesii*	25	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**15**	x2 =	**30**
FAC species	**190**	x3 =	**570**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**600** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB10-T1-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					SiL	
3-16	10YR 4/2	75	7.5YR 5/8	25	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1
Water table Present?	Yes	X	No	___	Depth (inches): 11
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB10-T1-WB-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 14%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.5077669 Long: -123.2771902 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	90	Yes	FAC
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	75	Yes	FAC
2. *Rubus spectabilis*	10	No	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	80	Yes	FACU
2. *Oxalis oregana*	15	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**175**	x3 =	**525**
FACU species	**95**	x4 =	**380**
UPL species	**0**	x5 =	**0**
Column Totals:	**270** (A)		**905** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: CR-RB10-T1-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SiL	with organics
6-16	10YR 3/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WI-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 26%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50956908 Long: -123.277276 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	35	Yes	FAC
2.			
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	25	Yes	OBL
2. *Hydrophyllum tenuipes*	20	Yes	FAC
3. *Urtica dioica*	10	No	FAC
4. *Tolmiea menziesii*	5	No	FAC
5. *Equisetum arvense*	15	Yes	FAC
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x1 =	**25**
FACW species	**0**	x2 =	**0**
FAC species	**135**	x3 =	**405**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**160** (A)		**430** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WI-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	90	7.5YR 5/8	8	C	M	SiL	
			10YR 4/2	2	D	M		
5-16	10YR 4/2	65	7.5YR 5/8	10	C	M	SiL	
	N 2.5/1	20	7.5YR 5/8	5	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WI-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 26%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.509582 Long: -123.2772438 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	70	Yes	FAC
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	20	Yes	FACU
2. *Rubus parviflorus*	30	Yes	FACU
3. *Rubus spectabilis*	10	No	FAC
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	70	Yes	FACU
2. *Hydrophyllum tenuipes*	15	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **25%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**120**	x4 =	**480**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**765** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WI-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WJ-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 24%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50939463 Long: -123.2773847 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover:	**60**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover:	**40**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	30	Yes	OBL
2. *Hydrophyllum tenuipes*	10	No	FAC
3. *Urtica dioica*	15	No	FAC
4. *Tolmiea menziesii*	15	No	FAC
5. *Festuca rubra*	10	No	FAC
6. *Equisetum arvense*	10	No	FAC
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover:	**90**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**30**	x1 =	**30**
FACW species	**0**	x2 =	**0**
FAC species	**160**	x3 =	**480**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**190** (A)		**510** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-WJ-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	85	7.5YR 5/8	10	C	M	SiL	
			10YR 4/2	5	D	M		
3-16	10YR 4/2	83	7.5YR 5/8	15	C	M	SiL	
			7.5YR 5/8	2	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WJ-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 24%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50940201 Long: -123.2773525 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	85	Yes	FAC
2.			
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	25	Yes	FACU
2. *Rubus parviflorus*	15	Yes	FACU
3. *Rubus spectabilis*	5	No	FAC
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	50	Yes	FACU
2. *Hydrophyllum tenuipes*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**105**	x3 =	**315**
FACU species	**90**	x4 =	**360**
UPL species	**0**	x5 =	**0**
Column Totals:	**195** (A)		**675** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WJ-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAD-DP-01
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51058159 Long: -123.2757378 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Thuja plicata*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	40	Yes	FAC
2. *Rubus spectabilis*	15	Yes	FAC
3. *Ribes bracteosum*	10	No	FAC
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Oenanthe sarmentosa*	5	No	OBL
3. *Equisetum arvense*	20	Yes	FAC
4. *Cardamine angulata*	20	Yes	FACW
5. *Athyrium angustum*	25	Yes	FAC
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **7** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x1 =	**5**
FACW species	**20**	x2 =	**40**
FAC species	**180**	x3 =	**540**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**585** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WAD-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR 3/2	100					SiL	
9-16	7.5YR 3/1	85	2.5YR 5/8	5	C	PL	SiL	oxidized rhizospheres
			2.5YR 5/8	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAD-DP-02
Investigator(s): Joe Pursley, Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51059082 Long: -123.2757002 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Thuja plicata*	20	Yes	FAC
2. *Alnus rubra*	40	Yes	FAC
3. *Frangula purshiana*	20	Yes	FAC
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	25	Yes	FACU
2. *Polystichum munitum*	60	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**85**	x4 =	**340**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**730** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WAD-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S16-WA-DP-01
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope: 15%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51222047 Long: -123.27208912 Datum: NAD83
Soil Map Unit Name: Thrash silty clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope wetland; PFO; no snags

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	40	Yes	OBL
2. *Athyrium angustum*	20	No	FAC
3. *Tolmiea menziesii*	70	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 65 20%= 26 Total Cover: **130**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**40**	x1 =	**40**
FACW species	**0**	x2 =	**0**
FAC species	**150**	x3 =	**450**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**190** (A)		**490** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-S16-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	90	10YR 5/6	10	C	M	SiCL	
6-10	10YR 4/4	100					SiCL	
10-18	10YR 3/2	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S16-WA-DP-02
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 15%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51215927 Long: -123.27208958 Datum: NAD83
Soil Map Unit Name: Thrash silty clay loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	20	Yes	FACU
2. *Alnus rubra*	60	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	10	Yes	OBL
2. *Polystichum munitum*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 15 20%= 6 Total Cover: **30**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **70** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **5** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**40**	x4 =	**160**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**440** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: CR-S16-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/3	100					SiCL	
7-18	10YR 4/4	95	10YR 5/6	5	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB08-T3-WA-DP-01
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51076023 Long: -123.27216794 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes X No**
Hydric Soil Present?	Yes **X** No		
Wetland Hydrology Present?	Yes **X** No		

Remarks:
PEM; slope; depressional
Stream pools and flow through

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	60	Yes	OBL
2. *Tolmiea menziesii*	40	Yes	FAC
3. *Athyrium angustum*	25	No	FAC
4. *Equisetum arvense*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 67.5 20%= 27 Total Cover: **135**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**60**	x1 =	**60**
FACW species	**0**	x2 =	**0**
FAC species	**75**	x3 =	**225**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**285** (B)

Prevalence Index = B/A = **2.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-RB08-T3-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					SL	
4-8	10YR 3/2	95	10YR 4/4	5	C	M	SL	
8-18	10YR 2/1	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB08-T3-WA-DP-02
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51072812 Long: -123.27214210 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes ____	No **X**	
Wetland Hydrology Present?	Yes ____	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	90	Yes	FACU
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	20	Yes	FACU
2. *Acer circinatum*	35	Yes	FAC
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Petasites frigidus*	20	Yes	FACW
2. *Tolmiea menziesii*	15	No	FAC
3. *Polystichum munitum*	50	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**20**	x2 =	**40**
FAC species	**50**	x3 =	**150**
FACU species	**160**	x4 =	**640**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**830** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks:

SOIL

Sampling Point: CR-RB08-T3-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/6	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB08-T5-WA-DP-01
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 4%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50989005 Long: -123.27178457 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
PEM; HGM slope; wetland associated with stream that expresses ~20 feet below culvert

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	15	Yes	FAC
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover:	15		
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	90	Yes	OBL
2. *Tolmiea menziesii*	10	No	FAC
3. *Agrostis capillaris*	20	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 60 20%= 24 Total Cover:	120		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x1 =	90
FACW species	0	x2 =	0
FAC species	45	x3 =	135
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	135 (A)		225 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-RB08-T5-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					SL	
8-18	10YR 3/1	85	10YR 4/4	15	C	M	SL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB08-T5-WA-DP-02
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 4%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50987105 Long: -123.27172765 Datum: NAD83
Soil Map Unit Name: Katula very cobbly loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	40	Yes	FACU
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	60	Yes	FAC
2. *Rubus spectabilis*	15	Yes	FAC
3.			
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	25	Yes	FACU
2. *Dicentra formosa*	25	Yes	FACU
3. *Agrostis capillaris*	5	No	FAC
4. *Carex deweyana*	1	No	FAC
5. *Tolmiea menziesii*	5	No	FAC
6. *Hydrophyllum tenuipes*	10	No	FAC
7. *Polystichum munitum*	40	Yes	FACU
8.			
9.			
50%= 55.5 20%= 22.2 Total Cover: **111**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**96**	x3 =	**288**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**226** (A)		**808** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-RB08-T5-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/6	100					SL	with gravel; more gravel below 17" bgs

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB08-WA-DP-01
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51069911 Long: -123.27283944 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2. *Rubus ursinus*	1	No	FACU
3.			
4.			
5.			
50%= 5.5 20%= 2.2 Total Cover: **11**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	60	Yes	OBL
2. *Athyrium angustum*	15	No	FAC
3. *Agrostis capillaris*	5	No	FAC
4. *Phalaris arundinacea*	5	No	FACW
5. *Epilobium ciliatum*	1	No	FACW
6.			
7.			
8.			
9.			
50%= 43 20%= 17.2 Total Cover: **86**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **14** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**60**	x1 =	**60**
FACW species	**6**	x2 =	**12**
FAC species	**30**	x3 =	**90**
FACU species	**1**	x4 =	**4**
UPL species	**0**	x5 =	**0**
Column Totals:	**97** (A)		**166** (B)

Prevalence Index = B/A = **1.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-RB08-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	95	10YR 3/4	5	C	M	SL	with gravel
9-18	10YR 2/1	100					SL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/10/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-RB08-WA-DP-02
Investigator(s): C. Douglas, E. Pizzichemi, and H. Samaha Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51068896 Long: -123.27293841 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	10	No	FACU
2. *Frangula purshiana*	60	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	15	Yes	FAC
2. *Frangula purshiana*	35	Yes	FAC
3. *Oplopanax horridus*	5	No	FAC
4. *Rubus ursinus*	5	No	FACU
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	30	Yes	FAC
2. *Dicentra formosa*	15	No	FACU
3. *Galium aparine*	1	No	FACU
4. *Oxalis oregana*	40	Yes	FACU
5. *Agrostis capillaris*	5	No	FAC
6. *Polystichum munitum*	20	No	FACU
7.			
8.			
9.			
50%= 55.5 20%= 22.2 Total Cover: **111**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)
Total Number of Dominant Species Across All Strata: **5** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**150**	x3 =	**450**
FACU species	**91**	x4 =	**364**
UPL species	**0**	x5 =	**0**
Column Totals:	**241** (A)		**814** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: CR-RB08-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/4	100					L	
8-18	10YR 4/6	100					L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/12/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAB-DP-01
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 4%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51137016 Long: -123.26466875 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Urtica dioica*	15	Yes	FAC
2. *Agrostis capillaris*	25	Yes	FAC
3. *Ranunculus repens*	20	Yes	FAC
4. *Claytonia perfoliata*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**80**	x3 = **240**
FACU species	**0**	x4 = **0**
UPL species	**0**	x5 = **0**
Column Totals:	**80** (A)	**240** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WAB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	7.5YR 5/8	5	C	M	SL	with gravel
8-18	N 2.5/0	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/11/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAB-DP-02
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 4%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51137562 Long: -123.26470938 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: Freshwater Forested/Shrub Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	30	Yes	FAC
2. *Rubus spectabilis*	30	Yes	FAC
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Galium aparine*	5	No	FACU
2. *Oxalis oregana*	5	No	FACU
3. *Tolmiea menziesii*	10	No	FAC
4. *Claytonia perfoliata*	20	Yes	FAC
5. *Polystichum munitum*	10	No	FACU
6. *Urtica dioica*	30	Yes	FAC
7. *Agrostis capillaris*	5	No	FAC
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**205**	x3 =	**615**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**225** (A)		**695** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WAB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					SL	with gravel
8-18	10YR 3/2	100					SL	with gravel and large cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/12/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: BC-RB02-WA-DP-01
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51166607 Long: -123.26477583 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM slope; riverine system

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Urtica dioica*	15	Yes	FAC
2. *Agrostis capillaris*	25	Yes	FAC
3. *Ranunculus repens*	20	Yes	FAC
4. *Claytonia perfoliata*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**80**	x3 = **240**
FACU species	**0**	x4 = **0**
UPL species	**0**	x5 = **0**
Column Totals:	**80** (A)	**240** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: BC-RB02-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	7.5YR 5/8	5	C	M	SL	with gravel
8-18	N 2.5/0	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/12/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: BC-RB02-WA-DP-02
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51168638 Long: -123.26474096 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	30	Yes	FAC
2. *Rubus spectabilis*	30	Yes	FAC
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Galium aparine*	5	No	FACU
2. *Oxalis oregana*	5	No	FACU
3. *Tolmiea menziesii*	10	No	FAC
4. *Claytonia perfoliata*	20	Yes	FAC
5. *Polystichum munitum*	10	No	FACU
6. *Urtica dioica*	30	Yes	FAC
7. *Agrostis capillaris*	5	No	FAC
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**205**	x3 =	**615**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**225** (A)		**695** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: BC-RB02-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					SL	with gravel
8-18	10YR 3/2	100					SL	with gravel and large cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: RC-RB01-WA-DP-01
Investigator(s): Calvin Douglas and Sara Potter Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 18%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50043087 Long: -123.28709120 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM and PSS; slope wetland

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Alnus rubra*	15	Yes	FAC
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	70	Yes	OBL
2. *Athyrium angustum*	30	Yes	FAC
3. *Tolmiea menziesii*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 55 20%= 22 Total Cover: **110**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**70**	x1 =	**70**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**165** (A)		**355** (B)

Prevalence Index = B/A = **2.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: RC-RB01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	95	10YR 4/3	5	C	M	SL	
5-18	10YR 3/1	100					SL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: RC-RB01-WA-DP-02
Investigator(s): Calvin Douglas and Sara Potter Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 18%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50041212 Long: -123.28706545 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	90	Yes	FACU
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	60	Yes	FAC
2. *Alnus rubra*	30	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	80	Yes	FACU
3. *Dicentra formosa*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 65 20%= 26 Total Cover: **130**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**220**	x4 =	**880**
UPL species	**0**	x5 =	**0**
Column Totals:	**310** (A)		**1150** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: RC-RB01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB13-WA-DP-01
Investigator(s): Calvin Douglas and Sara Potter Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 23%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50449793 Long: -123.28548740 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; PEM; PSS

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	20	Yes	FAC
2. *Rubus spectabilis*	70	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	60	Yes	OBL
2. *Athyrium angustum*	25	Yes	FAC
3. *Oenanthe sarmentosa*	20	No	OBL
4. *Oxalis oregana*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 57.5 20%= 23 Total Cover: **115**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**80**	x1 =	**80**
FACW species	**0**	x2 =	**0**
FAC species	**115**	x3 =	**345**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**465** (B)

Prevalence Index = B/A = **2.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB13-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	95	10YR 4/4	5	C	M	L	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: gravel and cobble

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Flowing seeps left and right of sample point

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB13-WA-DP-02
Investigator(s): Calvin Douglas and Sara Potter Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 23%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50448073 Long: -123.28555454 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	40	Yes	FACU
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	30	Yes	FAC
2. *Alnus rubra*	80	Yes	FAC
3. *Rubus spectabilis*	10	No	FAC
4.			
5.			
50%= 60 20%= 24 Total Cover: **120**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	60	Yes	FACU
2. *Oxalis oregana*	50	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 55 20%= 22 Total Cover: **110**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**120**	x3 =	**360**
FACU species	**150**	x4 =	**600**
UPL species	**0**	x5 =	**0**
Column Totals:	**270** (A)		**960** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB13-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					SL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-T1-WA-DP-01
Investigator(s): Calvin Douglas and Sara Potter Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 7%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50287206 Long: -123.29215419 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; PEM

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Alnus rubra*	70	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oenanthe sarmentosa*	70	Yes	OBL
2. *Agrostis capillaris*	30	Yes	FAC
3. *Equisetum arvense*	10	No	FAC
4. *Plantago lanceolata*	5	No	FACU
5. *Scirpus microcarpus*	10	No	OBL
6. *Chrysosplenium glechomifolium*	20	No	OBL
7.			
8.			
9.			
50%= 72.5 20%= 29 Total Cover: **145**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**100**	x1 =	**100**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**510** (B)

Prevalence Index = B/A = **2.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB16-T1-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	95	10YR 4/4	5	C	M	SiL	
4-9	5GY 2.5/1	100					SiL	
9-18	10YR 4/2	90	10YR 4/4	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-T1-WA-DP-02
Investigator(s): Calvin Douglas and Sara Potter Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 7%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50286351 Long: -123.29220285 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	15	No	FAC
2. *Alnus rubra*	30	Yes	FAC
3. *Frangula purshiana*	40	Yes	FAC
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Agrostis capillaris*	70	Yes	FAC
2. *Cirsium arvense*	20	No	FAC
3. *Plantago lanceolata*	20	No	FACU
4. *Tolmiea menziesii*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 60 20%= 24 Total Cover: **120**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**185**	x3 =	**555**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**635** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB16-T1-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					SL	with wood waste

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted wood waste

Depth (inches): 12

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAG-DP-01
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Excavated depression Local relief (concave, convex, none): concave Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50290697 Long: -123.28752206 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No ____
Hydric Soil Present? Yes **X** No ____
Wetland Hydrology Present? Yes **X** No ____

Is the Sampled Area within a Wetland? **Yes X** **No** ____

Remarks:
Excavated depression into the water table with no soils and only bedrock present; wetland conditions met based on BPJ.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	5	Yes	OBL
2. *Lemna minor*	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 5 20%= 2 Total Cover: **10**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **90** % Cover of Biotic Crust ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**10** (A)		**10** (B)

Prevalence Index = B/A = **1.0**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL

Sampling Point: WAG-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
NA								See below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: Wetland is an excavated pit with bedrock base; no soils available. Assume hydric soils if soil was present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 36-48

Water table Present? Yes X No ___ Depth (inches): see below

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Portion of water present in pit assumed to have groundwater component.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAG-DP-02
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50286081 Long: -123.28755424 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Slash present in uplands

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	5	Yes	FACU
2. *Pseudotsuga menziesii*	5	Yes	FACU
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 5 20%= 2 Total Cover: **10**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **90** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**20** (A)		**80** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WAG-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAF-DP-01
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Excavated depression Local relief (concave, convex, none): concave Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50341837 Long: -123.28721628 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
Excavated depression into the water table with no soils and only bedrock present; wetland conditions met based on BPJ.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	5	Yes	OBL
2. *Lemna minor*	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 5 20%= 2 Total Cover: **10**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **90** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**10** (A)		**10** (B)

Prevalence Index = B/A = **1.0**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: WAF-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
NA								See below

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: Wetland is an excavated pit with bedrock base; no soils available. Assume hydric soils if soil was present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 96-120

Water table Present? Yes X No ___ Depth (inches): see below

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Portion of water present in pit assumed to have groundwater component.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAF-DP-02
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50345160 Long: -123.28725384 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Slash present in uplands

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	5	Yes	FACU
2. *Pseudotsuga menziesii*	5	Yes	FACU
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 5 20%= 2 Total Cover: **10**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **90** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**20** (A)		**80** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WAF-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB15-WA-DP-01
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50288421 Long: -123.29015283 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	95	Yes	FAC
2.			
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	65	Yes	FAC
2. *Oxalis oregana*	10	No	FACU
3. *Hydrophyllum tenuipes*	5	No	FAC
4. *Ranunculus repens*	10	No	FAC
5. *Athyrium angustum*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**225**	x3 =	**675**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**715** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB15-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	60	10YR 5/1	35	C	M	SiL	
			10YR 4/6	5	C	PL		oxidized rhiziospheres
6-16	10YR 3/3	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- **X** Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes **X** No ___ Depth (inches): 0-2

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface saturation present only from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/13/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB15-WA-DP-02
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50292732 Long: -123.29019360 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	25	Yes	FACU
2. *Alnus rubra*	60	Yes	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Amelanchier alnifolia*	35	Yes	FACU
2. *Rubus spectabilis*	25	Yes	FAC
3. *Frangula purshiana*	10	No	FAC
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Tolmiea menziesii*	5	No	FAC
3. *Oxalis oregana*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**140**	x4 =	**560**
UPL species	**0**	x5 =	**0**
Column Totals:	**240** (A)		**860** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB15-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					SiL	blocky
6-16	7.5YR 4/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-WA-DP-01
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50241855 Long: -123.29096214 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	100	Yes	FAC
2.			
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Stachys chamissonis*	10	No	FACW
2. *Tolmiea menziesii*	25	Yes	FAC
3. *Athyrium angustum*	15	Yes	FAC
4. *Ranunculus repens*	20	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**200**	x3 =	**600**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**620** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB16-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	85	7.5YR 4/6	10	C	M	SiL	
			10YR 5/1	5	D	PL		depleted root channel
6-16	10YR 3/3	80	10YR 5/8	15	C	M	SiL	
			10YR 4/1	5	D	PL		depleted root channel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface water ponded in elk prints nearby pit

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB16-WA-DP-02
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50237386 Long: -123.29100682 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Tsuga heterophylla*	35	Yes	FACU
2. *Alnus rubra*	60	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	25	Yes	FAC
2. *Acer macrophyllum*	40	Yes	FACU
3. *Rubus spectabilis*	10	No	FAC
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	25	Yes	FACU
2. *Hydrophyllum tenuipes*	20	Yes	FAC
3. *Polystichum munitum*	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **43%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**115**	x3 =	**345**
FACU species	**140**	x4 =	**560**
UPL species	**0**	x5 =	**0**
Column Totals:	**255** (A)		**905** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB16-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/4	100					SiL	
14-16	10YR 4/6	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks: charcoal chunk(?) 0-6 inches bgs

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WM-DP-01
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50184002 Long: -123.29070675 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Wetland connects to OHWM; many hummocks in wetland.

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	70	Yes	OBL
2. *Tolmiea menziesii*	20	Yes	FAC
3. *Athyrium angustum*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**70**	x1 =	**70**
FACW species	**0**	x2 =	**0**
FAC species	**160**	x3 =	**480**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**550** (B)

Prevalence Index = B/A = **2.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-WM-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	98	7/5YR 4/6	2	C	M	SiL	
2-18	10YR 4/2	60	7.5YR 5/8	30	C	M	SiL	
			10YR 5/6	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Ponded water near pit

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WM-DP-02
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S22
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.50180806 Long: -123.29078041 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	50	Yes	FACU
2. *Frangula purshiana*	30	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	20	Yes	FAC
2. *Frangula purshiana*	40	Yes	FAC
3. *Rubus spectabilis*	5	No	FAC
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	40	Yes	FACU
2. *Polystichum munitum*	50	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**95**	x3 =	**285**
FACU species	**140**	x4 =	**560**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**845** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WM-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/3	100					SiL	
5-16	7.5YR 4/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): 16 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB18-WA-DP-01
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49865053 Long: -123.29181886 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Old logging deck; stream flows through wetland

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Agrostis capillaris*	80	Yes	FAC
2. *Carex obnupta*	15	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**15**	x1 =	**15**
FACW species	**0**	x2 =	**0**
FAC species	**80**	x3 =	**240**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**95** (A)		**255** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB18-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					SiL	
4-8	7.5YR 3/2	80	7.5YR 4/4	15	C	M	SiL	
			7.5YR 5/8	5	C	M		
8-16	7.5YR 3/2	90	7.5YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB18-WA-DP-02
Investigator(s): Joe Pursley and Holly Samaha Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49862415 Long: -123.29188351 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Old logging deck

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	10	Yes	FAC
2. *Pseudotsuga menziesii*	10	Yes	FACU
3. *Rubus ursinus*	10	Yes	FACU
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Agrostis capillaris*	60	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**120**	x3 =	**360**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**440** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB18-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/4	100					SiL	
6-16	10YR 5/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WL-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51379984 Long: -123.30430743 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Thuja plicata*	40	Yes	FAC
2. *Alnus rubra*	40	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover:	**80**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Oplopanax horridus*	20	Yes	FAC
3. *Ribes lacustre*	20	Yes	FAC
4.			
5.			
50%= 40 20%= 16 Total Cover:	**80**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Viola glabella*	10	No	FACW
2. *Athyrium angustum*	30	Yes	FAC
3. *Oxalis oregana*	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 27.5 20%= 11 Total Cover:	**55**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **45** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **86%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**190**	x3 =	**570**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**650** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WL-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					SL	
6-16	10YR 2/2	60	5YR 5/8	10	C	M	SL	
	10YR 2/1	30						mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WL-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51383476 Long: -123.30427698 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Thuja plicata*	25	Yes	FAC
2. *Alnus rubra*	70	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Acer circinatum*	20	Yes	FAC
3. *Frangula purshiana*	15	Yes	FAC
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Athyrium angustum*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **83%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**175**	x3 =	**525**
FACU species	**75**	x4 =	**300**
UPL species	**0**	x5 =	**0**
Column Totals:	**250** (A)		**825** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WL-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WG-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51361587 Long: -123.30428513 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; Bedrock

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	15	Yes	FAC
2. *Thuja plicata*	15	Yes	FAC
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3. *Oplopanax horridus*	10	No	FAC
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	50	Yes	FAC
2. *Chrysosplenium glechomifolium*	20	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**170**	x3 =	**510**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**190** (A)		**530** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WG-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	85	7.5YR 6/8	5	C	M	SiL	
	10YR 2/1	10						mixed matrix
5-9	N 2.5/0	75	2.5YR 3/6	23	C	M	SiL	
			2.5YR 3/6	2	C	PL		oxidized rhizospheres
9-16	7.5YR 2.5/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WG-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51366071 Long: -123.30427508 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Slope; Bedrock

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2. *Pseudotsuga menziesii*	25	Yes	FACU
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	70	Yes	FAC
2. *Sambucus racemosa*	15	No	FACU
3. *Rhamnus purshiana*	15	No	-
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	45	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 22.5 20%= 9 Total Cover: **45**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **55** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**85**	x4 =	**340**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**610** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-WG-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WM-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S21
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51240245 Long: -123.30696245 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Old road bed

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	75	Yes	FAC
2.			
3.			
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Littorella americana*	20	Yes	NI
2. *Athyrium angustum*	20	Yes	FAC
3. *Oenanthe sarmentosa*	50	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**50**	x1 =	**50**
FACW species	**0**	x2 =	**0**
FAC species	**155**	x3 =	**465**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**515** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WM-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					SiL	
1-4	10YR 4/1	70	10YR 4/6	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: old road bed

Depth (inches): 4

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface saturation present only from 0 to 4 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WM-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S21
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51243230 Long: -123.30701031 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Old road bed

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	45	Yes	FACU
2. *Acer macrophyllum*	50	Yes	FACU
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Vaccinium parvifolium*	20	Yes	FACU
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **20%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**25**	x3 =	**75**
FACU species	**190**	x4 =	**760**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**835** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WM-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SiL	lots of gravel and road fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WF-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52278259 Long: -123.30533046 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; PSS

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Ribes bracteosum*	35	Yes	FAC
2. *Rubus spectabilis*	45	Yes	FAC
3. *Tsuga heterophylla*	5	No	FACU
4. *Vaccinium parvifolium*	5	No	FACU
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	35	Yes	OBL
2. *Tolmiea menziesii*	10	No	FAC
3. *Oxalis oregana*	10	No	FACU
4. *Cardamine angulata*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**35**	x1 =	**35**
FACW species	**10**	x2 =	**20**
FAC species	**110**	x3 =	**330**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**465** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WF-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	95	7.5YR 4/6	5	C	PL	SiL	oxidized rhizospheres
2-9	10YR 3/1	60	7.5YR 4/4	5	C	M	SL	
	5BG 2.5/1	35						mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 9 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WF-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52277407 Long: -123.30525650 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Slope; PSS

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	95	Yes	FAC
2. *Picea sitchensis*	5	No	FAC
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Rubus parviflorus*	20	Yes	FACU
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	50	Yes	FACU
2. *Viola glabella*	10	No	FACW
3. *Oxalis oregana*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**160**	x3 =	**480**
FACU species	**90**	x4 =	**360**
UPL species	**0**	x5 =	**0**
Column Totals:	**260** (A)		**860** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-WF-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SL	gravel and small cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB10-WA-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52301550 Long: -123.30607605 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes X No**
Hydric Soil Present?	Yes **X** No		
Wetland Hydrology Present?	Yes **X** No		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	15	No	FAC
2. *Athyrium angustum*	20	Yes	FAC
3. *Ranunculus repens*	40	Yes	FAC
4. *Agrostis stolonifera*	20	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**175**	x3 =	**525**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**525** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CC-LB10-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					Si	
2-9	10YR 3/1	80	10YR 4/6	20	C	M	Si	gravel present

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: road bed

Depth (inches): 9 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB10-WA-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52294279 Long: -123.30612178 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	20	Yes	FACU
2. *Alnus rubra*	75	Yes	FAC
3. *Rhamnus purshiana*	5	No	-
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oplopanax horridus*	25	Yes	FAC
2. *Rubus spectabilis*	20	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Oxalis oregana*	10	No	FACU
3. *Dicentra formosa*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **5** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**120**	x3 =	**360**
FACU species	**115**	x4 =	**460**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**820** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: CC-LB10-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100					Si	rock and gravel present

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WE-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 9%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52393641 Long: -123.30603768 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes ____ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No ____	**Is the Sampled Area within a Wetland?**	**Yes X No** ____
Hydric Soil Present?	Yes **X** No ____		
Wetland Hydrology Present?	Yes **X** No ____		

Remarks:
PSS; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3. *Alnus rubra*	20	Yes	FAC
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	30	Yes	FAC
2. *Cardamine angulata*	40	Yes	FACW
3. *Chrysosplenium glechomifolium*	20	Yes	OBL
4. *Oxalis oregana*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**40**	x2 =	**80**
FAC species	**110**	x3 =	**330**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**450** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No** ____

Remarks:

SOIL

Sampling Point: CC-WE-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					LS	
3-6	10YR 3/2	95	7.5YR 5/8	5	C	M	LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 6 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Faint hydrogen sulfide odor

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WE-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 9%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52395080 Long: -123.30606879 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PSS; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Tsuga heterophylla*	40	Yes	FACU
2. *Alnus rubra*	30	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Acer circinatum*	20	Yes	FAC
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	50	Yes	FACU
2. *Oxalis oregana*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**110**	x4 =	**440**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**710** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-WE-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WD-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52784960 Long: -123.30192260 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes X No**
Hydric Soil Present?	Yes **X** No		
Wetland Hydrology Present?	Yes **X** No		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	25	Yes	FAC
2. *Rubus spectabilis*	40	Yes	FAC
3. *Ribes bracteosum*	10	No	FAC
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Equisetum arvense*	10	No	FAC
2. *Oenanthe sarmentosa*	20	Yes	OBL
3. *Phalaris arundinacea*	50	Yes	FACW
4. *Tolmiea menziesii*	15	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**50**	x2 =	**100**
FAC species	**160**	x3 =	**480**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**600** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CC-WD-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Si	
2-6	10YR 4/4	90	7.5YR 3/1	10	C	M	SL	
6-16	10YR 3/2	95	7.5YR 4/6	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WD-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52786116 Long: -123.30187003 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)

	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			

50%= 0 20%= 0 Total Cover: **0**

Sapling/Shrub Stratum (Plot size: r = 15 feet)

1. *Alnus rubra*	20	Yes	FAC
2. *Rubus spectabilis*	10	Yes	FAC
3. *Sambucus racemosa*	15	Yes	FACU
4.			
5.			

50%= 22.5 20%= 9 Total Cover: **45**

Herb Stratum (Plot size: r = 5 feet)

1. *Phalaris arundinacea*	95	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

50%= 47.5 20%= 19 Total Cover: **95**

Woody Vine Stratum (Plot size:)

1.			
2.			

Total Cover: **0**

% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**95**	x2 =	**190**
FAC species	**30**	x3 =	**90**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**340** (B)

Prevalence Index = B/A = **2.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes **X** No

Remarks:

SOIL

Sampling Point: CC-WD-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WK-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52808716 Long: -123.30186717 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes X No**
Hydric Soil Present?	Yes **X** No		
Wetland Hydrology Present?	Yes **X** No		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	25	Yes	FAC
2. *Rubus spectabilis*	40	Yes	FAC
3. *Ribes bracteosum*	10	No	FAC
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Equisetum arvense*	10	No	FAC
2. *Oenanthe sarmentosa*	20	Yes	OBL
3. *Phalaris arundinacea*	50	Yes	FACW
4. *Tolmiea menziesii*	15	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**50**	x2 =	**100**
FAC species	**160**	x3 =	**480**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**600** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WK-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Si	
2-6	10YR 4/4	90	7.5YR 3/1	10	C	M		
6-16	10YR 3/2	95	7.5YR 4/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WK-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52806594 Long: -123.30185913 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	20	Yes	FAC
2. *Rubus spectabilis*	10	Yes	FAC
3. *Sambucus racemosa*	15	Yes	FACU
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	95	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**95**	x2 =	**190**
FAC species	**30**	x3 =	**90**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**340** (B)

Prevalence Index = B/A = **2.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes **X** No

Remarks:

SOIL

Sampling Point: WK-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): _____

Water table Present? Yes ___ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB06-WB-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52824760 Long: -123.30140692 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	80	Yes	FAC
2. *Rubus spectabilis*	20	Yes	FAC
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover:	100		
Herb Stratum (Plot size: r = 5 feet)			
1. *Scirpus microcarpus*	15	Yes	OBL
2. *Oenanthe sarmentosa*	20	Yes	OBL
3. *Tolmiea menziesii*	15	Yes	FAC
4. *Equisetum arvense*	10	No	FAC
5. *Lemna minor*	10	No	OBL
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover:	70		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x1 =	45
FACW species	0	x2 =	0
FAC species	125	x3 =	375
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	170 (A)		420 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: CC-LB06-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					Si	
2-10	10YR 3/1	70	10YR 4/6	30	C	M	SL	iron deposits

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 10 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB06-WB-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52828957 Long: -123.30136681 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	55	Yes	FACU
2. *Alnus rubra*	30	Yes	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	60	Yes	FAC
2. *Rubus spectabilis*	25	Yes	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Ambrosia artemisiifolia*	20	Yes	FACU
2. *Phalaris arundinacea*	10	No	FACW
3. *Galium aparine*	15	Yes	FACU
4. *Festuca rubra*	20	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **57%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**135**	x3 =	**405**
FACU species	**90**	x4 =	**360**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**785** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: CC-LB06-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					Si	lots of gravel
8-14	10YR 3/3	100					LS	with large cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 14 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB05-WA-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope: 0.00
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53129971 Long: -123.29980440 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; Lots of seeps; PFO

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	90	Yes	FAC
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Sambucus racemosa*	10	No	FACU
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	30	Yes	FAC
2. *Oxalis oregana*	20	Yes	FACU
3. *Tolmiea menziesii*	30	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**210**	x3 =	**630**
FACU species	**30**	x4 =	**120**
UPL species	**0**	x5 =	**0**
Column Totals:	**240** (A)		**750** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB05-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	7.5YR 3/2	95	7.5YR 5/6	5	C	M	SiL	
11-18	7.5YR 3/2	70	7.5YR 5/6	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface water 2 feet away

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB05-WA-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53125448 Long: -123.29977974 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Slope; Lots of seeps; PFO

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Tsuga heterophylla*	20	Yes	FACU
2. *Alnus rubra*	40	Yes	FAC
3. *Acer macrophyllum*	40	Yes	FACU
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Sambucus racemosa*	40	Yes	FACU
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Dicentra formosa*	15	Yes	FACU
3. *Hydrophyllum tenuipes*	20	Yes	FAC
4. *Galium aparine*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **38%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**80**	x3 =	**240**
FACU species	**145**	x4 =	**580**
UPL species	**0**	x5 =	**0**
Column Totals:	**225** (A)		**820** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-LB05-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100					SiL	
10-18	2.5YR 2.5/1	100					SiL	lots of organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WB-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53282212 Long: -123.30154476 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: Freshwater Forested/Shrub Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Oenanthe sarmentosa*	20	Yes	OBL
3. *Oxalis oregana*	10	No	FACU
4. *Tolmiea menziesii*	20	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**170**	x3 =	**510**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**570** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	60	10YR 4/4	30	C	M	SiL	
			10YR 6/8	10	C	M	SiL	
8-16	10YR 4/1	60	5YR 5/8	30	C	M	SiL	
			7.5YR 6/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WB-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53277308 Long: -123.30151537 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: Freshwater Forested/Shrub Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	25	Yes	FAC
2.			
3.			
4.			
5.			
50%= 12.5 20%= 5 Total Cover: **25**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	45	Yes	FACU
2. *Rubus spectabilis*	40	Yes	FAC
3.			
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	10	No	FAC
2. *Tolmiea menziesii*	10	No	FAC
3. *Polystichum munitum*	75	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**85**	x3 =	**255**
FACU species	**120**	x4 =	**480**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**735** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 2.5/2	98	7.5YR 5/6	2	C	M	SiL	
10-16	7.5YR 4/4	95	7.5YR 5/6	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: LC-WA-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53289484 Long: -123.30480610 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes X No**
Hydric Soil Present?	Yes **X** No		
Wetland Hydrology Present?	Yes **X** No		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	25	Yes	FAC
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oenanthe sarmentosa*	30	Yes	OBL
2. *Chrysosplenium glechomifolium*	40	Yes	OBL
3. *Athyrium angustum*	10	No	FAC
4. *Tolmiea menziesii*	10	No	FAC
5. *Cardamine angulata*	10	No	FACW
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**70**	x1 =	**70**
FACW species	**10**	x2 =	**20**
FAC species	**120**	x3 =	**360**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**450** (B)

Prevalence Index = B/A = **2.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: LC-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	95	10YR 4/4	5	C	M	S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: refusal

Depth (inches): 10 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks: Variegated sand grains

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1
Water table Present?	Yes	X	No	___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: LC-WA-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53287035 Long: -123.30479741 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes** **No X**
Hydric Soil Present?	Yes No **X**		
Wetland Hydrology Present?	Yes No **X**		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Alnus rubra*	20	Yes	FAC
3. *Ribes bracteosum*	20	Yes	FAC
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Festuca rubra*	50	Yes	FAC
2. *Carex deweyana*	10	No	FAC
3. *Maianthemum dilatatum*	10	No	FAC
4. *Ranunculus repens*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**140**	x3 =	**420**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**420** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: LC-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	100					LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB07-WA-DP-01
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 35%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52577594 Long: -123.30389101 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM; PSS; slope; seep

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	40	Yes	FAC
2. *Oxalis oregana*	15	No	FACU
3. *Cardamine angulata*	20	No	FACW
4. *Tolmiea menziesii*	30	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 52.5 20%= 21 Total Cover: **105**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**20**	x2 =	**40**
FAC species	**140**	x3 =	**420**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**520** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB07-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	60	7.5YR 4/1	35	D	M	SiL	
			7.5YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 6 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB07-WA-DP-02
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 35%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52575748 Long: -123.30393661 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PEM; PSS; slope; seep

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Carex deweyana*	5	No	FAC
2. *Polystichum munitum*	20	Yes	FACU
3. *Vicia americana*	5	No	FAC
4. *Agrostis capillaris*	40	Yes	FAC
5. *Oxalis oregana*	20	Yes	FACU
6. *Dicentra formosa*	10	No	FACU
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**85**	x3 =	**255**
FACU species	**50**	x4 =	**200**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**455** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB07-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 6 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB06-WA-DP-01
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52836581 Long: -123.30034636 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	15	Yes	FAC
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Athyrium angustum*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**80**	x2 =	**160**
FAC species	**20**	x3 =	**60**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**100** (A)		**220** (B)

Prevalence Index = B/A = **2.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB06-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	60	5YR 5/8	40	C	M	SiL	banded redox
8-18	N 2.5/0	80	2.5YR 4/8	20	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB06-WA-DP-02
Investigator(s): Calvin Douglas and Julie Fox Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52833259 Long: -123.30035441 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Equisetum hyemale*	20	Yes	FACW
2. *Agrostis capillaris*	30	Yes	FAC
3. *Ranunculus repens*	20	Yes	FAC
4. *Cardamine angulata*	5	No	FACW
5. *Claytonia virginica*	5	No	NI
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**25**	x2 =	**50**
FAC species	**110**	x3 =	**330**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**380** (B)

Prevalence Index = B/A = **2.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB06-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WH-DP-01
Investigator(s): Calvin Douglas and Evan Malczyk Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 27%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53149165 Long: -123.30108029 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM; seep slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	70	Yes	OBL
2. *Athyrium angustum*	15	No	FAC
3. *Tolmiea menziesii*	10	No	FAC
4. *Lysichiton americanus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
50%= 52.5 20%= 21 Total Cover: **105**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**80**	x1 =	**80**
FACW species	**0**	x2 =	**0**
FAC species	**30**	x3 =	**90**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**170** (B)

Prevalence Index = B/A = **1.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WH-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	100					SiL	
3-18	10Y 3/1	90	10YR 4/4	10	C	M	SL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/20/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WH-DP-02
Investigator(s): Calvin Douglas and Evan Malczyk Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 27%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53152201 Long: -123.30111892 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PEM; seep slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer circinatum*	40	Yes	FAC
2. *Acer macrophyllum*	40	Yes	FACU
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	30	Yes	FACU
2. *Dicentra formosa*	10	No	FACU
3. *Hydrophyllum tenuipes*	5	No	FAC
4. *Claytonia virginica*	5	No	NI
5. *Tolmiea menziesii*	1	No	FAC
6. *Polystichum munitum*	25	Yes	FACU
7.			
8.			
9.			
50%= 38 20%= 15.2 Total Cover: **76**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **24** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**51**	x3 =	**153**
FACU species	**105**	x4 =	**420**
UPL species	**0**	x5 =	**0**
Column Totals:	**156** (A)		**573** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WH-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: LC-WB-DP-01
Investigator(s): Calvin Douglas and Evan Malczyk Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53257539 Long: -123.30644138 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes **X**	No	

Remarks:
PEM; PFO; PSS
Several upland hummocks; Several seeps on hillside

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	90	Yes	FAC
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	40	Yes	OBL
2. *Athyrium angustum*	30	Yes	FAC
3. *Scirpus microcarpus*	10	No	OBL
4. *Oxalis oregana*	5	No	FACU
5. *Equisetum hyemale*	5	No	FACW
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**50**	x1 =	**50**
FACW species	**5**	x2 =	**10**
FAC species	**160**	x3 =	**480**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**220** (A)		**560** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: LC-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	90	10YR 4/4	95	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: LC-WB-DP-02
Investigator(s): Calvin Douglas and Evan Malczyk Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53242982 Long: -123.30638435 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PEM; PFO; PSS
Several upland hummocks; Several seeps on hillside

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer circinatum*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oplopanax horridus*	60	Yes	FAC
2. *Alnus rubra*	50	Yes	FAC
3.			
4.			
5.			
50%= 55 20%= 22 Total Cover: **110**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	50	Yes	FACU
2. *Oxalis oregana*	30	Yes	FACU
3. *Oenanthe sarmentosa*	20	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**190**	x3 =	**570**
FACU species	**80**	x4 =	**320**
UPL species	**0**	x5 =	**0**
Column Totals:	**290** (A)		**910** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: LC-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB24-WA-DP-01
Investigator(s): C. Douglas, J. Pursley, N. Kochie, M. Doo Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.48758764 Long: -123.29348653 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM; PSS; slope; depressional

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus parviflorus*	30	Yes	FACU
2. *Rubus spectabilis*	40	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	30	Yes	FAC
2. *Oxalis oregana*	20	Yes	FACU
3. *Tolmiea menziesii*	10	No	FAC
4. *Scirpus microcarpus*	20	Yes	OBL
5. *Maianthemum dilatatum*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**85**	x3 =	**255**
FACU species	**50**	x4 =	**200**
UPL species	**0**	x5 =	**0**
Column Totals:	**155** (A)		**475** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB24-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB24-WA-DP-02
Investigator(s): C. Douglas, J. Pursley, N. Kochie, M. Doo Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.48755394 Long: -123.29347296 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
PEM; PSS; slope; depressional

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer circinatum*	40	Yes	FAC
2. *Alnus rubra*	40	Yes	FAC
3. *Tsuga heterophylla*	15	No	FACU
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	60	Yes	FACU
2. *Maianthemum dilatatum*	20	No	FAC
3. *Polystichum munitum*	60	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 70 20%= 28 Total Cover: **140**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**135**	x4 =	**540**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**840** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB24-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WA-DP-01
Investigator(s): Calvin Douglas and Nora Kochie Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 13%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54756024 Long: -123.29998282 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM; PSS; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Lysichiton americanus*	25	Yes	OBL
2. *Athyrium angustum*	40	Yes	FAC
3. *Equisetum hyemale*	10	No	FACW
4. *Dicentra formosa*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x1 =	**25**
FACW species	**10**	x2 =	**20**
FAC species	**60**	x3 =	**180**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**100** (A)		**245** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WA-DP-02
Investigator(s): Calvin Douglas and Nora Kochie Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 13%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54750506 Long: -123.29998194 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:
PEM; PSS; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	30	Yes	FACU
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Equisetum hyemale*	30	Yes	FACW
2. *Cirsium arvense*	35	Yes	FAC
3. *Epilobium ciliatum*	5	No	FACW
4. *Dicentra formosa*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**35**	x2 =	**70**
FAC species	**35**	x3 =	**105**
FACU species	**40**	x4 =	**160**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**335** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					SL	
10-18	10YR 3/4	95	10YR 5/6	5	C	M	SL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/25/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB05-WA-DP-01
Investigator(s): Calvin Douglas, Nora Kochie, and Minsoo Doo Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 12%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53437460 Long: -123.30219173 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Ranunculus repens*	10	No	FAC
3. *Oemleria cerasiformis*	15	Yes	FACU
4. *Oxalis oregana*	5	No	FACU
5. *Tolmiea menziesii*	10	No	FAC
6. *Carex deweyana*	5	No	FAC
7. *Galium aparine*	1	No	FACU
8. *Chrysosplenium glechomifolium*	5	No	OBL
9.			
50%= 35.5 20%= 14.2 Total Cover: **71**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **29** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x1 =	**5**
FACW species	**0**	x2 =	**0**
FAC species	**55**	x3 =	**165**
FACU species	**21**	x4 =	**84**
UPL species	**0**	x5 =	**0**
Column Totals:	**81** (A)		**254** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-RB05-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	95	10YR 5/4	5	C	M	SL	with rock and gravel from old road bed
3-9	10YR 3/1	100					SL	with rock and gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compaction

Depth (inches): 9 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-RB05-WA-DP-02
Investigator(s): Calvin Douglas, Nora Kochie, and Minsoo Doo Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 12%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53432045 Long: -123.30216549 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No **X**
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:
PEM; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	90	Yes	FACU
2. *Pseudotsuga menziesii*	20	No	FACU
3.			
4.			
5.			
50%= 55 20%= 22 Total Cover: **110**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Sambucus racemosa*	10	Yes	FACU
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	20	Yes	FACU
2. *Dicentra formosa*	5	No	FACU
3. *Tolmiea menziesii*	30	Yes	FAC
4. *Galium aparine*	5	No	FACU
5. *Carex deweyana*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover: **65**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **35** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**60**	x3 =	**180**
FACU species	**150**	x4 =	**600**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**780** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No** **X**

Remarks:

SOIL

Sampling Point: CC-RB05-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100					SL	with gravel and rock from old road bed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compaction

Depth (inches): 5 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB23-WA-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.48823656 Long: -123.29551259 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	90	Yes	FAC
2. *Rubus spectabilis*	40	Yes	FAC
3. *Rubus parviflorus*	5	No	FACU
4.			
5.			
50%= 67.5 20%= 27 Total Cover: **135**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	10	Yes	OBL
2. *Cardamine angulata*	5	No	FACW
3. *Tolmiea menziesii*	20	Yes	FAC
4. *Oenanthe sarmentosa*	5	No	OBL
5. *Oxalis oregana*	10	Yes	FACU
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**15**	x1 =	**15**
FACW species	**5**	x2 =	**10**
FAC species	**150**	x3 =	**450**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**185** (A)		**535** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB23-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/3	100					LS	fine sand; some gravel present
8-10	7.5YR 3/2	100					LS	fine sand
10-16	N 2.5/0	95	5YR 4/6	5	C	M	LS	find sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 9

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/21/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB23-WA-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.48820975 Long: -123.29555765 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	50	Yes	FACU
2. *Alnus rubra*	15	Yes	FAC
3.			
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	50	Yes	FAC
2. *Alnus rubra*	20	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	75	Yes	FACU
2. *Athyrium angustum*	5	No	FAC
3. *Hydrophyllum tenuipes*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**125**	x4 =	**500**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**830** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: CR-LB23-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/4	100					SL	gravelly sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water table Present? Yes X No ____ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WB-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54650704 Long: -123.29948713 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oplopanax horridus*	15	No	FAC
2. *Rubus spectabilis*	40	Yes	FAC
3. *Sambucus racemosa*	10	No	FACU
4. *Alnus rubra*	20	Yes	FAC
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Limonium ramosissimum*	25	Yes	NI
2. *Athyrium angustum*	45	Yes	FAC
3. *Tolmiea menziesii*	20	No	FAC
4. *Equisetum arvense*	20	No	FAC
5. *Hydrophyllum tenuipes*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 57.5 20%= 23 Total Cover: **115**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**165**	x3 =	**495**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**535** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Si	
2-6	10Y 2.5/1	75	7.5YR 5/8	20	C	M	SiL	
			7.5YR 5/8	5	C	PL	SiL	oxodized rhizospheres
6-16	10Y 2.5/1	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Oxidized rhizospheres at 5%

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WB-DP-02
Investigator(s): Calvin Douglas and XX Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54653686 Long: -123.29941602 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	80	Yes	FACU
2. *Acer circinatum*	20	Yes	FAC
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Sambucus racemosa*	60	Yes	FACU
3. *Oplopanax horridus*	20	Yes	FAC
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Polystichum munitum*	20	Yes	FACU
3. *Dicentra formosa*	20	Yes	FACU
4. *Hydrophyllum tenuipes*	15	No	FAC
5. *Tolmiea menziesii*	5	No	FAC
6. *Equisetum arvense*	1	No	FAC
7.			
8.			
9.			
50%= 40.5 20%= 16.2 Total Cover: **81**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **19** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**101**	x3 =	**303**
FACU species	**180**	x4 =	**720**
UPL species	**0**	x5 =	**0**
Column Totals:	**281** (A)		**1023** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					SiL	
12-16	10YR 3/3	80	10YR 4/4	20	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/25/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WR-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53928954 Long: -123.29439140 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	10	No	FAC
2. *Sambucus racemosa*	15	Yes	FACU
3. *Salix scouleriana*	20	Yes	FAC
4. *Rubus spectabilis*	10	No	FAC
5. *Ribes bracteosum*	10	No	FAC
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	10	No	FAC
2. *Phalaris arundinacea*	75	Yes	FACW
3. *Equisetum arvense*	5	No	FAC
4. *Cardamine angulata*	5	No	FACW
5. *Dicentra formosa*	1	No	FACU
6. *Vicia americana*	5	No	FAC
7.			
8.			
9.			
50%= 50.5 20%= 20.2 Total Cover: **101**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**80**	x2 =	**160**
FAC species	**70**	x3 =	**210**
FACU species	**16**	x4 =	**64**
UPL species	**0**	x5 =	**0**
Column Totals:	**166** (A)		**434** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WR-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	60	10YR 4/1	5	D	M	SiL	
			7.5YR 5/8	35	C	M	SiL	
8-16	7.5YR 4/6	75	10YR 5/3	20	C	M	SiL	
	10GY 3/1	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WR-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53928113 Long: -123.29435087 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	30	Yes	FACU
2. *Acer macrophyllum*	10	No	FACU
3. *Alnus rubra*	25	Yes	FAC
4.			
5.			
50%= 32.5 20%= 13 Total Cover:	**65**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Frangula purshiana*	5	No	FAC
2. *Oemleria cerasiformis*	5	No	FACU
3. *Symphoricarpos albus*	60	Yes	FACU
4. *Acer circinatum*	25	Yes	FAC
5. *Sambucus racemosa*	5	No	FACU
6. *Rubus ursinus*	5	No	FACU
50%= 52.5 20%= 21 Total Cover:	**105**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Galium aparine*	10	Yes	FACU
2. *Equisetum arvense*	10	Yes	FAC
3. *Dicentra formosa*	5	No	FACU
4. *Pteridium aquilinum*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 15 20%= 6 Total Cover:	**30**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **70** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **6** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**65**	x3 =	**195**
FACU species	**135**	x4 =	**540**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**735** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: WR-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 8%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53526251 Long: -123.29411963 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes **X**	No	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	20	Yes	FAC
2. *Sambucus racemosa*	10	Yes	FACU
3. *Ribes bracteosum*	5	No	FAC
4. *Symphoricarpos albus*	5	No	FACU
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	15	Yes	FACU
2. *Phalaris arundinacea*	5	No	FACW
3. *Vicia americana*	5	No	FAC
4. *Hydrophyllum tenuipes*	5	No	FAC
5. *Tolmiea menziesii*	5	No	FAC
6. *Dicentra formosa*	5	No	FACU
7. *Athyrium angustum*	5	No	FAC
8.			
9.			
50%= 22.5 20%= 9 Total Cover: **45**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **55** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**45**	x3 =	**135**
FACU species	**35**	x4 =	**140**
UPL species	**0**	x5 =	**0**
Column Totals:	**85** (A)		**285** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 4/2	90	10YR 4/1	5	D	M	SiL	
			7.5YR 5/8	5	C	M	SiL	
10-18	2.5YR 4/2	80	2.5YR 6/4	10	C	M	SiL	
			5YR 5/8	10	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/25/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-WA-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 8%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53524848 Long: -123.29412206 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?**	**Yes** **No X**
Hydric Soil Present?	Yes No **X**		
Wetland Hydrology Present?	Yes No **X**		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Symphoricarpos albus*	20	Yes	FACU
2. *Alnus rubra*	20	Yes	FAC
3. *Acer circinatum*	20	Yes	FAC
4. *Rubus parviflorus*	15	No	FACU
5. *Sambucus racemosa*	5	No	FACU
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Phalaris arundinacea*	90	Yes	FACW
2. *Lonicera japonica*	5	No	FAC
3. *Equisetum arvense*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**90**	x2 =	**180**
FAC species	**50**	x3 =	**150**
FACU species	**40**	x4 =	**160**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**490** (B)

Prevalence Index = B/A = **2.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S04-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53974025 Long: -123.29680838 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Tolmiea menziesii*	10	Yes	FAC
3. *Galium aparine*	5	No	FACU
4. *Cardamine angulata*	1	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 18 20%= 7.2 Total Cover:	36		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 64 % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	1	x2 =	2
FAC species	30	x3 =	90
FACU species	5	x4 =	20
UPL species	0	x5 =	0
Column Totals:	36 (A)		112 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks: 40% of open water in the ditch

SOIL

Sampling Point: CR-S04-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 4/2	90	7.5YR 6/6	5	C	M	SiL	
			7.5YR 4/1	5	D	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compaction

Depth (inches): 10 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 4
Water table Present?	Yes	X	No	___	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S04-WA-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53972058 Long: -123.29681560 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2. *Olfersia cervina*	30	Yes	NI
3. *Rubus spectabilis*	15	Yes	FAC
4. *Tsuga heterophylla*	15	Yes	FACU
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Dicentra formosa*	10	Yes	FACU
2. *Athyrium angustum*	15	Yes	FAC
3. *Tolmiea menziesii*	10	Yes	FAC
4. *Galium aparine*	1	No	FACU
5. *Claytonia virginica*	1	No	NI
6. *Galium aparine*	1	No	FACU
7.			
8.			
9.			
50%= 19 20%= 7.6 Total Cover: **38**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **62** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **71%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**115**	x3 =	**345**
FACU species	**27**	x4 =	**108**
UPL species	**0**	x5 =	**0**
Column Totals:	**142** (A)		**453** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-S04-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 4/4	90	7.5YR 5/6	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compaction

Depth (inches): 10 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S02-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53921285 Long: -123.29905365 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	5	Yes	FAC
2. *Rubus armeniacus*	5	Yes	FAC
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Festuca rubra*	50	Yes	FAC
2. *Juncus effusus*	15	No	FACW
3. *Rubus spectabilis*	20	Yes	FAC
4. *Tolmiea menziesii*	2	No	FAC
5. *Athyrium angustum*	2	No	FAC
6. *Epilobium ciliatum*	1	No	FACW
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**16**	x2 =	**32**
FAC species	**134**	x3 =	**402**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**150** (A)		**434** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-S02-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	90	10YR 6/6	10	C	M	SiL	
3-8	10YR 4/2	60	10YR 5/3	10	C	M	SiCL	
			10YR 6/8	10	C	M	SiCL	
			7.5YR 6/8	10	C	M	SiCL	
			5Y 4/1	10	D	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compaction

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-3

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Epi-saturation only from 0 to 3 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S02-WA-DP-02
Investigator(s): Calvin Douglas and XX Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53920010 Long: -123.29902815 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Pseudotsuga menziesii*	20	Yes	FACU
2. *Alnus rubra*	10	No	FAC
3. *Rubus spectabilis*	30	Yes	FAC
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	10	No	FACU
2. *Verbascum thapsus*	2	No	FACU
3. *Rubus spectabilis*	5	No	FAC
4. *Festuca rubra*	50	Yes	FAC
5. *Athyrium angustum*	2	No	FAC
6. *Daucus carota*	2	No	FACU
7.			
8.			
9.			
50%= 35.5 20%= 14.2 Total Cover: **71**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **29** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**147**	x3 =	**441**
FACU species	**34**	x4 =	**136**
UPL species	**0**	x5 =	**0**
Column Totals:	**181** (A)		**577** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: CR-S02-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	90	10YR 6/6	10	C	M	SiL	
3-8	7.5YR 4/2	100					SiCL	relic imported debris
8-12	7.5YR 4/3	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compaction

Depth (inches): 12 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes **X** No ___ Depth (inches): 0-1

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Epi-saturation only from 0 to 1 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S18-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51266194 Long: -123.27446263 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Slope; depression

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	55	Yes	FAC
2.			
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	15	Yes	FAC
2. *Chrysosplenium glechomifolium*	10	Yes	OBL
3. *Tolmiea menziesii*	10	Yes	FAC
4. *Oxalis oregana*	10	Yes	FACU
5.			
6.			
7.			
8.			
9.			
50%= 22.5 20%= 9 Total Cover: **45**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **55** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **86%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**0**	x2 =	**0**
FAC species	**125**	x3 =	**375**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**145** (A)		**425** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-S18-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	90	10YR 5/6	10	C	M	SiCL	
6-10	10YR 4/4	100					SiCL	
10-18	10YR 3/2	100					SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	___	Depth (inches): ___
Water table Present?	Yes	X	No	___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Cracked surface soils

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/25/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S18-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S23
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51266194 Long: -123.27443044 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:
Slope; depression

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	45	Yes	FACU
2. *Alnus rubra*	25	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Acer circinatum*	40	Yes	FAC
3. *Sambucus racemosa*	20	Yes	FACU
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	40	Yes	FACU
2. *Hydrophyllum tenuipes*	20	Yes	FAC
3. *Polystichum munitum*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**125**	x4 =	**500**
UPL species	**0**	x5 =	**0**
Column Totals:	**235** (A)		**830** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-S18-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/3	100					SiCL	
7-18	10YR 4/4	95	10YR 5/6	5	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/1/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: LC-LB01-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53460494 Long: -123.30530292 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Ribes bracteosum*	15	Yes	FAC
3. *Alnus rubra*	20	Yes	FAC
4. *Sambucus racemosa*	5	No	FACU
5. *Oplopanax horridus*	5	No	FAC
50%= 32.5 20%= 13 Total Cover:	65		
Herb Stratum (Plot size: r = 5 feet)			
1. *Littorella americana*	10	No	NI
2. *Athyrium angustum*	20	Yes	FAC
3. *Tolmiea menziesii*	30	Yes	FAC
4. *Rubus spectabilis*	20	Yes	FAC
5. *Oxalis oregana*	10	No	FACU
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover:	90		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	130	x3 =	390
FACU species	15	x4 =	60
UPL species	0	x5 =	0
Column Totals:	145 (A)		450 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: LC-LB01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/2	60	7.5YR 6/8	18	C	M	SiL	
			2.5YR 5/8	20	C	M	SiL	
			7.5YR 6/8	2	C	PL	SiL	oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- **X** Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Moist soils; Flowing seep 6 feet away

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/26/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: LC-LB01-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0.005194
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53465732 Long: -123.30539452 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2. *Thuja plicata*	20	Yes	FAC
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	45	Yes	FAC
2. *Oplopanax horridus*	30	Yes	FAC
3. *Acer macrophyllum*	15	No	FACU
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	51	Yes	FAC
2. *Polystichum munitum*	40	Yes	FACU
3. *Athyrium angustum*	5	No	FAC
4. *Oxalis oregana*	20	No	FACU
5. *Hydrophyllum tenuipes*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 63 20%= 25.2 Total Cover: **126**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)
Total Number of Dominant Species Across All Strata: **6** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **83%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**181**	x3 =	**543**
FACU species	**75**	x4 =	**300**
UPL species	**0**	x5 =	**0**
Column Totals:	**256** (A)		**843** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: LC-LB01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					SiL	
6-16	10YR 3/3	98	5YR 5/8	2	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB04-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53587863 Long: -123.30604182 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	35	Yes	FAC
2. *Alnus rubra*	15	Yes	FAC
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Littorella americana*	20	Yes	NI
2. *Chrysosplenium glechomifolium*	40	Yes	OBL
3. *Tolmiea menziesii*	20	Yes	FAC
4. *Athyrium angustum*	20	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**40**	x1 =	**40**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**150** (A)		**370** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CC-LB04-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	70	7.5YR 6/8	30	C	M	SL	
10-16	10Y 2.5/1	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/1/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB04-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53584327 Long: -123.30613126 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	45	Yes	FACU
2. *Alnus rubra*	25	Yes	FAC
3. *Acer macrophyllum*	30	Yes	FACU
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Acer circinatum*	25	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	20	Yes	FACU
3. *Hydrophyllum tenuipes*	15	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**85**	x3 =	**255**
FACU species	**135**	x4 =	**540**
UPL species	**0**	x5 =	**0**
Column Totals:	**220** (A)		**795** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-LB04-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	95	5YR 4/3	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WG-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53542676 Long: -123.30465987 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Carex obnupta*	25	Yes	OBL
3. *Oenanthe sarmentosa*	20	Yes	OBL
4. *Oxalis oregana*	15	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**45**	x1 =	**45**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**15**	x4 =	**60**
UPL species	**0**	x5 =	**0**
Column Totals:	**150** (A)		**375** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WG-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	95	7.5YR 5/4	5	C	M	SL	with gravel
6-16	7.5YR 2.5/1	70	7.5YR 5/8	5	C	PL	SL	oxidized rhizospheres
			7.5YR 5/6	20	C	M	SL	
			7.5YR 4/1	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WG-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53546473 Long: -123.30471115 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	100	Yes	FAC
2.			
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	70	Yes	FAC
2. *Rubus spectabilis*	20	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	25	Yes	FACU
2. *Oxalis oregana*	25	Yes	FACU
3. *Galium aparine*	15	Yes	FACU
4. *Hydrophyllum tenuipes*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**200**	x3 =	**600**
FACU species	**65**	x4 =	**260**
UPL species	**0**	x5 =	**0**
Column Totals:	**265** (A)		**860** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WG-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	7.5YR 3/3	100					SL	
13-16	7.5YR 4/3	90	7.5YR 5/6	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Moist but not saturated

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB04-WB-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53630980 Long: -123.30530633 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	20	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	25	Yes	FAC
2. *Carex obnupta*	5	No	OBL
3. *Tolmiea menziesii*	20	Yes	FAC
4. *Equisetum arvense*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 30 20%= 12 Total Cover: **60**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **40** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x1 =	**5**
FACW species	**0**	x2 =	**0**
FAC species	**100**	x3 =	**300**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**105** (A)		**305** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB04-WB-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	70	7.5YR 6/8	30	C	M	SL	
10-16	10Y 2.5/1	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB04-WB-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53633890 Long: -123.30537530 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	90	Yes	FACU
2. *Pseudotsuga menziesii*	5	No	FACU
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	75	Yes	FAC
2. *Rubus spectabilis*	15	No	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	20	Yes	FACU
3. *Hydrophyllum tenuipes*	20	Yes	FAC
4. *Athyrium angustum*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**120**	x3 =	**360**
FACU species	**155**	x4 =	**620**
UPL species	**0**	x5 =	**0**
Column Totals:	**275** (A)		**980** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-LB04-WB-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	95	5YR 4/3	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53875101 Long: -123.30381100 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	25	Yes	FAC
2. *Ribes bracteosum*	50	Yes	FAC
3. *Oplopanax horridus*	15	No	FAC
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Athyrium angustum*	40	Yes	FAC
3. *Oenanthe sarmentosa*	20	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**170** (A)		**490** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	70	7.5YR 6/8	30	C	M	SL	
10-16	10Y 2.5/1	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53872887 Long: -123.30390756 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	75	Yes	FAC
2. *Acer macrophyllum*	20	Yes	FACU
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Acer circinatum*	40	Yes	FAC
3. *Sambucus racemosa*	10	No	FACU
4. *Oplopanax horridus*	10	No	FAC
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 0 20%= 0 Total Cover: **0**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **100** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**145**	x3 =	**435**
FACU species	**30**	x4 =	**120**
UPL species	**0**	x5 =	**0**
Column Totals:	**175** (A)		**555** (B)

Prevalence Index = B/A = **3.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	95	5YR 4/3	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB03-T2-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 31%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53941336 Long: -123.30578778 Datum: NAD83
Soil Map Unit Name: Lytell silt loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Ribes bracteosum*	40	Yes	FAC
3. *Oplopanax horridus*	5	No	FAC
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Tolmiea menziesii*	40	Yes	FAC
3. *Oxalis oregana*	20	Yes	FACU
4. *Chrysosplenium glechomifolium*	20	Yes	OBL
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **86%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x1 =	**20**
FACW species	**0**	x2 =	**0**
FAC species	**175**	x3 =	**525**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**215** (A)		**625** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB03-T2-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					SL	
8-16	10YR 3/2	90	7.5YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-8

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Epi-saturation only from 0 to 8 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB03-T2-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 31%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.53944472 Long: -123.30578242 Datum: NAD83
Soil Map Unit Name: Lytell silt loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	50	Yes	FACU
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	20	Yes	FACU
2. *Acer circinatum*	20	Yes	FAC
3. *Rubus spectabilis*	40	Yes	FAC
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Hydrophyllum tenuipes*	20	Yes	FAC
3. *Oxalis oregana*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **43%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**80**	x3 =	**240**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**760** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-LB03-T2-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB01-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54110947 Long: -123.30131873 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover:	**60**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Cornus alba*	75	Yes	FACW
2. *Rubus spectabilis*	10	No	FAC
3. *Amelanchier alnifolia*	5	No	FACU
4.			
5.			
50%= 45 20%= 18 Total Cover:	**90**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	25	Yes	FAC
2. *Oenanthe sarmentosa*	10	No	OBL
3. *Tolmiea menziesii*	20	Yes	FAC
4. *Ranunculus repens*	20	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover:	**75**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		

% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**75**	x2 =	**150**
FAC species	**135**	x3 =	**405**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**225** (A)		**585** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CC-LB01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	75	7.5YR 4/6	15	C	M	SL	
			2.5Y 6/6	5	C	M	SL	
			5YR 5/8	5	C	M	SL	
6-12	7.5YR 3/1	60	7.5YR 4/6	40	C	M	SL	
12-16	7.5YR 4/4	80	7.5YR 4/1	10	D	M	SL	
			7.5YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil is very moist but not saturated. Within 3 feet of flowing water.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB01-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54113161 Long: -123.30124992 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	30	Yes	FAC
2. *Acer macrophyllum*	25	Yes	FACU
3. *Pseudotsuga menziesii*	5	No	FACU
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Olfersia cervina*	25	Yes	NI
2. *Amelanchier alnifolia*	15	Yes	FACU
3. *Acer circinatum*	15	Yes	FAC
4. *Rubus parviflorus*	15	Yes	FACU
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	50	Yes	FACU
2. *Athyrium angustum*	10	No	FAC
3. *Oxalis oregana*	5	No	FACU
4. *Phalaris arundinacea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover: **75**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**55**	x3 =	**165**
FACU species	**115**	x4 =	**460**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**645** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-LB01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	85	7.5YR 4/6	15	C	M	SL	
6-12	7.5YR 3/4	70	7.5YR 5/6	30	C	M	SL	
12-16	7.5YR 3/4	70	7.5YR 4/6	20	C	M	SL	
			7.5YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WE-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 4%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54312795 Long: -123.29838136 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
Slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2. *Ribes bracteosum*	25	Yes	FAC
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Oxalis oregana*	10	No	FACU
3. *Hydrophyllum tenuipes*	10	No	FAC
4. *Tolmiea menziesii*	40	Yes	FAC
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**175**	x3 =	**525**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**185** (A)		**565** (B)

Prevalence Index = B/A = **3.1**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WE-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	99	10YR 5/8	1	C	M	SL	
8-12	10YR 2/2	90	10YR 5/8	5	C	M	SL	
			5YR 5/8	5	C	M	SL	
12-16	10YR 3/1	60	10YR 4/6	30	C	M	SL	
			7.5YR 5/8	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-2

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Epi-saturation only from 0 to 2 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WE-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 4%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54310663 Long: -123.29841195 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	70	Yes	FACU
2. *Acer macrophyllum*	10	No	FACU
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	25	Yes	FAC
2. *Sambucus racemosa*	10	Yes	FACU
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Hydrophyllum tenuipes*	40	Yes	FAC
2. *Tolmiea menziesii*	10	No	FAC
3. *Athyrium angustum*	10	No	FAC
4. *Dicentra formosa*	10	No	FACU
5. *Galium aparine*	10	No	FACU
6. *Oxalis oregana*	10	No	FACU
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**85**	x3 =	**255**
FACU species	**120**	x4 =	**480**
UPL species	**0**	x5 =	**0**
Column Totals:	**205** (A)		**735** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WE-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	80	10YR 5/8	20	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WD-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54457874 Long: -123.29959673 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Ribes bracteosum*	5	Yes	FAC
2. *Rubus spectabilis*	10	Yes	FAC
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Tolmiea menziesii*	30	Yes	FAC
3. *Chrysosplenium glechomifolium*	30	Yes	OBL
4. *Oenanthe sarmentosa*	15	No	OBL
5. *Hydrophyllum tenuipes*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**45**	x1 =	**45**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**315** (B)

Prevalence Index = B/A = **2.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WD-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	95	10YR 4/1	5	D	M	SL	
8-14	10YR 2/1	60	10YR 2/2	20	C	M	SL	
			10YR 4/6	15	C	M	SL	
			5YR 6/8	5	C	M	SL	
14-16	10YR 3/3	70	10YR 3/1	20	C	M	SL	
			10YR 4/6	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Epi-saturation only from 0 to 6 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WD-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54460291 Long: -123.29961441 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	**Is the Sampled Area within a Wetland?** **Yes**	**No X**
Hydric Soil Present?	Yes **X**	No	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	45	Yes	FACU
2. *Alnus rubra*	45	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2. *Sambucus racemosa*	5	Yes	FACU
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Polystichum munitum*	10	No	FACU
3. *Hydrophyllum tenuipes*	60	Yes	FAC
4. *Galium aparine*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**140**	x3 =	**420**
FACU species	**70**	x4 =	**280**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**700** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WD-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	90	7.5YR 5/8	10	C	M	SL	
12-16	7.5YR 3/2	80	5YR 5/8	20	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WC-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54482808 Long: -123.30014978 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Ribes bracteosum*	5	Yes	FAC
2. *Rubus spectabilis*	10	Yes	FAC
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Tolmiea menziesii*	30	Yes	FAC
3. *Chrysosplenium glechomifolium*	30	Yes	OBL
4. *Oenanthe sarmentosa*	15	No	OBL
5. *Hydrophyllum tenuipes*	5	No	FAC
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**45**	x1 =	**45**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**315** (B)

Prevalence Index = B/A = **2.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WC-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	95	10YR 4/1	5	D	M	SL	
8-14	10YR 2/1	60	10YR 2/2	20	C	M	SL	
			10YR 4/6	15	C	M	SL	
			5YR 6/8	5	C	M	SL	
14-16	10YR 3/3	70	10YR 3/1	20	C	M	SL	
			10YR 4/6	10	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Epi-saturation only from 0 to 6 inches below ground surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/2/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WC-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54485575 Long: -123.30018733 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	45	Yes	FACU
2. *Alnus rubra*	45	Yes	FAC
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2. *Sambucus racemosa*	5	Yes	FACU
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Polystichum munitum*	10	No	FACU
3. *Hydrophyllum tenuipes*	60	Yes	FAC
4. *Galium aparine*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)
Total Number of Dominant Species Across All Strata: **6** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**140**	x3 =	**420**
FACU species	**70**	x4 =	**280**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**700** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No**

Remarks:

SOIL

Sampling Point: WC-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	90	7.5YR 5/8	10	C	M	SL	
12-16	7.5YR 3/2	80	5YR 5/8	20	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WJ-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 11%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52616323 Long: -123.29799984 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; seep; road

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	30	Yes	OBL
2. *Tolmiea menziesii*	20	Yes	FAC
3. *Athyrium angustum*	20	Yes	FAC
4. *Hydrophyllum tenuipes*	5	No	FAC
5. *Oxalis oregana*	5	No	FACU
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**30**	x1 =	**30**
FACW species	**0**	x2 =	**0**
FAC species	**105**	x3 =	**315**
FACU species	**5**	x4 =	**20**
UPL species	**0**	x5 =	**0**
Column Totals:	**140** (A)		**365** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WJ-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	95	7.5YR 5/8	5	C	M	SiL	
8-16	7.5YR 4/2	70	7.5YR 5/8	20	C	M	SiL	
			5YR 5/8	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WJ-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S15
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 11%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.52619914 Long: -123.29793917 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	75	Yes	FACU
2. *Alnus rubra*	20	Yes	FAC
3.			
4.			
5.			
50%= 47.5 20%= 19 Total Cover: **95**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer circinatum*	15	Yes	FAC
2. *Rubus spectabilis*	10	Yes	FAC
3. *Tsuga heterophylla*	10	Yes	FACU
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	50	Yes	FACU
2. *Dicentra formosa*	10	No	FACU
3. *Polystichum munitum*	30	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **43%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**45**	x3 =	**135**
FACU species	**175**	x4 =	**700**
UPL species	**0**	x5 =	**0**
Column Totals:	**220** (A)		**835** (B)

Prevalence Index = B/A = **3.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WJ-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 3/3	95	7.5YR 5/8	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WO-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54031227 Long: -123.29452098 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	5	Yes	FAC
2.			
3.			
4.			
5.			
50%= 2.5 20%= 1 Total Cover: **5**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Juncus effusus*	5	No	FACW
2. *Scirpus microcarpus*	50	Yes	OBL
3. *Phalaris arundinacea*	20	Yes	FACW
4. *Equisetum arvense*	5	No	FAC
5. *Athyrium angustum*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**50**	x1 =	**50**
FACW species	**25**	x2 =	**50**
FAC species	**20**	x3 =	**60**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**95** (A)		**160** (B)

Prevalence Index = B/A = **1.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WO-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	N 2.5/0	70	7.5YR 5/8	25	C	M	SiL	
			7.5YR 5/8	5	C	PL		oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WO-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54030511 Long: -123.29446552 Datum: NAD83
Soil Map Unit Name: Bunker loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Acer macrophyllum*	50	Yes	FACU
2. *Rubus parviflorus*	10	No	FACU
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	25	Yes	FAC
2. *Dicentra formosa*	15	Yes	FACU
3. *Phalaris arundinacea*	10	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**10**	x2 =	**20**
FAC species	**25**	x3 =	**75**
FACU species	**75**	x4 =	**300**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**395** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WO-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	98	7.5YR 5/8	2	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WF-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54272906 Long: -123.29655230 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Herb Stratum (Plot size: r = 5 feet)			
1. *Equisetum arvense*	20	Yes	FAC
2. *Juncus effusus*	25	Yes	FACW
3. *Tolmiea menziesii*	10	No	FAC
4. *Phalaris arundinacea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 32.5 20%= 13 Total Cover:	65		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	35	x2 =	70
FAC species	30	x3 =	90
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	65 (A)		160 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WF-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	N 2.5/0	70	10YR 4/4	30	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: refusal

Depth (inches): 10 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 5/3/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WF-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S03
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 3%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.54272355 Long: -123.29656501 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Acer macrophyllum*	70	Yes	FACU
2.			
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Holodiscus discolor*	25	Yes	FACU
2. *Lonicera japonica*	15	No	FAC
3. *Acer circinatum*	15	No	FAC
4. *Rosa nutkana*	25	Yes	FAC
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	75	Yes	FACU
2. *Phalaris arundinacea*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **25%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**55**	x3 =	**165**
FACU species	**170**	x4 =	**680**
UPL species	**0**	x5 =	**0**
Column Totals:	**230** (A)		**855** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WF-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: SC-RB01-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49719911 Long: -123.29533533 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
Slope; PEM; PSS

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	70	Yes	OBL
2. *Athyrium angustum*	20	Yes	FAC
3. *Tolmiea menziesii*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 47.5 20%= 19 Total Cover: **95**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **5** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**70**	x1 =	**70**
FACW species	**0**	x2 =	**0**
FAC species	**65**	x3 =	**195**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**265** (B)

Prevalence Index = B/A = **2.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: SC-RB01-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					SiL	
3-18	10YR 3/1	95	10YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: SC-RB01-WA-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49720464 Long: -123.29527498 Datum: NAD83
Soil Map Unit Name: Walville silt loam, 8 to 30 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Acer circinatum*	30	Yes	FAC
3.			
4.			
5.			
50%= 35 20%= 14 Total Cover: **70**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	90	Yes	FACU
2. *Tolmiea menziesii*	10	No	FAC
3. *Polystichum munitum*	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 70 20%= 28 Total Cover: **140**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**80**	x3 =	**240**
FACU species	**130**	x4 =	**520**
UPL species	**0**	x5 =	**0**
Column Totals:	**210** (A)		**760** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: SC-RB01-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/17/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAH-DP-01
Investigator(s): Calvin Douglas and XX Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 20%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49360734 Long: -123.29665062 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:
Slope; PEM/PFO; very steep downed *Alnus rubra* root wads

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover:	**50**		
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	**0**		
Herb Stratum (Plot size: r = 5 feet)			
1. *Tolmiea menziesii*	20	Yes	FAC
2. *Athyrium angustum*	10	No	FAC
3. *Hydrophyllum tenuipes*	20	Yes	FAC
4. *Equisetum hyemale*	5	No	FACW
5. *Agrostis capillaris*	20	Yes	FAC
6.			
7.			
8.			
9.			
50%= 37.5 20%= 15 Total Cover:	**75**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	**0**		
% Bare Ground in Herb Stratum **25** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**5**	x2 =	**10**
FAC species	**120**	x3 =	**360**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**125** (A)		**370** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WAH-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SiL	with gravel
6-18	10YR 3/2	90	5YR 5/8	10	C	M	SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/14/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAH-DP-02
Investigator(s): Calvin Douglas and XX Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 20%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49357231 Long: -123.29667734 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	80	Yes	FAC
2.			
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	15	Yes	FACU
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	60	Yes	FACU
2. *Hydrophyllum tenuipes*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 35 20%= 14 Total Cover: **70**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **30** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**90**	x3 =	**270**
FACU species	**75**	x4 =	**300**
UPL species	**0**	x5 =	**0**
Column Totals:	**165** (A)		**570** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WAH-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					SiL	with gravel and cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB21-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49252358 Long: -123.29589375 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Ranunculus repens*	10	No	FAC
2. *Chrysosplenium glechomifolium*	30	Yes	OBL
3. *Tolmiea menziesii*	10	No	FAC
4. *Equisetum hyemale*	5	No	FACW
5. *Athyrium angustum*	1	No	FAC
6. *Claytonia virginica*	1	No	NI
7.			
8.			
9.			
50%= 28.5 20%= 11.4 Total Cover: **57**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **43** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**30**	x1 =	**30**
FACW species	**5**	x2 =	**10**
FAC species	**31**	x3 =	**93**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**66** (A)		**133** (B)

Prevalence Index = B/A = **2.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CR-LB21-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	100					SL	
6-18	10Y 2.5/1	65	5YR 5/8	10	C	M	SL	
			10YR 4/4	25	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/17/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB21-WA-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 0%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49251017 Long: -123.29587525 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	30	Yes	FAC
2. *Pseudotsuga menziesii*	25	Yes	FACU
3.			
4.			
5.			
50%= 27.5 20%= 11 Total Cover: **55**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Oemleria cerasiformis*	15	Yes	FACU
2. *Rubus spectabilis*	10	Yes	FAC
3. *Oplopanax horridus*	10	Yes	FAC
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	20	Yes	FACU
2. *Hydrophyllum tenuipes*	5	No	FAC
3. *Oxalis oregana*	1	No	FACU
4. *Tolmiea menziesii*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 15.5 20%= 6.2 Total Cover: **31**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **69** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**60**	x3 =	**180**
FACU species	**61**	x4 =	**244**
UPL species	**0**	x5 =	**0**
Column Totals:	**121** (A)		**424** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-LB21-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 8 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S23-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 18%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49193333 Long: -123.29582777 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?** **Yes X No**
Hydric Soil Present?	Yes **X** No	
Wetland Hydrology Present?	Yes **X** No	

Remarks:
PEM; PFO; slope

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	10	Yes	FAC
2.			
3.			
4.			
5.			
50%= 5 20%= 2 Total Cover: **10**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Tolmiea menziesii*	5	No	FAC
3. *Hydrophyllum tenuipes*	10	No	FAC
4. *Claytonia virginica*	5	No	NI
5. *Chrysosplenium glechomifolium*	10	No	OBL
6. *Athyrium angustum*	5	No	FAC
7.			
8.			
9.			
50%= 27.5 20%= 11 Total Cover: **55**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **45** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**0**	x2 =	**0**
FAC species	**30**	x3 =	**90**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**60** (A)		**180** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-S23-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/3	90	7.5YR 5/8	10	C	M	SiL	
11-18	10YR 3/2	80	5YR 5/8	20	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1
Water table Present?	Yes	X	No	___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 11

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Flowing water next to wetland.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-S23-WA-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 18%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49189883 Long: -123.29579514 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Pseudotsuga menziesii*	90	Yes	FACU
2.			
3.			
4.			
5.			
50%= 45 20%= 18 Total Cover: **90**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Polystichum munitum*	40	Yes	FACU
2. *Oxalis oregana*	60	Yes	FACU
3. *Hydrophyllum tenuipes*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 55 20%= 22 Total Cover: **110**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**10**	x3 =	**30**
FACU species	**190**	x4 =	**760**
UPL species	**0**	x5 =	**0**
Column Totals:	**200** (A)		**790** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CR-S23-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB19-WA-DP-01
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49403682 Long: -123.29564695 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:
PEM/PSS; riparian wetland on bedrock along Chehalis River

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Scirpus microcarpus*	35	Yes	OBL
2.			
3.			
4.			
5.			
50%= 17.5 20%= 7 Total Cover: **35**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Juncus effusus*	10	Yes	FACW
2. *Equisetum arvense*	5	No	FAC
3. *Ranunculus repens*	5	No	FAC
4. *Rumex occidentalis*	1	No	FACW
5. *Agrostis capillaris*	10	Yes	FAC
6.			
7.			
8.			
9.			
50%= 15.5 20%= 6.2 Total Cover: **31**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **69** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**35**	x1 =	**35**
FACW species	**11**	x2 =	**22**
FAC species	**60**	x3 =	**180**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**106** (A)		**237** (B)

Prevalence Index = B/A = **2.2**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB19-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100					S	
3-6	10YR 2/1	95	5YR 5/8	5	C	M	S	
6-9	10YR 3/1	90	5YR 5/8	10	C	M	S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 9 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 3

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Racked debris at 4 inches above ground surface

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/18/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB19-WA-DP-02
Investigator(s): Calvin Douglas Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.49401658 Long: -123.29570942 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?**	**Yes No X**
Hydric Soil Present?	Yes No X		
Wetland Hydrology Present?	Yes X No		

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Sambucus racemosa*	2	No	FACU
2. *Alnus rubra*	40	Yes	FAC
3. *Rhamnus purshiana*	40	Yes	-
4.			
5.			
50%= 41 20%= 16.4 Total Cover: **82**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Digitalis purpurea*	5	No	FACU
2. *Rumex occidentalis*	5	No	FACW
3. *Agrostis capillaris*	50	Yes	FAC
4. *Oenanthe sarmentosa*	5	No	OBL
5. *Epilobium ciliatum*	1	No	FACW
6. *Claytonia virginica*	1	No	NI
7. *Cirsium arvense*	1	No	FAC
8. *Rubus armeniacus*	1	No	FAC
9.			
50%= 34.5 20%= 13.8 Total Cover: **69**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **31** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x1 =	**5**
FACW species	**6**	x2 =	**12**
FAC species	**92**	x3 =	**276**
FACU species	**7**	x4 =	**28**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**321** (B)

Prevalence Index = B/A = **2.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CR-LB19-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 4 bgs

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Seep flowing through upland

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WH-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 8%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51334569 Long: -123.30462037 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	60	Yes	OBL
2. *Oenanthe sarmentosa*	10	No	OBL
3. *Oxalis oregana*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
50%= 40 20%= 16 Total Cover: **80**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **20** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**70**	x1 =	**70**
FACW species	**0**	x2 =	**0**
FAC species	**30**	x3 =	**90**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**110** (A)		**200** (B)

Prevalence Index = B/A = **1.8**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: CC-WH-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	95	7.5YR 6/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 3 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Seep hydrology 3 feet wide

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WH-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 8%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51334823 Long: -123.30458567 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	15	Yes	FAC
2.			
3.			
4.			
5.			
50%= 7.5 20%= 3 Total Cover: **15**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 15 20%= 6 Total Cover: **30**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **70** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**15**	x3 =	**45**
FACU species	**30**	x4 =	**120**
UPL species	**0**	x5 =	**0**
Column Totals:	**45** (A)		**165** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: CC-WH-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 10

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WN-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S21
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51205756 Long: -123.30773286 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes X No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	40	Yes	FAC
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Chrysosplenium glechomifolium*	30	Yes	OBL
2. *Oxalis oregana*	10	Yes	FACU
3. *Ranunculus repens*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 25 20%= 10 Total Cover: **50**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **50** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**30**	x1 =	**30**
FACW species	**0**	x2 =	**0**
FAC species	**50**	x3 =	**150**
FACU species	**10**	x4 =	**40**
UPL species	**0**	x5 =	**0**
Column Totals:	**90** (A)		**220** (B)

Prevalence Index = B/A = **2.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks:

SOIL

Sampling Point: WN-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/1	95	7.5YR 5/6	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 3 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks: Thickness requirement not met due to restrictive layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 1
Water table Present?	Yes	X	No	___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WN-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S21
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 1%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51205592 Long: -123.30768796 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *None*			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	25	Yes	FAC
2.			
3.			
4.			
5.			
50%= 12.5 20%= 5 Total Cover: **25**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	30	Yes	FACU
2. *Ranunculus repens*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 20 20%= 8 Total Cover: **40**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **60** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**35**	x3 =	**105**
FACU species	**30**	x4 =	**120**
UPL species	**0**	x5 =	**0**
Column Totals:	**65** (A)		**225** (B)

Prevalence Index = B/A = **3.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WN-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/1	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB12-WA-DP-01
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 9%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51694184 Long: -123.30461416 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Alnus rubra*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Chrysosplenium glechomifolium*	10	Yes	OBL
3. *Hydrophyllum tenuipes*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 20 20%= 8 Total Cover: **40**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **60** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x1 =	**10**
FACW species	**0**	x2 =	**0**
FAC species	**40**	x3 =	**120**
FACU species	**20**	x4 =	**80**
UPL species	**0**	x5 =	**0**
Column Totals:	**70** (A)		**210** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB12-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	95	10YR 5/6	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 3 bgs

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Two trees inundated

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 4/19/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-LB12-WA-DP-02
Investigator(s): Greg Summers Section, Township, Range: T12-0N R5-0W S16
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope: 9%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.51698197 Long: -123.30460568 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: r = 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	60	Yes	FAC
2.			
3.			
4.			
5.			
50%= 30 20%= 12 Total Cover: **60**			
Sapling/Shrub Stratum (Plot size: r = 15 feet)			
1. *Rubus spectabilis*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: r = 5 feet)			
1. *Oxalis oregana*	40	Yes	FACU
2. *Polystichum munitum*	30	Yes	FACU
3. *Hydrophyllum tenuipes*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 45 20%= 18 Total Cover: **90**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **10** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **60%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**70**	x4 =	**280**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**610** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-LB12-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/4	100					SiL	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock

Depth (inches): 5 bgs

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 6/12/2018
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB25-WA-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope: 2%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.488198 Long: -123.293541 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
PEM/Slope/Riverine; In floodplain of Chehalis River

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	20	Yes	FAC
2.			
3.			
4.			
5.			
50%= 10 20%= 4 Total Cover: **20**			
Herb Stratum (Plot size: 5 feet)			
1. *Ranunculus repens*	60	Yes	FAC
2. *Agrostis capillaris*	15	No	FAC
3. *Scirpus microcarpus*	25	Yes	OBL
4. *Rumex occidentalis*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
50%= 52.5 20%= 21 Total Cover: **105**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**25**	x1 =	**25**
FACW species	**5**	x2 =	**10**
FAC species	**95**	x3 =	**285**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**125** (A)		**320** (B)

Prevalence Index = B/A = **2.6**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: CR-LB25-WA-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/2	100					S	
2-6	7.5YR 3/2	95	7.5YR 5/6	5	C	M	S	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- **X** Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 6

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 6/12/2018
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CR-LB25-WA-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S27
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope: 10%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.488185 Long: -123.293594 Datum: NAD83
Soil Map Unit Name: Winston loam, 0 to 8 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **X**	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes _____	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	50	Yes	FAC
2. *Acer macrophyllum*	50	Yes	FACU
3.			
4.			
5.			
50%= 50 20%= 20 Total Cover: **100**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	30	Yes	FAC
2.			
3.			
4.			
5.			
50%= 15 20%= 6 Total Cover: **30**			
Herb Stratum (Plot size: 5 feet)			
1. *Polystichum munitum*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 2.5 20%= 1 Total Cover: **5**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **95** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**80**	x3 =	**240**
FACU species	**55**	x4 =	**220**
UPL species	**0**	x5 =	**0**
Column Totals:	**135** (A)		**460** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
_____ 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **X**

Remarks:

SOIL

Sampling Point: CR-LB25-WA-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/3	100					SiL	
3-8	7.5YR 4/3	95	7.5YR 5/8	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: restrictive root mass

Depth (inches): 8

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 6/13/2018
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAI-DP-01
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.542099 Long: -123.299469 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM/Slope

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus armeniacus*			FAC
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Herb Stratum (Plot size: 5 feet)			
1. *Rumex occidentalis*	10	Yes	FACW
2. *Juncus bufonius*	10	Yes	FACW
3. *Juncus effusus*	5	No	FACW
4. *Trifolium campestre*	5	No	NOL
5. *Agrostis capillaris*	5	No	FAC
6. *Trifolium repens*	10	Yes	FAC
7.			
8.			
9.			
50%= 22.5 20%= 9 Total Cover: **45**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **55** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**25**	x2 =	**50**
FAC species	**15**	x3 =	**45**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**40** (A)		**95** (B)

Prevalence Index = B/A = **2.4**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: WAI-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	N 4/0	95	7.5YR 5/6	5	C	M	SiCL	gravel present

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted gravel

Depth (inches): 2

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1-3

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 6/13/2018
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: WAI-DP-02
Investigator(s): Joe Pursley and Julie Fox Section, Township, Range: T12-0N R5-0W S10
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope: 15%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.542128 Long: -123.299494 Datum: NAD83
Soil Map Unit Name: Katula-Bunker complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No **X**	
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Alnus rubra*	5	No	FAC
2. *Acer macrophyllum*	30	Yes	FACU
3. *Rubus parviflorus*	10	Yes	FACU
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Herb Stratum (Plot size: 5 feet)			
1. *Digitalis purpurea*	5	Yes	FACU
2. *Epilobium angustifolium*	5	Yes	NOL
3. *Cerastium arvense*	5	Yes	FACU
4. *Vicia hirsuta*	1	No	NOL
5. *Polystichum munitum*	5	Yes	FACU
6.			
7.			
8.			
9.			
50%= 10.5 20%= 4.2 Total Cover: **21**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **79** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**5**	x3 =	**15**
FACU species	**55**	x4 =	**220**
UPL species	**0**	x5 =	**0**
Column Totals:	**60** (A)		**235** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:

SOIL

Sampling Point: WAI-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	100					SL	no redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted gravel

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 8/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WI-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.533059 Long: -123.301859 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes X** **No** _____

Remarks:
PEM/PSS/Slope

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	50	Yes	FAC
2.			
3.			
4.			
5.			
50%= 25 20%= 10 Total Cover: **50**			
Herb Stratum (Plot size: 5 feet)			
1. *Lysichiton americanus*	15	No	OBL
2. *Scirpus microcarpus*	15	No	OBL
3. *Ranunculus repens*	15	No	FAC
4. *Rorippa palustris*	10	No	OBL
5. *Agrostis capillaris*	30	Yes	FAC
6. *Tolmiea menziesii*	15	No	FAC
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**40**	x1 =	**40**
FACW species	**0**	x2 =	**0**
FAC species	**110**	x3 =	**330**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**150** (A)		**370** (B)

Prevalence Index = B/A = **2.5**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: CC-WI-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	75	10YR 4/4	15	C	M	SiL	
			10YR 6/8	10	C	M	SiL	
10-16	10YR 4/1	70	5YR 5/8	15	C	M	SiL	
			7.5YR 6/8	15	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 8/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WI-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope: 15%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.533041 Long: -123.301878 Datum: NAD83
Soil Map Unit Name: Bunker loam, 30 to 65 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?** Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	25	Yes	FAC
2. *Acer macrophyllum*	40	Yes	FACU
3.			
4.			
5.			
50%= 32.5 20%= 13 Total Cover: **65**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	40	Yes	FAC
2. *Oplopanax horridus*	40	Yes	FAC
3. *Rubus ursinus*	5	No	FACU
4.			
5.			
50%= 42.5 20%= 17 Total Cover: **85**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	20	Yes	FACU
2. *Hydrophyllum tenuipes*	20	Yes	FAC
3. *Carex deweyana*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 22.5 20%= 9 Total Cover: **45**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **55** % Cover of Biotic Crust ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**65**	x4 =	**260**
UPL species	**0**	x5 =	**0**
Column Totals:	**195** (A)		**650** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes **X** No ____

Remarks:

SOIL

Sampling Point: CC-WI-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR 2.5/2	98	7.5YR 5/6	2	C	M	SiL	
9-16	7.5YR 4/4	95	7.5YR 5/6	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 8/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WJ-DP-01
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope: 5%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.532515 Long: -123.301459 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks:
PEM/PSS/Depressional

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. None			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	60	Yes	FAC
2. *Oplopanax horridus*	15	Yes	FAC
3.			
4.			
5.			
50%= 37.5 20%= 15 Total Cover: **75**			
Herb Stratum (Plot size: 5 feet)			
1. *Lysichiton americanus*	20	Yes	OBL
2. *Scirpus microcarpus*	20	Yes	OBL
3. *Ranunculus repens*	20	Yes	FAC
4. *Rorippa palustris*	15	No	OBL
5. *Juncus effusus*	5	No	FACW
6. *Chrysosplenium glechomifolium*	5	No	OBL
7.			
8.			
9.			
50%= 42.5 20%= 17 Total Cover: **85**			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **15** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**60**	x1 =	**60**
FACW species	**5**	x2 =	**10**
FAC species	**95**	x3 =	**285**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**160** (A)		**355** (B)

Prevalence Index = B/A = **2.2**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL

Sampling Point: CC-WJ-DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	75	10YR 4/4	15	C	M	SiL	
			10YR 6/8	10	C	M	SiL	
8-16	10YR 4/1	70	5YR 5/8	15	C	M	SiL	
			7.5YR 6/8	15	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 5

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis Study Area City/County: Lewis County Sampling Date: 8/24/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: CC-WJ-DP-02
Investigator(s): Joe Pursley Section, Township, Range: T12-0N R5-0W S09
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope: 15%
Subregion (LRR): Northwest Forests and Coast (LRR A) Lat: 46.532499 Long: -123.301473 Datum: NAD83
Soil Map Unit Name: Katula-Rock outcrop complex, 65 to 90 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" Present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** **X**
Hydric Soil Present?	Yes _____	No **X**	
Wetland Hydrology Present?	Yes _____	No **X**	

Remarks:

VEGETATION

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status?
1. *Alnus rubra*	25	Yes	FAC
2. *Acer macrophyllum*	20	Yes	FACU
3.			
4.			
5.			
50%= 22.5 20%= 9 Total Cover: **45**			
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Rubus spectabilis*	50	Yes	FAC
2. *Oplopanax horridus*	30	Yes	FAC
3.			
4.			
5.			
50%= 40 20%= 16 Total Cover: **80**			
Herb Stratum (Plot size: 5 feet)			
1. *Oxalis oregana*	30	Yes	FACU
2. *Hydrophyllum tenuipes*	25	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 27.5 20%= 11 Total Cover: **55**			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **45** % Cover of Biotic Crust _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**130**	x3 =	**390**
FACU species	**50**	x4 =	**200**
UPL species	**0**	x5 =	**0**
Column Totals:	**180** (A)		**590** (B)

Prevalence Index = B/A = **3.3**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
_____ 3 - Prevalence Index is ≤3.0[1]
_____ 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
_____ 5 - Wetland Non-Vascular Plants[1]
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** _____

Remarks:

SOIL

Sampling Point: CC-WJ-DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR 2.5/2	100					SiL	
9-16	7.5YR 4/4	98	7.5YR 5/6	2	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis-Centralia Airport (CLS) City/County: Lewis County Sampling Date: 6/27/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: Wetland A DP-01
Investigator(s): Joseph R. Pursley & Julie Fox Section, Township, Range: T14-0N R2-0W S19
Landform (hillslope, terrace, etc.): River floodplain Local relief (concave, convex, none): Concave Slope: 1-2%
Subregion (LRR): Lat: 46.6857726 Long: -122.9861648 Datum: NAD83
Soil Map Unit Name: Reed silt clay loam NWI Classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X No**

Wetland is an old channel or oxbow of the Chehalis River. The wetland area is now seasonally used for argicultural practices.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0	Total Cover: **0**		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 20 20%= 8	Total Cover: **40**		
Herb Stratum (Plot size:)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20	Total Cover: **100**		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	Total Cover: **0**		

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**100**	x2 = **200**
FAC species	**0**	x3 = **0**
FACU species	**0**	x4 = **0**
UPL species	**0**	x5 = **0**
Column Totals:	**100** (A)	**200** (B)

Prevalence Index = B/A = **2.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks: The wetland edge is currently an unfarmed portion of the larger wetlland and currently dominated by reed canary grass.

SOIL

Sampling Point: Wetland A DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5yr 2.5/2	80	7.5yr 5/6	13	C	M	Silt Loam	
			2.5yr 4/6	5	C	M	Silt Loam	
			7.5yr 5/6	2	C	PL	Silt Loam	OR's
3-9	7.5yr 2.5/2	60	7.5yr 5/6	25	C	M	Silt Loam	
			2.5yr 4/6	15	C	M	Silt Loam	
9-16	7.5yr 2.5/2	75	2.5yr 3/3	25	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: Redox below 10" are soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 9-16

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturation and ORs are present but no standing water in the data plot soil pit.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis-Centralia Airport (CLS) City/County: Lewis County Sampling Date: 6/27/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: Wetland A DP-02
Investigator(s): Joseph R. Pursley and Julie Fox Section, Township, Range: T14-0N R2-0W S19
Landform (hillslope, terrace, etc.): River floodplain Local relief (concave, convex, none): Convex Slope: 2-5%
Subregion (LRR): Lat: 46.6857817 Long: -122.9861329 Datum: NAD83
Soil Map Unit Name: Alvor silt clay loam NWI Classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes	No X	

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover:	40		
Herb Stratum (Plot size:)			
1. *Phalaris arundinacea*	55	Yes	FACW
2. *Alopecurus pratensis*	20	Yes	FAC
3. *Lactuca serriola*	10	No	FACU
4. *Cirsium arvense*	5	No	FAC
5. *Trifolium repens*	10	No	FAC
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	55	x2 =	110
FAC species	35	x3 =	105
FACU species	10	x4 =	40
UPL species	0	x5 =	0
Column Totals:	100 (A)		255 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: The reed canary grass dominates the site and is FACW.

SOIL

Sampling Point: Wetland A DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5yr 3/2	100					loam	coarse grass roots
2-10	7.5yr 2.5/2	85	7.5yr 4/4	15	C	M	silt loam	dry soil
10-16	7.5yr 2.5/2	80	5yr 5/6	20	C	M	silt loam	compact, crumbly and dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Data plot is on a side slope that might get moved or tilled every other year for agriculture needs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology in or adjacent to the data plot.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis-Centralia Airport (CLS) City/County: Lewis County Sampling Date: 6/27/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: Wetland B DP-01
Investigator(s): Joseph R. Pursley & Julie Fox Section, Township, Range: T14-0N R2-0W S19
Landform (hillslope, terrace, etc.): River floodplain Local relief (concave, convex, none): Concave Slope: 1-2%
Subregion (LRR): Lat: 46.6863473 Long: -122.9833662 Datum: NAD83
Soil Map Unit Name: Reed silty clay loam NWI Classification: Freshwater pond
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X No**

Wetland is part of an old Oxbow channel of the Chehalis River that is now a pond most of the year.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status?
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:			
Herb Stratum (Plot size:)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**100**	x2 =	**200**
FAC species	**0**	x3 =	**0**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**100** (A)		**200** (B)

Prevalence Index = B/A = **2.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks: Vegetation is primarily reed canary grass transitioning into open water.

SOIL

Sampling Point: Wetland B DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10yr 3/3	85	7.5yr 3/2	13	C	M	Silt Loam	2% 7.5yr 4/6 OR's
2-9	10yr 3/2	70	7.5yr 4/4	25	C	M	Silt Loam	
			7.5yr 5/6	5	C	p		OR's
9-16	10yr 3/2	55	10yr 2.5/1	40	OR's	M	silt loam	moist
			7.5yr 5/6	5	C	M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: ORs in top 9 inches. 9-16" was moist but not saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology is ORs and geomorphic position at edge of pond.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis-Centralia Airport (CLS) City/County: Lewis County Sampling Date: 6/27/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: Wetland B DP-02
Investigator(s): Joseph R. Pursley and Julie Fox Section, Township, Range: T14-0N R2-0W S19
Landform (hillslope, terrace, etc.): River floodplain Local relief (concave, convex, none): Convex Slope: 2-5%
Subregion (LRR): Lat: 46.6863268 Long: -122.983366 Datum: NAD83
Soil Map Unit Name: Chehalis Silt Clay NWI Classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X** No	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes No **X**	
Wetland Hydrology Present?	Yes No **X**	

Upland data plot is 6-8 feet upslope from a standing water pond.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:			
Herb Stratum (Plot size:)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			
% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**100**	x2 =	**200**
FAC species	**0**	x3 =	**0**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**100** (A)		**200** (B)

Prevalence Index = B/A = **2.0**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks: Vegetation is all reed canary grass.

SOIL

Sampling Point: Wetland B DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10yr 3/3	100					Silt Loam	coarse grass roots in surface of soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks: Soil was loose and very consistant past 16". A touch of sand in the soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): ___

Water table Present? Yes ___ No **X** Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: The upland data plot may get mowed or tilled every few years. No woody veg. has grown.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis-Centralia Airport (CLS) City/County: Lewis County Sampling Date: 6/27/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: Wetland C DP-01
Investigator(s): Joseph R. Pursley & Julie Fox Section, Township, Range: T14-0N R2-0W S19
Landform (hillslope, terrace, etc.): River floodplain Local relief (concave, convex, none): Concave Slope: 1-2%
Subregion (LRR): Lat: 46.6853562 Long: -122.9844436 Datum: NAD83
Soil Map Unit Name: Reed silt cly loam NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No
Hydric Soil Present? Yes **X** No
Wetland Hydrology Present? Yes **X** No

Is the Sampled Area within a Wetland? **Yes X No**

Wetland is part of a linear ditch and series of culverts used to maintain drainage away from the local airport.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover: **0**			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover: **40**			
Herb Stratum (Plot size:)			
1. *Typha latifolia*	55	Yes	OBL
2. *Phalaris arundinacea*	40	Yes	FACW
3. *Vicia americana*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
50%= 50 20%= 20 Total Cover: **100**			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover: **0**			

% Bare Ground in Herb Stratum **0** % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**55**	x1 =	**55**
FACW species	**40**	x2 =	**80**
FAC species	**5**	x3 =	**15**
FACU species	**0**	x4 =	**0**
UPL species	**0**	x5 =	**0**
Column Totals:	**100** (A)		**150** (B)

Prevalence Index = B/A = **1.5**

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks: Vegetation is primarily RCG and Cattail throughout the ditch with a quick transition.

SOIL

Sampling Point: Wetland C DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5yr 4/2	70	7.5yr 5/8	25	C	M	Silt Loam	5% 7.5yr 5/8 OR's
4-10	10yr 4/1	85	7.5yr 6/8	15	C	M	Silt Loam	
10-16	10yr 4/1	55	7.5yr 6/8	40	C	M	Silt Loam	concentration are soft masses
			7.5 6/8	5	OR's	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: Redox below 10" are soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes X No ___ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0-7

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: This wetland is an excavated ditch with culvert connections under roads and airport access areas.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Chehalis-Centralia Airport (CLS) City/County: Lewis County Sampling Date: 6/27/2017
Applicant/Owner: Chehalis River Basin Flood Control Zone District State: WA Sampling Point: Wetland C DP-02
Investigator(s): Joseph R. Pursley and Julie Fox Section, Township, Range: T14-0N R2-0W S19
Landform (hillslope, terrace, etc.): River floodplain Local relief (concave, convex, none): Convex Slope: 2-5%
Subregion (LRR): Lat: 46.6853489 Long: -122.9844241 Datum: NAD83
Soil Map Unit Name: Reed silt clay loam NWI Classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes	No X	

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status?
1.			
2.			
3.			
4.			
5.			
50%= 0 20%= 0 Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50%= 20 20%= 8 Total Cover:	40		
Herb Stratum (Plot size:)			
1. *Phalaris arundinacea*	75	Yes	FACW
2. *Juncus effusus*	1	No	FACW
3. *Agrostis stolonifera*	10	No	FAC
4. *Vicia americana*	15	No	FAC
5.			
6.			
7.			
8.			
9.			
50%= 50.5 20%= 20.2 Total Cover:	101		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:	0		
% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1 =	0
FACW species	76	x2 =	152
FAC species	25	x3 =	75
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	101 (A)		227 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptation[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Vegetation is all FAC or wetter.

SOIL

Sampling Point: Wetland C DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5yr 4/3	100					loam	coarse grass roots
8-16	7.5yr 4/3	70	7.5yr 5/6	20	C	M	silt loam	
			7.5yr 5/2	10	C	M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Muck Mineral (S1)
- ___ Sandy gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Side slope of ditch near maintained and mowed grasses adjacent to airport landing area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (Unnamed Tributary gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: The upland data plot is on the ditch side slope just up from DP-01.

Appendix C
Regulatory Meetings, Guidance, and Agreements

WETLAND DELINEATION AND OHWM METHODOLOGY MEETING NOTES

Date: March 17, 2017
Time: 11:30 a.m. – 1:00 p.m.
Location: Lacey, Washington – Ecology Building

Attendees

Bob Thomas – U.S. Army Corps of Engineers (USACE)
Evan Carnes – USACE
David Howe – Washington Department of Fish and Wildlife (WDFW)
Greg Summers – Anchor QEA
Chrissy Bailey – Washington Department of Ecology (Ecology)
Perry Lund – Ecology
Zack Meyer – Ecology
Joe Pursley – Anchor QEA
Heather Page – Anchor QEA

Action Item Summary

ASSIGNED TO	ACTION ITEM
Greg Summers	Set up a date to meet in the field via a Doodle Poll (completed)
Greg Summers	Provide PowerPoint discussed at the meeting to Attendees (completed)
Greg Summers	Provide a copy of the notes from this meeting to Attendees (completed)

Notes

The purpose of these notes is to record key points, decisions, and discussion topics. They are not intended to be transcripts.

During introductions, David Howe stated that he was filling in for Scott Brummer, who will be the WDFW contact moving forward.

It was suggested and agreed upon that a site visit for the week of April 3, to be scheduled via Doodle Poll, would be a good idea to see how Anchor QEA is implementing the methodology discussed during this meeting.

The methodology for wetland delineation was discussed as follows:

For Wetlands Over 0.25 Acre

- Err on the side of calling something a wetland, so there would likely be an overestimation. If there is an upland/wetland mosaic, it would all be called wetland.
- Any wetlands over what is approximated to be a quarter acre in the field will have individual paired plots for each representative habitat type.

- One paired plot per wetland if one habitat type, two paired plots if two habitat types (e.g., palustrine forested and palustrine emergent), etc.; Ecology needs assurance that we are erring on the side of calling it a wetland. This will be completed by checking our work in the field during the site visit.
- If the wetland is 5 acres – how are we going to have assurances that we are getting good data (this is an extrapolation of the data)?
    - Data sheets to support information in report, information in rating form to support report. Needs to cleanly tell the story of what is out there. Any conclusions written in the report need to be supported by data sheets. Keep good notes/remarks on the data sheets.
    - The data sheets are a tool, or communication device, so that USACE (and Ecology) does not see any surprises when they go out to verify wetlands. Need a good accurate description, without oversampling, using best professional judgement. For example, how homogeneous is the wetland or are there different hydroperiods in the emergent area?
    - Build a framework, in collaboration with USACE and Ecology in the field, for wetlands of representative samples.

For Wetlands Under 0.25 Acre

- The seep wetlands may be part of the ordinary high water marker (OHWM) or part of the river; Ecology and USACE will confirm representative as an example during the site visit.
- Representative data plots are still a question; it was determined that data plots will need to be filled out for every individual wetland.
- Need to consider the approach given attempt to get an accurate understanding of impacts to develop appropriate mitigation.

Ordinary High Water Mark

- Use Ecology guidance, not just USACE.
- For 5 feet or narrower, there would still be a calculation of width to provide an estimation. There would be field verifications of measurements, which will be documented.
- Perennial streams will be mapped on both sides, like the streams greater than 5 feet in width.
- For stream characterizations, need to also look at forest practice rules (e.g., grade breaks) to ascertain whether fish presence exists.
- Anchor QEA will coordinate with WDFW field staff to make sure our information is consistent with what they have already captured.

Waters of the United States/State Termination

- Termination of Waters of the United States/State is determined either at the point where wetland characteristics end or where there is no longer any defined bed and bank or evidence of channelized flow and upland vegetation is present.
- How far beyond full pool of the reservoir does the wetland delineation and OHWM need to be to determine impacts during hydrological change? Anchor QEA needs to do more research on

this question before USACE, Ecology, and WDFW will agree to cutting the survey off at the top of the full pool.

Seeps and Springs

As a starting point, a GPS, description, and photo is a good place to start, but this will depend on the site conditions, including what exists below the seeps and springs. Anchor QEA will provide a representative example for discussion with USACE, Ecology, and WDFW in the field.

Summary

USACE and Ecology agreed on the protocols outlined in the PowerPoint and discussion, however, did not feel representative data plots would work. Therefore, it was agreed that data would be collected for every wetland regardless of size. Additionally, the agencies felt they will need to visit the site during the delineation to gain a sense of the site in general, how Anchor QEA is making wetland boundary determinations, and understand how Anchor QEA is applying the methodology to provide final agreement on the methodology.

Deliverables and Deadlines

No deliverables resulted from this meeting.

WETLAND DELINEATION SITE VISIT MEETING NOTES

Date: April 4, 2017
Time: 9:00 a.m. – 2:00 p.m.
Location: Pe Ell, Washington

Attendees

Bob Thomas – U.S. Army Corps of Engineers
Zack Meyer – Washington Department of Ecology
Rick Mraz – Washington Department of Ecology
Joe Pursley – Anchor QEA, LLC
Greg Summers – Anchor QEA

Action Item Summary

ASSIGNED TO	ACTION ITEM
Greg Summers	Set up next site visit for May
Greg Summers	Provide notes from site visit (completed)

Notes

The purpose of these notes is to record key points, decisions, and discussion topics. They are not intended to be transcripts.

No one from the Washington Department of Fish and Wildlife responded to the Doodle Poll or the meeting invitation, so the site visit team waited until 9:15 at the meeting spot, then loaded into one vehicle and proceeded to the dam site. A safety briefing was conducted in the vehicle enroute to the dam site.

Anchor QEA provided a project overview at the proposed dam site, along with a review of the wetland and ordinary high water mark (OHWM) methodology and a general plan for the day. The site visit team also discussed the proposed dam configuration.

The site visit team proceeded to the "lay down area" to discuss the types of features encountered the previous week during the field investigations. The first spot was a large wetland complex consisting of a pond, forested wetland, emergent wetland, and several small drainages that qualify as Waters of the United States/State. The upper portion of the small drainages was recently logged.

Anchor QEA discussed the methodology for delineating wetland boundaries, how OHWM was being determined, and how features are flagged. Wetlands are being delineated per the U.S. Army Corps of Engineers and Washington Department of Ecology (Agencies) manuals, and at least one paired plot is being collected per every wetland habitat, regardless of size. If a wetland is homogeneous with respect to vegetation and hydrology, one paired plot is being collected. If the wetland is composed of two

habitat types, or two water regimes, a paired plot is being collected for each habitat type or water regime. Wetland plots are flagged with pink flagging, wetland boundaries are flagged with orange flagging, and OHWM is flagged with blue flagging. All flags are being collected with a Trimble R1 DGPS receiver and tablet and accuracy for each point was sub-meter.

OHWM is determined by the top of bank for these small (i.e., less than 5 feet wide) drainages. The centerline is flagged and measurements are taken in the field within 6 inches. That is, the drainage is flagged by centerline and width is noted. Wherever the width increases or decreases by 6 inches, a data point is taken, using GPS, along with field notes specifying the location of the change in width and current width.

All data is being downloaded daily and Quality Assurance/Quality Control (QA/QC) reviewed at that time. It is then uploaded onto the Sharepoint site and the overall mapping is provided QA/QC. Field notes are also copied daily and given a QA/QC review.

The site was walked and Anchor QEA showed the Agencies the wetland boundary, where data plots had been collected, and where and how OHWM was being determined and flagged. A few pits were dug to evaluate soils and hydrology within the wetland complex. The group then went upslope to look at some of the small drainages feeding the wetland area, including areas that had been logged within the past couple of years. Anchor QEA explained how OHWM was determined and how the terminus of the drainages/Waters was determined.

The Agencies agreed with the methodology, boundaries, amount of data being collected, and OHWM determination and termination for small drainages.

After verifying the primary approach for wetlands and Waters, the site visit team proceeded to evaluate ditches connected to the larger wetland complex. The Agencies provided instruction on how to evaluate ditches, and it was agreed that a ditch will be included as a Water if it is connected to a jurisdictional water or wetland and if it exhibits wetland characteristics that have evolved “in place.” That is, sufficient hydrology is in the ditch for a long enough time to develop hydric soils and wetland vegetation. Simply a flow pattern and marginal vegetation is not enough, there needs to be evidence in the soil of prolonged saturation and a connection to a Water or wetland. One ditch was extended a bit, but overall, all boundaries were agreed upon, as was methodology and data collection.

The next area includes a created stormwater pond with an outflow channel to the Chehalis River with no wetland soils or vegetative characteristics in the outflow channel. However, upstream of the stormwater pond, a ditch connects a wetland to the storm water pond. The site visit team walked the ditch to the wetland area. The Agencies agreed that the wetland was jurisdictional, based on the source of hydrology in that area (i.e., groundwater and overland flow into a depressional wetland area) and that the ditch connecting the two areas brings the entire system into jurisdiction due to connectivity of the jurisdictional wetland to the Chehalis River, via the ditch and storm water pond.

The Agencies agreed with Anchor QEA's methodology, boundaries, and overall assessment of dealing with ditches, disturbed Waters/wetlands.

The next area visited included several hillside seeps connected to waters, wetlands, and ditches. Some had Waters above that drained into them and for others, the seep was the initial source of hydrology. The site visit team evaluated the determination of Waters and wetland boundaries and how they flowed into a ditch system and then into the Chehalis River. These areas were all considered jurisdictional.

The Agencies agreed with Anchor QEA's methodology and boundaries in this area.

After verifying the methodology used for these areas, which are non-typical of the overall site, the site visit team drove to an area in the Crimm Creek drainage to provide an overview of the more common systems Anchor QEA field staff has been encountering. These systems typically include a drainage for which the OHWM and width is flagged and documented with GPS. These drainages also provide hydrology for the occasional bench wetlands adjacent to the drainages. When bench wetlands are encountered, they are flagged with orange flagging and documented with a GPS unit. Up to this point, these wetlands have ranged in size from several square feet to almost an acre. Anchor QEA's approach to these areas is to walk down one drainage, flagging OHWM and wetlands on the way until reaching Crimm Creek (or applicable larger water body). Then, walking up or downstream until encountering the next small drainage and walking that drainage back up to the road, flagging OHWM and wetlands along the way. To verify this methodology, site visit team followed one drainage down to Crimm Creek that Anchor QEA field staff had delineated the previous week, discussing wetland boundary determination, OHWM determination, verifying flagging, and testing soils at various locations along the way down to Crimm Creek.

At Crimm Creek, the site visit team discussed how the OHWM on this larger system would be determined; everyone agreed on where the OHWM was at this location. Because we have very good Lidar and these systems are very well distinguished on the Lidar mapping, an alternative approach to flagging OHWM along the entire length of these larger systems was discussed. The site visit team discussed establishing the OHWM elevation at road crossing locations for these larger, perennial systems (e.g., Crimm Creek, Chehalis River, Big Creek) and using Lidar mapping to interpret the OHWM elevation between these points. The Agencies agreed upon the methodology, but felt they need to verify Anchor QEA's determination of the OHWM at several road crossings to ensure it has been interpreted correctly. It was agreed Anchor QEA would flag OHWM at the road crossings and provide mapping of the interpretation between the crossings using Lidar for the next site visit, at which time the Agencies will make a final determination on the proposed approach.

The site visit team then walked to the next drainage and hiked it back up to the road, verifying boundaries and testing soils along the way.

The Agencies agreed with Anchor QEA's methodology, boundaries, and overall assessment of these resources with the caveat that they need to verify OHWM at road crossings during the next site visit and view a Lidar interpretation between two road crossings to fully agree upon that part of the methodology.

A final stop at a recent landslide area was made to look at eroded gullies. These areas exhibit evidence of channelized flow; however, no water was present, even during this wet year, and the soils are highly erodible (i.e., sandy/gravelly). Also, no vegetation or hydric soil characteristics are present. It was agreed that these are not Waters and therefore, do not need to be mapped.

Deliverables and Deadlines

No deliverables resulted from the site visit.

SECOND WETLAND-OHWM DELINEATION SITE VISIT MEETING NOTES

Date: August 24, 2017
Time: 9:00 a.m. – 2:00 p.m.
Location: Pe Ell, Washington

Attendees

Bob Thomas – U.S. Army Corps of Engineers
Evan Carnes – U.S. Army Corps of Engineers
Zack Meyer – Washington Department of Ecology
Joe Pursley – Anchor QEA, LLC
Greg Summers – Anchor QEA, LLC
Heather Page – Anchor QEA, LLC

Action Item Summary

ASSIGNED TO	ACTION ITEM
Joe Pursley	Add wetlands near seeps exhibiting hydric soils and vegetation to the overall data set and include as wetlands in the report
Joe Pursley	Evaluate all ditches per discussions and add those as agreed during the site visit
Greg Summers and Joe Pursley	Finalize ordinary high water mark (OHWM) for Crim, Rogers, and Chehalis River and verify the resultant mapping
Joe Pursley	Review ratings figure/background methodology and determine how best to provide adequate information in the report
Joe Pursley	Write up and distribute notes from the visit for review by the team (completed)
Greg Summers and Joe Pursley	Schedule follow up site visit in Spring 2018 once the draft report(s) is available

Notes

The purpose of these notes is to record key points, decisions, and discussion topics. They are not intended to be transcripts.

The attendees met in the Pe Ell City Park and discussed the agenda for the day. Anchor QEA provided an overview of the field work and discussed: the figures and master table of wetlands and waters including naming convention; wetland ratings, forms, and proposed presentation for the report; wetland data sheets; OHWM methodology for Crim Creek, Rogers Creek, and the Chehalis River (these three water bodies were too large and dangerous to access during the delineation; all other OHWM were obtained directly in the field); and a general plan for the day. A safety briefing was conducted prior to departing for the proposed dam and reservoir footprint.

A brief stop at the proposed dam site was conducted to answer any additional questions about the project and proposed dam operations, and observe the downstream boundary of the wetland delineation project area.

The site visit team then proceeded to the Crim Creek basin and discussed how OHWM was being calculated using a combination of GIS, Lidar, and on-site elevation points obtained with GPS. The on-site elevation points were taken at various areas in the field determined to be the OHWM using Android tablets, Collector application, and Trimble R1 receivers. The R1 receivers Bluetooth connect to the tablet and increase the accuracy of the tablets to sub-meter. Back in the office, GIS and Lidar was used to interpolate elevations between the GPS points and generate the OHWM between points and subsequent area of Waters of the U.S. and State. We walked downstream to a point where GPS data was collected to observe the field conditions and verify the elevation coincided with observed OHWM. The point was at the confluence of Crim and Lester Creek. It was agreed that the point, as identified using the tablet without a receiver, was within a foot of the observed OHWM. While at that spot, we also evaluated the flags in the field that identified OHWM for Lester Creek. On this smaller creek, OHWM was flagged on both sides of the creak and no interpolation in the office of field data was needed. It was agreed that those flags were located correctly for OHWM determination.

We then walked back to the bridge crossing of Crim Creek and compared the calculated OHWM at the bridge, where it was interpolated, to the figure and on-site conditions. It was agreed that the OHWM interpolation at that point appeared to be accurate. It was discussed that we would look at the upstream GPS point, that was used along with the downstream GPS point at the confluence of Crim and Lester Creek to interpolate OWHM at the bridge, to verify the accuracy of that point and spot check field conditions.

From the bridge, we walked upstream about a half mile to an area with several delineated wetlands. We discussed the wetland delineation methods and evaluated the wetland soils, vegetation, and hydrology. The group looked at several wetlands in this area, verifying the delineated boundaries of all previously flagged. The wetland ratings were also discussed and were concurred with for these wetlands along with the methodology of report presentation.

Grouping wetlands together for report purposes was discussed and it was agreed that this approach may be appropriate, however, the report would need to explain the methodology and rationale with enough supporting detail. Therefore, it was agreed that the agencies would reserve final approval on grouping based on the report narrative and if it adequately describes the wetlands, ratings, and methodology.

The need for wetland rating figures was also discussed. It was agreed that some groupings may occur, but the figures and background documentation would need to be sufficient for the reviewers to validate the ratings. Similar to grouping the wetlands, it will be up to the report writer's judgment to determine

if any changes to normal procedures can be adequately explained with narrative and the agencies will not provide a final approval until review of the report.

We walked the boundary of one wetland down to Crim Creek to observe more OHWM determinations and discuss the mapping of OHWM. All observed OHWM flags were verified and agreed that they represented OHWM. We looked at one area that was mapped as OWHM/off-channel wetland that has a small earthen embankment separating it from the Crim Creek channel. It was decided that the wetland would not be considered OHWM and should be corrected on the figures and tables. Three additional OHWM points were taken with the tablet to better adjust the area using the Lidar interpolation. It was also agreed that small adjustments like this are acceptable and we should be as accurate as possible and small corrections should be made if observed in the field. The rating for this area was correct and verified as one of the few depressional wetlands.

While walking back downstream, one small dry drainage feature was noticed. This drainage was delineated using the tablet and will be added to the overall data set. We also discussed how to categorize seeps. Two varieties of seeps were noted during the field effort and examples of both were evaluated on the way back. The first type of seep are those that exhibited hydrology and hydric soils and the other type of seep exhibited hydrology in the form of water seeping from rock faces and no hydric soil. The first seep area we looked at that had hydrology and soils also had vegetation during this site visit. It was decided that all areas that exhibited wetland characteristics would be considered wetlands, and all features that exhibit an OHWM would be considered waters, and included in the data set. The other area was evaluated and no water was observed seeping from the rock and no hydric soils or vegetation was observed. It was agreed that these areas are not Waters or wetlands. For report purposes, it was agreed that we would add the seeps that had hydric soils to the dataset and include them as wetlands in the report but would not include the seeps without hydric soils.

The next stop was to observe drainages that were mapped, and observed, during the field effort as going subsurface or ending prior to reaching a downstream water body. We looked at one such feature and it was agreed that it was mapped correctly. It was discussed and agreed that we would add a note to the figures for these areas identifying them as ending or going sub-surface so the reviewers would know it was not a mapping error. It was also agreed to indicate which drainages continue up gradient of the reservoir and buffer area. It was agreed that these features which may pose questions upon review, should be adequately described in the text of the report.

After this stop, we proceeded to an area that has roadside ditches so we could discuss how best to categorize them. The area we evaluated had two drainages that flowed from upgradient into culverts under the road, and then on to the Chehalis River. The upgradient side of the road has a roadside ditch that connects these two drainages and also extends a bit farther down the road on both ends. It was decided that any ditches that function as a continuation of an existing stream, should be considered as Waters and included in the data set.

It was also decided that if a ditch is not connected to any other wetlands or Waters, is confined to an area clearly excavated from upland, then it would likely not be considered a wetland. However, if the ditch is receiving water from a seep, or high water table, then it should be included in the wetland and Water data set.

Deliverables and Deadlines

No deliverables resulted from the site visit; however, the site visit refined the upcoming wetland delineation report regarding grouping items and how best to describe methodologies and rationale for anything not following typical wetland delineation report procedure.

Appendix D
Ecology Wetland Rating Forms

Depressional HGM Class Wetland Rating Scores

Depressional HGM Class Wetland Rating Form Questions Water Quality Functions	BC-WA	CC-LB06-WA	CC-WA	CC-WJ	CR-LB02-WA	CR-LB16-WB	CR-LB16-WC	CR-LB24-WA	CR-RB08-WA	CR-RB10-WA	CR-RB13-WA	CR-S18-WA	Rating Score Key
D1.1 Characteristics of surface water outflows from the wetland:	2	2	2	3	2	2	2	1	1	2	2	3	12-16=H
D1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic	0	0	0	0	0	0	0	0	0	0	0	0	6-11=M
D1.3 Characteristics and distribution of persistent plants:	3	3	3	3	3	3	3	3	3	3	3	3	0-5=L
D1.4 Characteristics of seasonal ponding or inundation:	0	2	2	2	2	0	0	0	0	0	0	0	
D1 Total	**5**	**7**	**7**	**8**	**7**	**5**	**5**	**4**	**4**	**5**	**5**	**6**	
Rating of Site Potential	**L**	**M**	**M**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**M**	
D2.1 Does the wetland unit receive stormwater discharges?	0	0	0	0	0	0	0	0	0	0	0	0	3-4=H
D2.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	0	0	0	0	1-2=M
D2.3 Are there septic systems within 250 ft of the wetland?	0	0	0	0	0	0	0	0	0	0	0	0	0=L
D2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0	1	1	1	1	1	1	1	1	1	1	0	
D2 Total	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	
Rating of Landscape Potential	**L**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**L**	
D3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	0	1	1	1	1	1	1	1	0	
D3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1	1	1	1	1	1	1	1	1	1	1	1	2-4=H
D3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality	2	2	2	2	2	2	2	2	2	2	2	2	1=M
D3 Total	**4**	**4**	**4**	**3**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**3**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

DRAFT

Depressional HGM Class Wetland Rating Scores

Depressional HGM Class Wetland Rating Form Questions	BC-WA	CC-LB06-WA	CC-WA	CC-WJ	CR-LB02-WA	CR-LB16-WB	CR-LB16-WC	CR-LB24-WA	CR-RB08-WA	CR-RB10-WA	CR-RB13-WA	CR-S18-WA	Rating Score Key
Hydrologic Functions													
D4.1 Characteristics of surface water outflows from the wetland:	2	2	2	4	2	2	2	0	0	2	2	4	12-16=H
D4.2 Depth of storage during wet periods:	3	5	3	3	3	3	3	3	3	3	3	3	6-11=M
D4.3 Contribution of the wetland to storage in the watershed:	0	0	0	0	0	0	0	0	0	0	0	0	0-5=L
D4 Total	**5**	**7**	**5**	**7**	**5**	**5**	**5**	**3**	**3**	**5**	**5**	**7**	
Rating of Site Potential	**L**	**M**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**M**	
D5.1 Does the wetland receive stormwater discharges?	0	0	0	0	0	0	0	0	0	0	0	0	3=H
D5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	0	0	0	0	0	0	0	0	0	0	0	0	1-2=M
D5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses	0	0	0	0	0	0	0	0	0	0	0	0	0=L
D5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
D6.1 The unit is in a landscape that has flooding problems.	2	2	2	2	2	2	2	2	2	2	2	2	2-4=H
D6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2	2	2	2	1=M
D6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Depressional HGM Class Wetland Rating Scores

Depressional HGM Class Wetland Rating Form Questions	BC-WA	CC-LB06-WA	CC-WA	CC-WJ	CR-LB02-WA	CR-LB16-WB	CR-LB16-WC	CR-LB24-WA	CR-RB08-WA	CR-RB10-WA	CR-RB13-WA	CR-S18-WA	Rating Score Key
Habitat Functions													
H1.1 Structure of plant community:	0	1	1	1	2	0	1	1	0	1	1	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	1	1	2	2	2	2	2	2	2	2	
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	2	1	1	1	
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	3	2	2	2	3	2	2	2	15-18=H
H1.5 Special habitat features:	2	1	3	1	2	2	2	2	3	2	2	3	7-14=M
H1 Total	**7**	**7**	**8**	**6**	**10**	**7**	**8**	**8**	**10**	**8**	**8**	**9**	0-6=L
Rating of Landscape Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	3	1	1	1	2	3	3	3	3	3	3	3	
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	3	3	3	3	4-6=H
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	0	0	0	0	1-3=M
H2 Total	**6**	**4**	**4**	**4**	**5**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	<1=L
Landscape Potential Rating	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
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Depressional HGM Class Wetland Rating Scores

Depressional HGM Class Wetland Rating Form Questions Water Quality Functions	WAA	WAB	WAC	WAF	WAG	WB	WG	WI	WT	WV	WW	WY	Rating Score Key
D1.1 Characteristics of surface water outflows from the wetland:	3	3	2	3	3	2	2	2	2	2	2	3	12-16=H
D1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic	0	0	0	0	0	0	0	0	0	0	0	0	6-11=M
D1.3 Characteristics and distribution of persistent plants:	3	3	3	0	0	3	3	3	3	3	3	3	0-5=L
D1.4 Characteristics of seasonal ponding or inundation:	4	2	4	4	4	0	2	4	2	2	2	0	
D1 Total	**10**	**8**	**9**	**7**	**7**	**5**	**7**	**9**	**7**	**7**	**7**	**6**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**L**	**M**	**M**	**M**	**M**	**M**	**M**	
D2.1 Does the wetland unit receive stormwater discharges?	0	0	0	0	0	0	0	0	0	0	0	0	3-4=H
D2.2 Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	0	0	0	0	1-2=M
D2.3 Are there septic systems within 250 ft of the wetland?	0	0	0	0	0	0	0	0	0	0	0	0	0=L
D2.4 Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	1	0	1	1	1	1	1	1	1	1	1	1	
D2 Total	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	
Rating of Landscape Potential	**M**	**L**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
D3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0	0	1	0	0	1	1	1	1	1	1	0	
D3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	1	1	1	1	1	1	1	1	1	1	1	1	
D3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality	2	2	2	2	2	2	2	2	2	2	2	2	2-4=H
D3 Total	**3**	**3**	**4**	**3**	**3**	**4**	**4**	**4**	**4**	**4**	**4**	**3**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
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L=Low

Depressional HGM Class Wetland Rating Scores

Depressional HGM Class Wetland Rating Form Questions Hydrologic Functions	WAA	WAB	WAC	WAF	WAG	WB	WG	WI	WT	WV	WW	WY	Rating Score Key
D4.1 Characteristics of surface water outflows from the wetland:	4	4	2	4	4	2	2	2	2	2	2	4	12-16=H
D4.2 Depth of storage during wet periods:	3	3	3	5	5	3	3	3	3	3	3	3	6-11=M
D4.3 Contribution of the wetland to storage in the watershed:	0	0	0	0	0	0	0	0	0	0	0	0	0-5=L
D4 Total	**7**	**7**	**5**	**9**	**9**	**5**	**5**	**5**	**5**	**5**	**5**	**7**	
Rating of Site Potential	**M**	**M**	**L**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**M**	
D5.1 Does the wetland receive stormwater discharges?	0	0	0	0	0	0	0	0	0	0	0	0	3=H
D5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	0	0	0	0	0	0	0	0	0	0	0	0	1-2=M
D5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses	0	0	0	0	0	0	0	0	0	0	0	0	0=L
D5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
D6.1 The unit is in a landscape that has flooding problems.	2	2	2	2	2	2	2	2	2	2	2	2	2-4=H
D6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2	2	2	2	1=M
D6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
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Depressional HGM Class Wetland Rating Scores

Depressional HGM Class Wetland Rating Form Questions Habitat Functions	WAA	WAB	WAC	WAF	WAG	WB	WG	WI	WT	WV	WW	WY	Rating Score Key
H1.1 Structure of plant community:	1	0	2	0	0	1	0	1	1	0	2	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	1	2	1	1	1	1	2	1	1	1	1	1	
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	1	1	1	0	
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	1	2	1	1	2	1	2	2	1	3	0	15-18=H
H1.5 Special habitat features:	3	2	3	2	2	2	2	3	2	1	2	1	7-14=M
H1 Total	**8**	**6**	**9**	**5**	**5**	**7**	**6**	**8**	**7**	**4**	**9**	**2**	0-6=L
Rating of Site Potential	**M**	**L**	**M**	**L**	**L**	**M**	**L**	**M**	**M**	**L**	**M**	**L**	
H2.1 Accessible habitat	3	3	3	0	3	1	2	1	2	2	2	3	
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	3	3	3	3	4-6=H
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	0	0	0	0	1-3=M
H2 Total	**6**	**6**	**6**	**3**	**6**	**4**	**5**	**4**	**5**	**5**	**5**	**6**	<1=L
Rating of Landscape Potential	**H**	**H**	**H**	**M**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
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Depressional HGM Class Wetland Rating Scores and Categories

BC-WA	Water Quality	Hydrologic	Habitat		Category	
Site Potential	L	L	M		Cat I	23-27
Landscape Potential	L	L	H		Cat II	20-22
Value	H	H	H	Total	Cat III	16-19
Score	5	5	8	18	Cat IV	15

CC-LB06-WA	Water Quality	Hydrologic	Habitat		Category	
Site Potential	M	M	M		Cat I	23-27
Landscape Potential	M	L	H		Cat II	20-22
Value	H	H	H	Total	Cat III	16-19
Score	7	6	8	21	Cat IV	15

CC-WA	Water Quality	Hydrologic	Habitat		Category	
Site Potential	M	L	M		Cat I	23-27
Landscape Potential	M	L	H		Cat II	20-22
Value	H	H	H	Total	Cat III	16-19
Score	7	5	8	20	Cat IV	15

CC-WJ	Water Quality	Hydrologic	Habitat		Category	
Site Potential	M	M	M		Cat I	23-27
Landscape Potential	M	L	H		Cat II	20-22
Value	H	H	H	Total	Cat III	16-19
Score	7	6	8	21	Cat IV	15

CR-LB02-WA	Water Quality	Hydrologic	Habitat		Category	
Site Potential	M	L	M		Cat I	23-27
Landscape Potential	M	L	H		Cat II	20-22
Value	H	H	H	Total	Cat III	16-19
Score	7	5	8	20	Cat IV	15

CR-LB16-WB	Water Quality	Hydrologic	Habitat		Category	
Site Potential	L	L	M		Cat I	23-27
Landscape Potential	M	L	H		Cat II	20-22
Value	H	H	H	Total	Cat III	16-19
Score	6	5	8	19	Cat IV	15

Rating Function Score Key	
Scores	**Points**
HHH	9
HHM	8
HHL	7
HMM	7
HML	6
MMM	6
HLL	5
MML	5
MLL	4
LLL	3

Depressional HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-LB16-WC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CR-LB24-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3
CR-RB08-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-RB10-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-RB13-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-S18-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**M**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**6**	**8**	**20**	Cat IV	15		

Depressional HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
WAA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**M**	**M**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**7**	**6**	**8**	**21**	Cat IV	15	HMM	7
							HML	6
WAB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**M**	**M**	**L**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**6**	**7**	**19**	Cat IV	15	LLL	3
WAC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**5**	**8**	**20**	Cat IV	15		
WAF	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**M**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**6**	**6**	**19**	Cat IV	15		
WAG	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**M**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**6**	**7**	**20**	Cat IV	15		
WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		

Depressional HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
WG	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**M**	**L**	**L**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**7**	**5**	**7**	**19**	Cat IV	15	HMM	7
							HML	6
WI	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**M**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**7**	**5**	**8**	**20**	Cat IV	15	LLL	3
WT	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**5**	**8**	**20**	Cat IV	15		
WV	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**L**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**5**	**7**	**19**	Cat IV	15		
WW	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**5**	**8**	**20**	Cat IV	15		
WY	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**M**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**6**	**7**	**20**	Cat IV	15		

Riverine HGM Class Wetland Rating Scores

Riverine HGM Class Wetland Rating Form Questions Water Quality Functions	BC-RB02-WA	CC-RB07-WC	CR-LB23-WA	HC-WE	Rating Score Key
R1.1 Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:	2	2	2	2	12-16=H
R1.2 Structure of plants in the wetland	3	8	8	6	6-11=M
R1 Total	**5**	**10**	**10**	**8**	0-5=L
Rating of Site Potential	**L**	**M**	**M**	**M**	
R2.1 Is the wetland within an incorporated city or within its UGA?	0	0	0	0	
R2.2 Does the contributing basin to the wetland include a UGA or incorporated area?	0	0	0	0	
R2.3 Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	0	0	0	0	3-6=H
R2.4 Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	0	0	0	0	1-2=M
R2.5 Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4	0	0	1	0	0=L
R2 Total	**0**	**0**	**1**	**0**	
Rating of Landscape Potential	**L**	**L**	**M**	**L**	
R3.1 Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	1	1	1	1	
R3.2 Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens?	1	1	1	1	2-4=H
R3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	1=M
R3 Total	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Riverine HGM Class Wetland Rating Scores

Riverine HGM Class Wetland Rating Form Questions Hydrologic Functions	BC-RB02-WA	CC-RB07-WC	CR-LB23-WA	HC-WE	Rating Score Key
R4.1 Characteristics of the overbank storage the wetland provides:	1	2	2	2	
R4.2 Characteristics of plants that slow down water velocities during floods:	7	7	7	7	12-16=H
R4 Total	**8**	**9**	**9**	**9**	6-11=M
Rating of Site Potential	**M**	**M**	**M**	**M**	0-5=L
R5.1 Is the stream or river adjacent to the wetland downcut?	1	1	1	1	
R5.2 Does the up-gradient watershed include a UGA or incorporated area?	0	0	0	0	3=H
R5.3 Is the up-gradient stream or river controlled by dams?	1	1	1	1	1-2=M
R5 Total	**2**	**2**	**2**	**2**	0=L
Rating of Landscape Potential	**M**	**M**	**M**	**M**	
R6.1 Distance to the nearest areas downstream that have flooding problems?	2	2	2	2	2-4=H
R6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	1=M
R6 Total	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Riverine HGM Class Wetland Rating Scores

Riverine HGM Class Wetland Rating Form Questions Habitat Functions	BC-RB02-WA	CC-RB07-WC	CR-LB23-WA	HC-WE	Rating Score Key
H1.1 Structure of plant community:	0	0	1	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	1	1	2	2	
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	15-18=H
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	7-14=M
H1.5 Special habitat features:	2	2	3	2	0-6=L
H1 Total	**6**	**6**	**9**	**8**	
Rating of Site Potential	**L**	**L**	**M**	**M**	
H2.1 Accessible habitat	3	3	0	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	<1=L
H2 Total	**6**	**6**	**3**	**6**	
Rating of Landscape Potential	**H**	**H**	**M**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Riverine HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
BC-RB02-WA	**Improving WQ**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**M**	**L**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**M**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**7**	**7**	**19**	Cat IV	15	HMM	7
							HML	6
CC-RB07-WC	**Improving WQ**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**M**	**M**	**L**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**M**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**7**	**7**	**20**	Cat IV	15	LLL	3
CR-LB23-WA	**Improving WQ**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**M**	**M**		Cat I	23-27		
Landscape Potential	**M**	**M**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**7**	**7**	**7**	**21**	Cat IV	15		
HC-WE	**Improving WQ**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**M**	**M**	**M**		Cat I	23-27		
Landscape Potential	**L**	**M**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**7**	**8**	**21**	Cat IV	15		

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CC-LB01-WA	CC-LB03-T2-WA	CC-LB04-WA	CC-LB04-WB	CC-LB05-WA	CC-LB06-WB	CC-LB07-WA	CC-LB10-WA	CC-LB12-WA	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	1	2	2	2	2	2	2	2	1	6-11=M
S1 Total	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**1**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	0	1	0	0	0	0	0	0	
S2 Total	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	1-2=M
Rating of Landscape Potential	**M**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CC-RB05-WA	CC-RB06-WA	CC-RB06-WB	CC-RB06-WC	CC-RB06-WD	CC-RB07-T1-WA	CC-RB07-WA	CC-RB07-WB	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	1	2	2	1	2	1	2	2	6-11=M
S1 Total	**1**	**2**	**2**	**1**	**2**	**1**	**2**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	0	0	0	0	0	0	0	
S2 Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1-2=M
Rating of Landscape Potential	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CC-LB01-WA	CC-LB03-T2-WA	CC-LB04-WA	CC-LB04-WB	CC-LB05-WA	CC-LB06-WB	CC-LB07-WA	CC-LB10-WA	CC-LB12-WA	Rating Score Key
Hydrologic Functions										
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CC-RB05-WA	CC-RB06-WA	CC-RB06-WB	CC-RB06-WC	CC-RB06-WD	CC-RB07-T1-WA	CC-RB07-WA	CC-RB07-WB	Rating Score Key
Hydrologic Functions									
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CC-LB01-WA	CC-LB03-T2-WA	CC-LB04-WA	CC-LB04-WB	CC-LB05-WA	CC-LB06-WB	CC-LB07-WA	CC-LB10-WA	CC-LB12-WA	Rating Score Key
Habitat Functions										
H1.1 Structure of plant community:	0	1	1	1	0	1	1	1	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	2	2	2	0-6=L
H1.5 Special habitat features:	2	3	2	2	3	2	2	3	2	
H1 Total	**7**	**9**	**8**	**8**	**8**	**8**	**8**	**9**	**7**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	3	2	2	2	1	1	3	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	0	<1=L
H2 Total	**6**	**5**	**5**	**5**	**4**	**4**	**6**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CC-RB05-WA	CC-RB06-WA	CC-RB06-WB	CC-RB06-WC	CC-RB06-WD	CC-RB07-T1-WA	CC-RB07-WA	CC-RB07-WB	Rating Score Key
Habitat Functions									
H1.1 Structure of plant community:	0	1	1	0	1	0	0	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	2	2	0-6=L
H1.5 Special habitat features:	2	2	2	2	3	2	2	2	
H1 Total	**7**	**8**	**8**	**7**	**9**	**7**	**7**	**7**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	1	1	1	3	3	3	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	<1=L
H2 Total	**4**	**4**	**4**	**6**	**6**	**6**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CC-WB	CC-WC	CC-WD	CC-WE	CC-WF	CC-WG	CC-WH	CC-WI	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	2	2	2	2	2	1	2	6-11=M
S1 Total	**2**	**2**	**2**	**2**	**2**	**2**	**1**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	1	0	0	0	0	0	1	
S2 Total	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	1-2=M
Rating of Landscape Potential	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CC-WB	CC-WC	CC-WD	CC-WE	CC-WF	CC-WG	CC-WH	CC-WI	Rating Score Key
Hydrologic Functions									
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CC-WB	CC-WC	CC-WD	CC-WE	CC-WF	CC-WG	CC-WH	CC-WI	Rating Score Key
Habitat Functions									
H1.1 Structure of plant community:	1	1	1	0	1	1	0	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	2	0	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	2	1	0-6=L
H1.5 Special habitat features:	3	2	3	2	3	2	2	0	
H1 Total	**9**	**8**	**9**	**7**	**9**	**8**	**7**	**2**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**L**	
H2.1 Accessible habitat	1	1	1	3	3	3	3	1	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	<1=L
H2 Total	**4**	**4**	**4**	**6**	**6**	**6**	**6**	**4**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CC-LB01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CC-LB03-T2-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
CC-LB04-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CC-LB04-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-LB05-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-LB06-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CC-LB07-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**8**	**18**	Cat IV	15	HMM	7
							HML	6
CC-LB10-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
CC-LB12-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-RB05-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CC-RB06-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-RB06-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CC-RB06-WC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**8**	**18**	Cat IV	15	HMM	7
							HML	6
CC-RB06-WD	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
CC-RB07-T1-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-RB07-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-RB07-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CC-WC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CC-WD	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
CC-WE	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-WF	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-WG	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CC-WH	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

CC-WI	Water Quality	Hydrologic	Habitat		Category		Rating Function Score Key Scores	Points
Site Potential	**L**	**L**	**L**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**7**	**18**	Cat IV	15	HMM	7
							HML	6
							MMM	6
							HLL	5
							MML	5
							MLL	4
							LLL	3

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CR-LB01-WA	CR-LB03-WA	CR-LB03-WB	CR-LB04-WA	CR-LB13-WA	CR-LB14-WA	CR-LB15-WA	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	1	1	1	1	2	1	6-11=M
S1 Total	**2**	**1**	**1**	**1**	**1**	**2**	**1**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	1	0	1	1	1	1	
S2 Total	**1**	**1**	**0**	**1**	**1**	**1**	**1**	1-2=M
Rating of Landscape Potential	**M**	**M**	**L**	**M**	**M**	**M**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CR-LB16-WA	CR-LB16-T1-WA	CR-LB18-WA	CR-LB19-WA	CR-LB21-WA	CR-LB25-WA	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	1	1	1	2	2	2	6-11=M
S1 Total	**1**	**1**	**1**	**2**	**2**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	0	1	1	1	1	
S2 Total	**1**	**0**	**1**	**1**	**1**	**1**	1-2=M
Rating of Landscape Potential	**M**	**L**	**M**	**M**	**M**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-LB01-WA	CR-LB03-WA	CR-LB03-WB	CR-LB04-WA	CR-LB13-WA	CR-LB14-WA	CR-LB15-WA	Rating Score Key
Hydrologic Functions								
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-LB16-WA	CR-LB16-T1-WA	CR-LB18-WA	CR-LB19-WA	CR-LB21-WA	CR-LB25-WA	Rating Score Key
Hydrologic Functions							
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-LB01-WA	CR-LB03-WA	CR-LB03-WB	CR-LB04-WA	CR-LB13-WA	CR-LB14-WA	CR-LB15-WA	Rating Score Key
Habitat Functions								
H1.1 Structure of plant community:	1	0	0	0	1	1	2	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	3	0-6=L
H1.5 Special habitat features:	3	2	2	2	2	2	3	
H1 Total	**9**	**7**	**7**	**7**	**8**	**8**	**11**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	1	1	1	1	0	0	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	<1=L
H2 Total	**4**	**4**	**4**	**4**	**3**	**3**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**M**	**M**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-LB16-WA	CR-LB16-T1-WA	CR-LB18-WA	CR-LB19-WA	CR-LB21-WA	CR-LB25-WA	Rating Score Key
Habitat Functions							
H1.1 Structure of plant community:	2	0	0	1	1	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	3	2	2	2	2	1	0-6=L
H1.5 Special habitat features:	3	2	2	2	2	0	
H1 Total	**11**	**7**	**7**	**8**	**8**	**4**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**L**	
H2.1 Accessible habitat	3	3	3	3	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	<1=L
H2 Total	**6**	**6**	**6**	**6**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CR-RB01-WA	CR-RB08-T3-WA	CR-RB08-T5-WA	CR-RB09-WA	CR-RB09-WB	CR-RB10-T1-WA	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	1	1	1	1	1	6-11=M
S1 Total	**2**	**1**	**1**	**1**	**1**	**1**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	0	0	1	0	0	
S2 Total	**1**	**0**	**0**	**1**	**0**	**0**	1-2=M
Rating of Landscape Potential	**M**	**L**	**L**	**M**	**L**	**L**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CR-RB10-T1-WB	CR-S01-WA	CR-S02-WA	CR-S04-WA	CR-S16-WA	CR-S23-WA	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	2	2	1	2	2	6-11=M
S1 Total	**2**	**2**	**2**	**1**	**2**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0	1	1	1	0	0	
S2 Total	**0**	**1**	**1**	**1**	**0**	**0**	1-2=M
Rating of Landscape Potential	**L**	**M**	**M**	**M**	**L**	**L**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	0	0	0	0	0	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	1=M
S3 Total	**4**	**3**	**3**	**3**	**3**	**3**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-RB01-WA	CR-RB08-T3-WA	CR-RB08-T5-WA	CR-RB09-WA	CR-RB09-WB	CR-RB10-T1-WA	Rating Score Key
Hydrologic Functions							
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-RB10-T1-WB	CR-S01-WA	CR-S02-WA	CR-S04-WA	CR-S16-WA	CR-S23-WA	Rating Score Key
Hydrologic Functions							
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-RB01-WA	CR-RB08-T3-WA	CR-RB08-T5-WA	CR-RB09-WA	CR-RB09-WB	CR-RB10-T1-WA	Rating Score Key
Habitat Functions							
H1.1 Structure of plant community:	0	0	0	1	1	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	0-6=L
H1.5 Special habitat features:	3	2	2	2	2	2	
H1 Total	**8**	**7**	**7**	**8**	**8**	**8**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	1	3	3	3	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	<1=L
H2 Total	**4**	**6**	**6**	**6**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	CR-RB10-T1-WB	CR-S01-WA	CR-S02-WA	CR-S04-WA	CR-S16-WA	CR-S23-WA	Rating Score Key
Habitat Functions							
H1.1 Structure of plant community:	1	1	2	0	0	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	3	2	2	2	0-6=L
H1.5 Special habitat features:	3	2	3	2	2	2	
H1 Total	**9**	**8**	**11**	**7**	**7**	**8**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	3	1	2	2	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	<1=L
H2 Total	**6**	**4**	**5**	**5**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CR-WA	CR-WB	CR-WC	CR-WD	CR-WE	CR-WF	CR-WG	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	2	2	2	2	2	2	6-11=M
S1 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	1	1	1	1	1	1	
S2 Total	**1**	**1**	**1**	**1**	**1**	**1**	**1**	1-2=M
Rating of Landscape Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	CR-WH	CR-WI	CR-WJ	CR-WK	CR-WL	CR-WM	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	2	2	2	2	2	6-11=M
S1 Total	**2**	**2**	**2**	**2**	**2**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	1	1	1	1	1	
S2 Total	**1**	**1**	**1**	**1**	**1**	**1**	1-2=M
Rating of Landscape Potential	**M**	**M**	**M**	**M**	**M**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Hydrologic Functions	CR-WA	CR-WB	CR-WC	CR-WD	CR-WE	CR-WF	CR-WG	Rating Score Key
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
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Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions **Hydrologic Functions**	CR-WH	CR-WI	CR-WJ	CR-WK	CR-WL	CR-WM	**Rating Score Key**
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
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Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Habitat Functions	CR-WA	CR-WB	CR-WC	CR-WD	CR-WE	CR-WF	CR-WG	Rating Score Key
H1.1 Structure of plant community:	0	1	1	1	1	1	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	2	0-6=L
H1.5 Special habitat features:	2	3	3	3	3	3	2	
H1 Total	**7**	**9**	**9**	**9**	**9**	**9**	**8**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	2	1	1	1	1	1	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	<1=L
H2 Total	**5**	**4**	**4**	**4**	**4**	**4**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Habitat Functions	CR-WH	CR-WI	CR-WJ	CR-WK	CR-WL	CR-WM	Rating Score Key
H1.1 Structure of plant community:	1	1	1	1	1	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	0-6=L
H1.5 Special habitat features:	2	2	2	2	3	3	
H1 Total	**8**	**8**	**8**	**8**	**9**	**9**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	3	3	3	3	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	<1=L
H2 Total	**6**	**6**	**6**	**6**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
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Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-LB01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**H**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**M**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CR-LB03-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**H**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**M**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3
CR-LB03-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**L**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CR-LB04-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**M**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-LB13-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**M**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**M**	**Total**	Cat III	16-19		
Score	**6**	**5**	**7**	**18**	Cat IV	15		
CR-LB14-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**M**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**M**	**Total**	Cat III	16-19		
Score	**6**	**5**	**7**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-LB15-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**H**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**M**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CR-LB16-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**H**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**M**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3
CR-LB16-T1-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**L**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CR-LB18-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**L**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CR-LB19-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**M**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-LB21-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**H**		Cat I	23-27		
Landscape Potential	**M**	**L**	**M**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-LB25-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**H**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**L**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**7**	**18**	Cat IV	15	HMM	7
							HML	6
CR-RB01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3
CR-RB08-T3-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CR-RB08-T5-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
CR-RB09-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-RB09-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-RB10-T1-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**8**	**18**	Cat IV	15	HMM	7
							HML	6
CR-RB10-T1-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
CR-S01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-S02-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-S04-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-S16-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-S23-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**8**	**18**	Cat IV	15	HMM	7
							HML	6
CR-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3
CR-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-WC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-WD	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-WE	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-WF	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CR-WG	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3
CR-WH	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-WI	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-WJ	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		
CR-WK	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
CR-WL	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
CR-WM	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**6**	**5**	**8**	**19**	Cat IV	15	LLL	3

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	HC-WA	HC-WB	HC-WC	HC-WD	LC-LB01-WA	LC-WA	LC-WB	RC-RB01-WA	SC-RB01-WA	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	1	2	1	2	2	2	2	2	2	6-11=M
S1 Total	**1**	**2**	**1**	**2**	**2**	**2**	**2**	**2**	**2**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0	0	0	0	0	0	0	0	0	
S2 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1-2=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1	1	1	1	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	2	2	1=M
S3 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	HC-WA	HC-WB	HC-WC	HC-WD	LC-LB01-WA	LC-WA	LC-WB	RC-RB01-WA	SC-RB01-WA	Rating Score Key
Hydrologic Functions										
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions	HC-WA	HC-WB	HC-WC	HC-WD	LC-LB01-WA	LC-WA	LC-WB	RC-RB01-WA	SC-RB01-WA	Rating Score Key
Habitat Functions										
H1.1 Structure of plant community:	0	1	0	1	1	1	2	1	1	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	2	2	2	2	2	2	2	2	2	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	2	2	2	2	2	2	0-6=L
H1.5 Special habitat features:	2	2	2	3	2	3	3	2	2	
H1 Total	**7**	**8**	**7**	**9**	**8**	**9**	**10**	**8**	**8**	
Rating of Site Potential	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	
H2.1 Accessible habitat	2	2	2	3	2	1	2	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	0	<1=L
H2 Total	**5**	**5**	**5**	**6**	**5**	**4**	**5**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
HC-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**8**	**18**	Cat IV	15	HMM	7
							HML	6
HC-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
HC-WC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
HC-WD	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
LC-LB01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
LC-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
LC-WB	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**8**	**18**	Cat IV	15	HMM	7
							HML	6
RC-RB01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
SC-RB01-WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	WA	WC	WD	WE	WF	WH	WJ	WK	WL	WM	WN	WO	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	2	2	2	1	1	2	1	2	2	2	2	1	6-11=M
S1 Total	**2**	**2**	**2**	**1**	**1**	**2**	**1**	**2**	**2**	**2**	**2**	**1**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	0	0	0	0	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	0	0	1	1	1	0	0	0	0	0	1	
S2 Total	**1**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	1-2=M
Rating of Landscape Potential	**M**	**L**	**L**	**M**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0	0	0	0	1	1	0	1	0	0	0	0	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	2	2	2	2	2	1=M
S3 Total	**3**	**3**	**3**	**3**	**4**	**4**	**3**	**4**	**3**	**3**	**3**	**3**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Water Quality Functions	WP	WQ	WR	WS	WU	WX	WZ	WAD	WAE	WAH	WAI	Rating Score Key
S1.1 Characteristics of the average slope of the wetland:	0	0	0	0	0	0	0	0	0	0	0	
S1.2 The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):	0	0	0	0	0	0	0	0	0	0	0	12=H
S1.3 Characteristics of the plants in the wetland that trap sediments and pollutants:	1	1	2	1	1	2	1	2	2	2	1	6-11=M
S1 Total	**1**	**1**	**2**	**1**	**1**	**2**	**1**	**2**	**2**	**2**	**1**	0-5=L
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	
S2.1 Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0	0	0	0	0	0	0	0	0	0	1	
S2.2 Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1	1	1	1	0	1	1	1	1	0	1	
S2 Total	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**0**	**2**	1-2=M
Rating of Landscape Potential	**M**	**M**	**M**	**M**	**L**	**M**	**M**	**M**	**M**	**L**	**M**	0=L
S3.1 Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0	0	0	1	0	0	1	1	1	1	1	
S3.2 Is the wetland in a basin or sub-basin where water quality is an issue?	1	1	1	1	1	1	1	1	1	1	1	2-4=H
S3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality?	2	2	2	2	2	2	2	2	2	2	2	1=M
S3 Total	**3**	**3**	**3**	**4**	**3**	**3**	**4**	**4**	**4**	**4**	**4**	0=L
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Hydrologic Functions	WA	WC	WD	WE	WF	WH	WJ	WK	WL	WM	WN	WO	Rating Score Key
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Hydrologic Functions	WP	WQ	WR	WS	WU	WX	WZ	WAD	WAE	WAH	WAI	Rating Score Key
S4.1 Characteristics of plants that reduce the velocity of surface flows during storms:	0	0	0	0	0	0	0	0	0	0	0	
S4 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S5.1 Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0	0	0	0	0	0	0	0	0	0	0	
S5 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1=M
Rating of Landscape Potential	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	0=L
S6.1 Distance to the nearest areas downstream that have flooding problems:	2	2	2	2	2	2	2	2	2	2	2	
S6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2	2	2	2	2	2	2	2	2	2	2	2-4=H
S6 Total	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	1-2=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Habitat Functions	WA	WC	WD	WE	WF	WH	WJ	WK	WL	WM	WN	WO	Rating Score Key
H1.1 Structure of plant community:	1	1	1	0	0	1	0	1	1	1	0	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	1	1	1	1	1	1	1	1	1	1	1	1	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	0	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	2	2	2	1	0	2	1	2	2	2	1	1	0-6=L
H1.5 Special habitat features:	2	2	2	2	0	2	2	3	3	2	2	1	
H1 Total	**7**	**7**	**7**	**5**	**1**	**7**	**5**	**8**	**8**	**7**	**5**	**4**	
Rating of Site Potential	**M**	**M**	**M**	**L**	**L**	**M**	**L**	**M**	**M**	**M**	**L**	**L**	
H2.1 Accessible habitat	1	3	3	3	1	1	3	1	3	3	3	1	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	0	0	0	0	<1=L
H2 Total	**4**	**6**	**6**	**6**	**4**	**4**	**6**	**4**	**6**	**6**	**6**	**4**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores

Slope HGM Class Wetland Rating Form Questions Habitat Functions	WP	WQ	WR	WS	WU	WX	WZ	WAD	WAE	WAH	WAI	Rating Score Key
H1.1 Structure of plant community:	0	0	1	0	0	1	0	1	1	1	0	
H1.2 Check the types of water regimes (hydroperiods) present within the wetland.	1	1	1	1	1	1	1	1	1	1	1	15-18=H
H1.3 Count the number of plant species in the wetland that cover at least 10 ft2.	1	1	1	1	1	1	1	1	1	1	1	7-14=M
H1.4 Decide from the diagrams below whether interspersion among Cowardin plants classes	1	1	2	1	1	2	1	2	2	2	1	0-6=L
H1.5 Special habitat features:	2	2	1	2	2	2	2	3	2	2	0	
H1 Total	**5**	**5**	**6**	**5**	**5**	**7**	**5**	**8**	**7**	**7**	**3**	
Rating of Site Potential	**L**	**L**	**L**	**L**	**L**	**M**	**L**	**M**	**M**	**M**	**L**	
H2.1 Accessible habitat	2	2	2	1	2	2	3	3	3	3	3	4-6=H
H2.2 Undisturbed habitat in 1 km Polygon around the wetland.	3	3	3	3	3	3	3	3	3	3	3	1-3=M
H2.3 Land use intensity in 1 km Polygon:	0	0	0	0	0	0	0	0	0	0	0	<1=L
H2 Total	**5**	**5**	**5**	**4**	**5**	**5**	**6**	**6**	**6**	**6**	**6**	
Rating of Landscape Potential	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	
H3.1 Does the site provide habitat for species valued in laws, regulations, or policies?	2	2	2	2	2	2	2	2	2	2	2	2=H
H3 Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	1=M
Rating of Value	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	0=L

Notes:
H=High
M=Medium
L=Low

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
WA	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**M**		Cat I	23-27	HHH	9
Landscape Potential	**M**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**6**	**5**	**8**	**19**	Cat IV	15	HMM	7
							HML	6
WC	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
WD	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
WE	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**7**	**18**	Cat IV	15		
WF	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**7**	**18**	Cat IV	15		
WH	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**8**	**19**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

							Rating Function Score Key	
WJ	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		**Scores**	**Points**
Site Potential	**L**	**L**	**L**		Cat I	23-27	HHH	9
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	HHM	8
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	HHL	7
Score	**5**	**5**	**7**	**17**	Cat IV	15	HMM	7
							HML	6
WK	**Water Quality**	**Hydrologic**	**Habitat**		**Category**		MMM	6
Site Potential	**L**	**L**	**M**		Cat I	23-27	HLL	5
Landscape Potential	**L**	**L**	**H**		Cat II	20-22	MML	5
Value	**H**	**H**	**H**	**Total**	Cat III	16-19	MLL	4
Score	**5**	**5**	**8**	**18**	Cat IV	15	LLL	3
WL	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
WM	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**M**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**8**	**18**	Cat IV	15		
WN	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**L**		Cat I	23-27		
Landscape Potential	**L**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**5**	**5**	**7**	**17**	Cat IV	15		
WO	**Water Quality**	**Hydrologic**	**Habitat**		**Category**			
Site Potential	**L**	**L**	**L**		Cat I	23-27		
Landscape Potential	**M**	**L**	**H**		Cat II	20-22		
Value	**H**	**H**	**H**	**Total**	Cat III	16-19		
Score	**6**	**5**	**7**	**18**	Cat IV	15		

Slope HGM Class Wetland Rating Scores and Categories

WP	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**L**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**7**	**18**	Cat IV	15

WQ	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**L**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**7**	**18**	Cat IV	15

WR	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**L**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**7**	**18**	Cat IV	15

WS	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**L**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**7**	**18**	Cat IV	15

WU	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**L**		Cat I	23-27
Landscape Potential	**L**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**5**	**5**	**7**	**17**	Cat IV	15

WX	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**M**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**8**	**19**	Cat IV	15

Rating Function Score Key	
Scores	**Points**
HHH	9
HHM	8
HHL	7
HMM	7
HML	6
MMM	6
HLL	5
MML	5
MLL	4
LLL	3

Slope HGM Class Wetland Rating Scores and Categories

WZ	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**M**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**8**	**19**	Cat IV	15

WAD	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**M**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**8**	**19**	Cat IV	15

WAE	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**M**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**8**	**19**	Cat IV	15

WAH	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**M**		Cat I	23-27
Landscape Potential	**L**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**5**	**5**	**8**	**18**	Cat IV	15

WAI	Water Quality	Hydrologic	Habitat		Category	
Site Potential	**L**	**L**	**L**		Cat I	23-27
Landscape Potential	**M**	**L**	**H**		Cat II	20-22
Value	**H**	**H**	**H**	**Total**	Cat III	16-19
Score	**6**	**5**	**7**	**18**	Cat IV	15

Rating Function Score Key	
Scores	**Points**
HHH	9
HHM	8
HHL	7
HMM	7
HML	6
MMM	6
HLL	5
MML	5
MLL	4
LLL	3

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A (Chehalis Airport Levee) Date of site visit: 06/27/2017

Rated by Joseph R. Pursley & Julie Fox Trained by Ecology? ☒ Yes ☐ No Date of training 06/2015

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

X **Category II** – Total score = 20 - 22

_____**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	**TOTAL**
Score Based on Ratings	7			9			4			**20**

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

◉ NO – go to 2 ○ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

○ **NO – Saltwater Tidal Fringe (Estuarine)** ○ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

◉ NO – go to 3 ○ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

◉ NO – go to 4 ○ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

◉ NO – go to 5 ○ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

◉ NO – go to 6 ○ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

○ NO – go to 7 ◉ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

◉ NO – go to 8 ○ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	0
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1 Add the points in the boxes above	**5**

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☒ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source pesticides, herbicides, and fertilizers Yes = 1 No = 0	1
Total for D 2 Add the points in the boxes above	**3**

Rating of Landscape Potential If score is: ☒ **3 or 4 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	**3**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	5
Total for D 4 Add the points in the boxes above	**12**

Rating of Site Potential If score is: ☒ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	**3**

Rating of Landscape Potential If score is: ☒ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	2
Total for D 6 Add the points in the boxes above	**4**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

R 1.0. Does the site have the potential to improve water quality?	
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:	
Depressions cover > $^3/_4$ area of wetland — points = 8	
Depressions cover > ½ area of wetland — points = 4	
Depressions present but cover < ½ area of wetland — points = 2	
No depressions present — points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height, **not** Cowardin classes)	
Trees or shrubs > $^2/_3$ area of the wetland — points = 8	
Trees or shrubs > $^1/_3$ area of the wetland — points = 6	
Herbaceous plants (> 6 in high) > $^2/_3$ area of the wetland — points = 6	
Herbaceous plants (> 6 in high) > $^1/_3$ area of the wetland — points = 3	
Trees, shrubs, and ungrazed herbaceous < $^1/_3$ area of the wetland — points = 0	
Total for R 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

R 2.0. Does the landscape have the potential to support the water quality function of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = 2 No = 0	
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area? Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years? Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4 Other sources _____ Yes = 1 No = 0	
Total for R 2 — Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **3-6 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

R 3.0. Is the water quality improvement provided by the site valuable to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi? Yes = 1 No = 0	
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens? Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (*answer YES if there is a TMDL for the drainage in which the unit is found*) Yes = 2 No = 0	
Total for R 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion

R 4.0. Does the site have the potential to reduce flooding and erosion?

R 4.1. Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).* If the ratio is more than 20 points = 9 If the ratio is 10-20 points = 6 If the ratio is 5-<10 points = 4 If the ratio is 1-<5 points = 2 If the ratio is < 1 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have >90% cover at person height. These are NOT Cowardin classes).* Forest or shrub for > $^1/_3$ area OR emergent plants > $^2/_3$ area points = 7 Forest or shrub for > $^1/_{10}$ area OR emergent plants > $^1/_3$ area points = 4 Plants do not meet above criteria points = 0	
Total for R 4 Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

R 5.1. Is the stream or river adjacent to the wetland downcut? Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1	
Total for R 5 Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

R 6.0. Are the hydrologic functions provided by the site valuable to society?

R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site*. The sub-basin immediately down-gradient of the wetland has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for R 6 Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

LAKE FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

L 1.0. Does the site have the potential to improve water quality?	
L 1.1. Average width of plants along the lakeshore *(use polygons of Cowardin classes)*: Plants are more than 33 ft (10 m) wide — points = 6 Plants are more than 16 ft (5 m) wide and <33 ft — points = 3 Plants are more than 6 ft (2 m) wide and <16 ft — points = 1 Plants are less than 6 ft wide — points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. *These are not Cowardin classes. Area of cover is total cover in the unit, but it can be in patches. Herbaceous does not include aquatic bed.* Cover of herbaceous plants is >90% of the vegetated area — points = 6 Cover of herbaceous plants is $>^{2}/_{3}$ of the vegetated area — points = 4 Cover of herbaceous plants is $>^{1}/_{3}$ of the vegetated area — points = 3 Other plants that are not aquatic bed > $^{2}/_{3}$ unit — points = 3 Other plants that are not aquatic bed in > $^{1}/_{3}$ vegetated area — points = 1 Aquatic bed plants and open water cover > $^{2}/_{3}$ of the unit — points = 0	
Total for L 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **8-12 = H** ☐ **4-7 = M** ☐ **0-3 = L** *Record the rating on the first page*

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats? Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland unit on the upland side in land uses that generate pollutants? Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plant growth such as milfoil? Yes = 1 No = 0	
Total for L 2 — Add the points in the boxes above	

Rating of Landscape Potential: If score is: ☐ **2 or 3 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

L 3.0. Is the water quality improvement provided by the site valuable to society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources? Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the basin is on the 303(d) list)? Yes = 1 No = 0	
L 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the lake or basin in which the unit is found.* Yes = 2 No = 0	
Total for L 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

LAKE FRINGE WETLANDS

Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosion

L 4.0. Does the site have the potential to reduce shoreline erosion?	
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (**do not** include Aquatic bed): *Choose the highest scoring description that matches conditions in the wetland.*	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide — points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 4	
Plants are at least 6 ft (2 m) wide (any type except Aquatic bed) — points = 2	
Plants are less than 6 ft (2 m) wide (any type except Aquatic bed) — points = 0	

Rating of Site Potential: If score is: ☐ **6 = M** ☐ **0-5 = L** *Record the rating on the first page*

L 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the unit at least 1 mile in distance?	Yes = 1 No = 0	
Total for L 5	Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources along the shore that can be impacted by erosion? If more than one resource is present, choose the one with the highest score.	
There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the unit — points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM — points = 1	
Other resources that could be impacted by erosion — points = 1	
There are no resources that can be impacted by erosion along the shores of the unit — points = 0	

Rating of Value: If score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*) Slope is 1% or less — points = 3 Slope is > 1%-2% — points = 2 Slope is > 2%-5% — points = 1 Slope is greater than 5% — points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area — points = 6 Dense, uncut, herbaceous plants > ½ of area — points = 3 Dense, woody, plants > ½ of area — points = 2 Dense, uncut, herbaceous plants > ¼ of area — points = 1 Does not meet any of the criteria above for plants — points = 0	
Total for S 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____ Yes = 1 No = 0	
Total for S 2 — Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **1-2 = M** ☐ **0 = L** *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list*. Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the basin in which unit is found.* Yes = 2 No = 0	
Total for S 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland — points = 1 All other conditions — points = 0	

Rating of Site Potential If score is: ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	

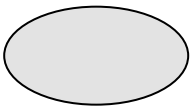
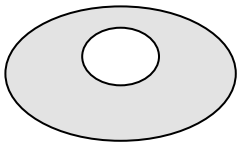
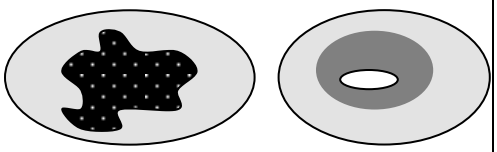
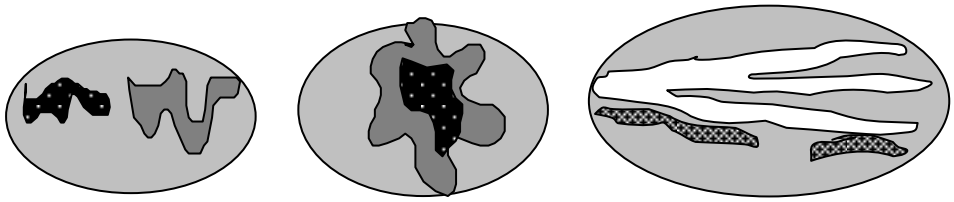
Rating of Landscape Potential If score is: ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) — points = 2 Surface flooding problems are in a sub-basin farther down-gradient — points = 1 No flooding problems anywhere downstream — points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 __X__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	0
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*). ____Permanently flooded or inundated — 4 or more types present: points = 3 ____Seasonally flooded or inundated — 3 types present: points = 2 __X__Occasionally flooded or inundated — 2 types present: points = 1 __X__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Seasonally flowing stream in, or adjacent to, the wetland ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland** — **2 points**	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	1

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* __X__At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	1
Total for H 1 Add the points in the boxes above	**4**

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☒ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat___ **+** [(% moderate and low intensity land uses)/2]___ **=** _____% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat___ **+** [(% moderate and low intensity land uses)/2]___ **=** _____% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	0
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	**-2**

Rating of Landscape Potential If score is: ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	**1**

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt ◯Yes –Go to **SC 1.1** ◉No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ◯Yes = **Category I** ◯No - Go to **SC 1.2**	◯**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ◯Yes = **Category I** ◉No = **Category II**	◯**Cat. I** ◯**Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ◯Yes – Go to **SC 2.2** ◉No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ◯Yes = **Category I** ◉No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ◯Yes – **Contact WNHP/WDNR and go to SC 2.4** ◉No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ◯Yes = **Category I** ◉No = **Not a WHCV**	◯**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ◯Yes – Go to **SC 3.3** ◉No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ◯Yes – Go to **SC 3.3** ◉No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ◯Yes = **Is a Category I bog** ◉No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ◯Yes = **Is a Category I bog** ◉No = **Is not a bog**	◯**Cat. I**

Wetland name or number A

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** — **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ○ Yes = **Category I** ◉ No = **Not a forested wetland for this section**	○ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ○ Yes – Go to **SC 5.1** ◉ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ○ Yes = **Category I** ◉ No = **Category II**	○ **Cat. I** ○ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ○ Yes – Go to **SC 6.1** ◉ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ○ Yes = **Category I** ◉ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ○ Yes = **Category II** ◉ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ○ Yes = **Category III** ◉ No = **Category IV**	○ **Cat I** ○ **Cat. II** ○ **Cat. III** ○ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

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Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B (Chehalis Airport Levee) Date of site visit: 06/27/2017

Rated by Joseph R. Pursley & Julie Fox Trained by Ecology? ☒ Yes ☐ No Date of training 06/2015

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY II (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

X **Category II** – Total score = 20 - 22

_____**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	**TOTAL**
Score Based on Ratings	8			8			5			**21**

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	

Wetland name or number B

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number B

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

◉ NO – go to 2 ○ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

○ **NO – Saltwater Tidal Fringe (Estuarine)** ○ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

◉ NO – go to 3 ○ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

◉ NO – go to 4 ○ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

◉ NO – go to 5 ○ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number B

◉ NO – go to 6 ○ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

○ NO – go to 7 ◉ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

◉ NO – go to 8 ○ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1 Add the points in the boxes above	**7**

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source pesticides, herbicides, and fertilizers Yes = 1 No = 0	1
Total for D 2 Add the points in the boxes above	**3**

Rating of Landscape Potential If score is: ☒ **3 or 4 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	**4**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	5
Total for D 4 Add the points in the boxes above	**10**

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	**3**

Rating of Landscape Potential If score is: ☒ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	2
Total for D 6 Add the points in the boxes above	**4**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

R 1.0. Does the site have the potential to improve water quality?	
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:	
Depressions cover > $^3/_4$ area of wetland — points = 8	
Depressions cover > ½ area of wetland — points = 4	
Depressions present but cover < ½ area of wetland — points = 2	
No depressions present — points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height, **not** Cowardin classes)	
Trees or shrubs > $^2/_3$ area of the wetland — points = 8	
Trees or shrubs > $^1/_3$ area of the wetland — points = 6	
Herbaceous plants (> 6 in high) > $^2/_3$ area of the wetland — points = 6	
Herbaceous plants (> 6 in high) > $^1/_3$ area of the wetland — points = 3	
Trees, shrubs, and ungrazed herbaceous < $^1/_3$ area of the wetland — points = 0	
Total for R 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

R 2.0. Does the landscape have the potential to support the water quality function of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = 2 No = 0	
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area? Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years? Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4 Other sources _____ Yes = 1 No = 0	
Total for R 2 — Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **3-6 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

R 3.0. Is the water quality improvement provided by the site valuable to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi? Yes = 1 No = 0	
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens? Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (*answer YES if there is a TMDL for the drainage in which the unit is found*) Yes = 2 No = 0	
Total for R 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion

R 4.0. Does the site have the potential to reduce flooding and erosion?

R 4.1. Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).* If the ratio is more than 20 points = 9 If the ratio is 10-20 points = 6 If the ratio is 5-<10 points = 4 If the ratio is 1-<5 points = 2 If the ratio is < 1 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have >90% cover at person height. These are NOT Cowardin classes).* Forest or shrub for > $^1/_3$ area OR emergent plants > $^2/_3$ area points = 7 Forest or shrub for > $^1/_{10}$ area OR emergent plants > $^1/_3$ area points = 4 Plants do not meet above criteria points = 0	
Total for R 4 Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

R 5.1. Is the stream or river adjacent to the wetland downcut? Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1	
Total for R 5 Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

R 6.0. Are the hydrologic functions provided by the site valuable to society?

R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site*. The sub-basin immediately down-gradient of the wetland has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for R 6 Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

LAKE FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

L 1.0. Does the site have the potential to improve water quality?	
L 1.1. Average width of plants along the lakeshore *(use polygons of Cowardin classes)*: Plants are more than 33 ft (10 m) wide — points = 6 Plants are more than 16 ft (5 m) wide and <33 ft — points = 3 Plants are more than 6 ft (2 m) wide and <16 ft — points = 1 Plants are less than 6 ft wide — points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. *These are not Cowardin classes. Area of cover is total cover in the unit, but it can be in patches. Herbaceous does not include aquatic bed.* Cover of herbaceous plants is >90% of the vegetated area — points = 6 Cover of herbaceous plants is >$^{2}/_{3}$ of the vegetated area — points = 4 Cover of herbaceous plants is >$^{1}/_{3}$ of the vegetated area — points = 3 Other plants that are not aquatic bed > $^{2}/_{3}$ unit — points = 3 Other plants that are not aquatic bed in > $^{1}/_{3}$ vegetated area — points = 1 Aquatic bed plants and open water cover > $^{2}/_{3}$ of the unit — points = 0	
Total for L 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **8-12 = H** ☐ **4-7 = M** ☐ **0-3 = L** *Record the rating on the first page*

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats? Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland unit on the upland side in land uses that generate pollutants? Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plant growth such as milfoil? Yes = 1 No = 0	
Total for L 2 — Add the points in the boxes above	

Rating of Landscape Potential: If score is: ☐ **2 or 3 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

L 3.0. Is the water quality improvement provided by the site valuable to society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources? Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the basin is on the 303(d) list)? Yes = 1 No = 0	
L 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the lake or basin in which the unit is found.* Yes = 2 No = 0	
Total for L 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

LAKE FRINGE WETLANDS

Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosion

L 4.0. Does the site have the potential to reduce shoreline erosion?	
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (**do not** include Aquatic bed): *Choose the highest scoring description that matches conditions in the wetland.*	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide — points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 4	
Plants are at least 6 ft (2 m) wide (any type except Aquatic bed) — points = 2	
Plants are less than 6 ft (2 m) wide (any type except Aquatic bed) — points = 0	

Rating of Site Potential: If score is: ☐ **6 = M** ☐ **0-5 = L** *Record the rating on the first page*

L 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
L 5.1. Is the lake used by power boats with more than 10 hp? Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the unit at least 1 mile in distance? Yes = 1 No = 0	
Total for L 5 — Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources along the shore that can be impacted by erosion? If more than one resource is present, choose the one with the highest score.	
There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the unit — points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM — points = 1	
Other resources that could be impacted by erosion — points = 1	
There are no resources that can be impacted by erosion along the shores of the unit — points = 0	

Rating of Value: If score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number B

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*) Slope is 1% or less points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3 Dense, woody, plants > ½ of area points = 2 Dense, uncut, herbaceous plants > ¼ of area points = 1 Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____ Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **1-2 = M** ☐ **0 = L** *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list*. Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the basin in which unit is found.* Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0	

Rating of Site Potential If score is: ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	

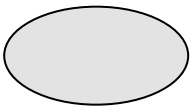
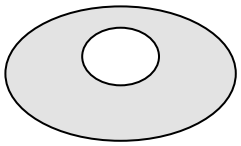
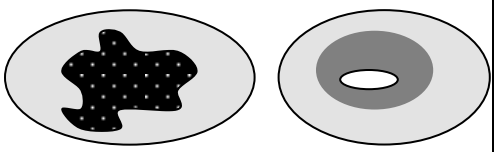
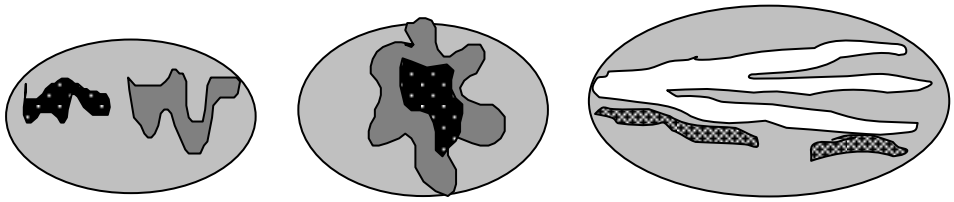
Rating of Landscape Potential If score is: ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number B

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* __X__Aquatic bed — 4 structures or more: points = 4 __X__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	1
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*). __X__Permanently flooded or inundated — 4 or more types present: points = 3 __X__Seasonally flooded or inundated — 3 types present: points = 2 __X__Occasionally flooded or inundated — 2 types present: points = 1 __X__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Seasonally flowing stream in, or adjacent to, the wetland ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland** — **2 points**	3
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	2

Wetland name or number B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* __X__Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* __X__At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	2
Total for H 1 Add the points in the boxes above	**9**

Rating of Site Potential If score is: ☐ **15-18 = H** ☒ **7-14 = M** ☐ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat___ **+** [(% moderate and low intensity land uses)/2]___ **=** _____% If total accessible habitat is: > $^1/_3$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat___ **+** [(% moderate and low intensity land uses)/2]___ **=** _____% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	0
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	**-2**

Rating of Landscape Potential If score is: ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	**1**

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number B

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt ◯Yes –Go to **SC 1.1** ◉No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ◯Yes = **Category I** ◯No - Go to **SC 1.2**	◯**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ◯Yes = **Category I** ◉No = **Category II**	◯**Cat. I** ◯**Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ◯Yes – Go to **SC 2.2** ◉No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ◯Yes = **Category I** ◉No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ◯Yes – **Contact WNHP/WDNR and go to SC 2.4** ◉No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ◯Yes = **Category I** ◉No = **Not a WHCV**	◯**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ◯Yes – Go to **SC 3.3** ◉No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ◯Yes – Go to **SC 3.3** ◉No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ◯Yes = **Is a Category I bog** ◉No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ◯Yes = **Is a Category I bog** ◉No = **Is not a bog**	◯**Cat. I**

Wetland name or number B

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** — **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ○ Yes = **Category I** ◉ No = **Not a forested wetland for this section**	○ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ○ Yes – Go to **SC 5.1** ◉ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ○ Yes = **Category I** ◉ No = **Category II**	○ **Cat. I** ○ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ○ Yes – Go to **SC 6.1** ◉ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ○ Yes = **Category I** ◉ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ○ Yes = **Category II** ◉ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ○ Yes = **Category III** ◉ No = **Category IV**	○ **Cat I** ○ **Cat. II** ○ **Cat. III** ○ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

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Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C (Chehalis Airport Levee) Date of site visit: 06/27/2017

Rated by Joseph R. Pursley & Julie Fox Trained by Ecology? ☒ Yes ☐ No Date of training 06/2015

HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

X **Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	M	L	H	M	L	H	M	L	
Landscape Potential	H	M	L	H	M	L	H	M	L	
Value	H	M	L	H	M	L	H	M	L	**TOTAL**
Score Based on Ratings	7			8			4			**19**

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	

Wetland name or number C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number C

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

◉ NO – go to 2 ○ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

○ **NO – Saltwater Tidal Fringe (Estuarine)** ○ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

◉ NO – go to 3 ○ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

◉ NO – go to 4 ○ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

◉ NO – go to 5 ○ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☒ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number C

◉ NO – go to 6 ○ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

○ NO – go to 7 ◉ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

◉ NO – go to 8 ○ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1 Add the points in the boxes above	**9**

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	**2**

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? Yes = 2 No = 0	2
Total for D 3 Add the points in the boxes above	**3**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	**8**

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 Add the points in the boxes above	**3**

Rating of Landscape Potential If score is: ☒ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	2
Total for D 6 Add the points in the boxes above	**4**

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

R 1.0. Does the site have the potential to improve water quality?	
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:	
Depressions cover > $^3/_4$ area of wetland — points = 8	
Depressions cover > ½ area of wetland — points = 4	
Depressions present but cover < ½ area of wetland — points = 2	
No depressions present — points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height, **not** Cowardin classes)	
Trees or shrubs > $^2/_3$ area of the wetland — points = 8	
Trees or shrubs > $^1/_3$ area of the wetland — points = 6	
Herbaceous plants (> 6 in high) > $^2/_3$ area of the wetland — points = 6	
Herbaceous plants (> 6 in high) > $^1/_3$ area of the wetland — points = 3	
Trees, shrubs, and ungrazed herbaceous < $^1/_3$ area of the wetland — points = 0	
Total for R 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

R 2.0. Does the landscape have the potential to support the water quality function of the site?	
R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = 2 No = 0	
R 2.2. Does the contributing basin to the wetland include a UGA or incorporated area? Yes = 1 No = 0	
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years? Yes = 1 No = 0	
R 2.4. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4 Other sources _____ Yes = 1 No = 0	
Total for R 2 — Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **3-6 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

R 3.0. Is the water quality improvement provided by the site valuable to society?	
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi? Yes = 1 No = 0	
R 3.2. Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens? Yes = 1 No = 0	
R 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (*answer YES if there is a TMDL for the drainage in which the unit is found*) Yes = 2 No = 0	
Total for R 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion

R 4.0. Does the site have the potential to reduce flooding and erosion?

R 4.1. Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).* If the ratio is more than 20 points = 9 If the ratio is 10-20 points = 6 If the ratio is 5-<10 points = 4 If the ratio is 1-<5 points = 2 If the ratio is < 1 points = 1	
R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have >90% cover at person height. These are NOT Cowardin classes).* Forest or shrub for > $^1/_3$ area OR emergent plants > $^2/_3$ area points = 7 Forest or shrub for > $^1/_{10}$ area OR emergent plants > $^1/_3$ area points = 4 Plants do not meet above criteria points = 0	
Total for R 4 Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

R 5.1. Is the stream or river adjacent to the wetland downcut? Yes = 0 No = 1	
R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0	
R 5.3. Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1	
Total for R 5 Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **3 = H** ☐ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

R 6.0. Are the hydrologic functions provided by the site valuable to society?

R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site*. The sub-basin immediately down-gradient of the wetland has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for R 6 Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

LAKE FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

L 1.0. Does the site have the potential to improve water quality?	
L 1.1. Average width of plants along the lakeshore *(use polygons of Cowardin classes)*: Plants are more than 33 ft (10 m) wide — points = 6 Plants are more than 16 ft (5 m) wide and <33 ft — points = 3 Plants are more than 6 ft (2 m) wide and <16 ft — points = 1 Plants are less than 6 ft wide — points = 0	
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. *These are not Cowardin classes. Area of cover is total cover in the unit, but it can be in patches. Herbaceous does not include aquatic bed.* Cover of herbaceous plants is >90% of the vegetated area — points = 6 Cover of herbaceous plants is $>^{2}/_{3}$ of the vegetated area — points = 4 Cover of herbaceous plants is $>^{1}/_{3}$ of the vegetated area — points = 3 Other plants that are not aquatic bed > $^{2}/_{3}$ unit — points = 3 Other plants that are not aquatic bed in > $^{1}/_{3}$ vegetated area — points = 1 Aquatic bed plants and open water cover > $^{2}/_{3}$ of the unit — points = 0	
Total for L 1 — Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **8-12 = H** ☐ **4-7 = M** ☐ **0-3 = L** *Record the rating on the first page*

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats? Yes = 1 No = 0	
L 2.2. Is > 10% of the area within 150 ft of wetland unit on the upland side in land uses that generate pollutants? Yes = 1 No = 0	
L 2.3. Does the lake have problems with algal blooms or excessive plant growth such as milfoil? Yes = 1 No = 0	
Total for L 2 — Add the points in the boxes above	

Rating of Landscape Potential: If score is: ☐ **2 or 3 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

L 3.0. Is the water quality improvement provided by the site valuable to society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources? Yes = 1 No = 0	
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the basin is on the 303(d) list)? Yes = 1 No = 0	
L 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the lake or basin in which the unit is found.* Yes = 2 No = 0	
Total for L 3 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

LAKE FRINGE WETLANDS

Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosion

L 4.0. Does the site have the potential to reduce shoreline erosion?	
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (**do not** include Aquatic bed): *Choose the highest scoring description that matches conditions in the wetland.*	
> ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 6	
> ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide — points = 4	
> ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 4	
Plants are at least 6 ft (2 m) wide (any type except Aquatic bed) — points = 2	
Plants are less than 6 ft (2 m) wide (any type except Aquatic bed) — points = 0	

Rating of Site Potential: If score is: ☐ **6 = M** ☐ **0-5 = L** *Record the rating on the first page*

L 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
L 5.1. Is the lake used by power boats with more than 10 hp? Yes = 1 No = 0	
L 5.2. Is the fetch on the lake side of the unit at least 1 mile in distance? Yes = 1 No = 0	
Total for L 5 — Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources along the shore that can be impacted by erosion? If more than one resource is present, choose the one with the highest score.	
There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the unit — points = 2	
There are nature trails or other paths and recreational activities within 25 ft of OHWM — points = 1	
Other resources that could be impacted by erosion — points = 1	
There are no resources that can be impacted by erosion along the shores of the unit — points = 0	

Rating of Value: If score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number C

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*) Slope is 1% or less points = 3 Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3 Dense, woody, plants > ½ of area points = 2 Dense, uncut, herbaceous plants > ¼ of area points = 1 Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	

Rating of Site Potential If score is: ☐ **12 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____ Yes = 1 No = 0	
Total for S 2 Add the points in the boxes above	

Rating of Landscape Potential If score is: ☐ **1-2 = M** ☐ **0 = L** *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list*. Yes = 1 No = 0	
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the basin in which unit is found.* Yes = 2 No = 0	
Total for S 3 Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland — points = 1 All other conditions — points = 0	

Rating of Site Potential If score is: ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	

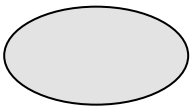
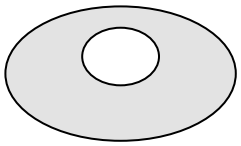
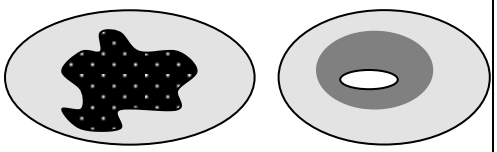
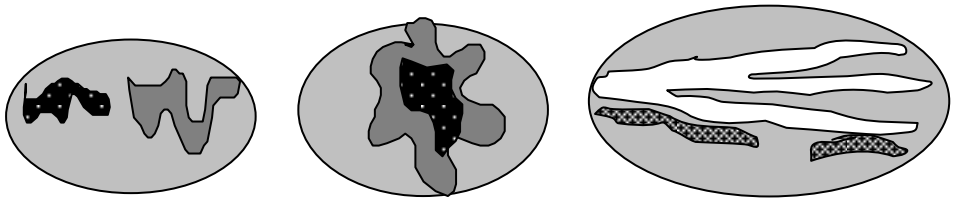
Rating of Landscape Potential If score is: ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) — points = 2 Surface flooding problems are in a sub-basin farther down-gradient — points = 1 No flooding problems anywhere downstream — points = 0	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 — Add the points in the boxes above	

Rating of Value If score is: ☐ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number C

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.* ____Aquatic bed — 4 structures or more: points = 4 __X__Emergent — 3 structures: points = 2 ____Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1 ____Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if:* ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon	0
H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*). ____Permanently flooded or inundated — 4 or more types present: points = 3 __X__Seasonally flooded or inundated — 3 types present: points = 2 __X__Occasionally flooded or inundated — 2 types present: points = 1 __X__Saturated only — 1 type present: points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland ____Seasonally flowing stream in, or adjacent to, the wetland ____**Lake Fringe wetland** — **2 points** ____**Freshwater tidal wetland** — **2 points**	2
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.* ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*** If you counted: > 19 species — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3points 	1

Wetland name or number C

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* __X__At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	1
Total for H 1 Add the points in the boxes above	**5**

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☒ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat___ **+** [(% moderate and low intensity land uses)/2]___ **=** _____% If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat___ **+** [(% moderate and low intensity land uses)/2]___ **=** _____% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	0
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	**-2**

Rating of Landscape Potential If score is: ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	**1**

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number C

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt ◯Yes –Go to **SC 1.1** ◉No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ◯Yes = **Category I** ◯No - Go to **SC 1.2**	◯**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ◯Yes = **Category I** ◉No = **Category II**	◯**Cat. I** ◯**Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ◯Yes – Go to **SC 2.2** ◉No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ◯Yes = **Category I** ◉No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ◯Yes – **Contact WNHP/WDNR and go to SC 2.4** ◉No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ◯Yes = **Category I** ◉No = **Not a WHCV**	◯**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ◯Yes – Go to **SC 3.3** ◉No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ◯Yes – Go to **SC 3.3** ◉No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ◯Yes = **Is a Category I bog** ◉No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ◯Yes = **Is a Category I bog** ◉No = **Is not a bog**	◯**Cat. I**

Wetland name or number C

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** — **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ○ Yes = **Category I** ◉ No = **Not a forested wetland for this section**	○ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ○ Yes – Go to **SC 5.1** ◉ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ○ Yes = **Category I** ◉ No = **Category II**	○ **Cat. I** ○ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ○ Yes – Go to **SC 6.1** ◉ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ○ Yes = **Category I** ◉ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ○ Yes = **Category II** ◉ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ○ Yes = **Category III** ◉ No = **Category IV**	○ **Cat I** ○ **Cat. II** ○ **Cat. III** ○ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

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Appendix E
Wetland and Waters Delineation Figures

Figure E-1
Chehalis Study Area Wetland Delineation Key Map

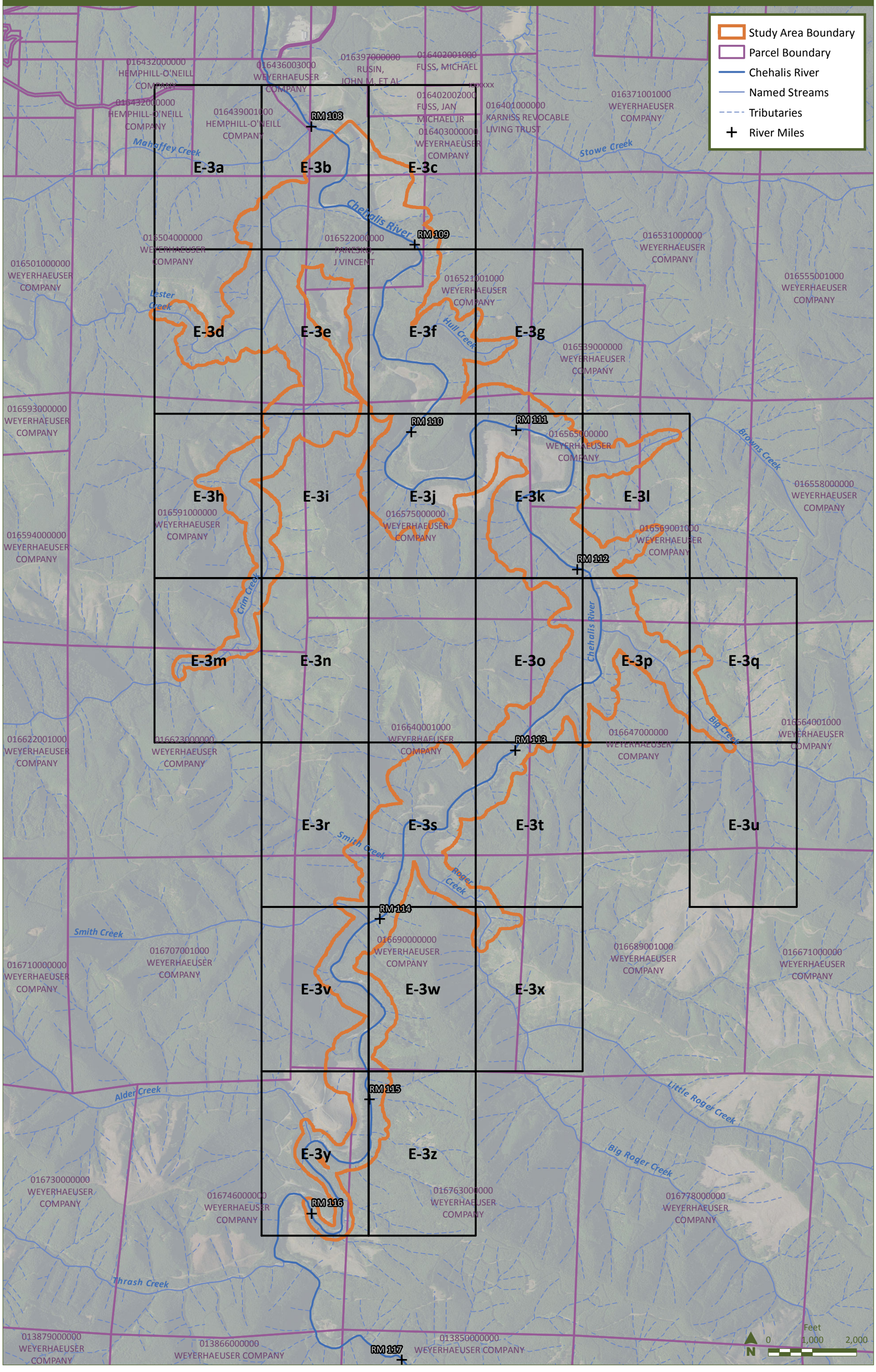


Figure E-2
Chehalis Study Area Wetland Delineation Legend

- Data Plot
- Study Area Boundary
- Lewis County Parcels
- Field-Verified Stream Channel for Ordinary High Water Mark
- Chehalis, Crim, and Rogers Ordinary High Water Mark (Interpolated and Field-Verified)
- Chehalis River
- Major Contour (100' Interval)
- Minor Contour (20' Interval)
- Ditch
- Roads
- River Miles

Wetlands: Hydrogeomorphic Classification

- Depressional
- Riverine
- Slope
- Depressional/Slope
- Depressional/Slope/Riverine
- Riverine/Slope

Wetlands: Cowardin Classification

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub Shrub (PSS)
- PFO/PEM
- PFO/PSS
- PFO/PSS/PEM
- PSS/PEM

Wetlands: Washington State Department of Ecology Rating

- 2
- 3

Figure E-4
Chehalis-Centralia Airport Study Area Wetland Delineation Map

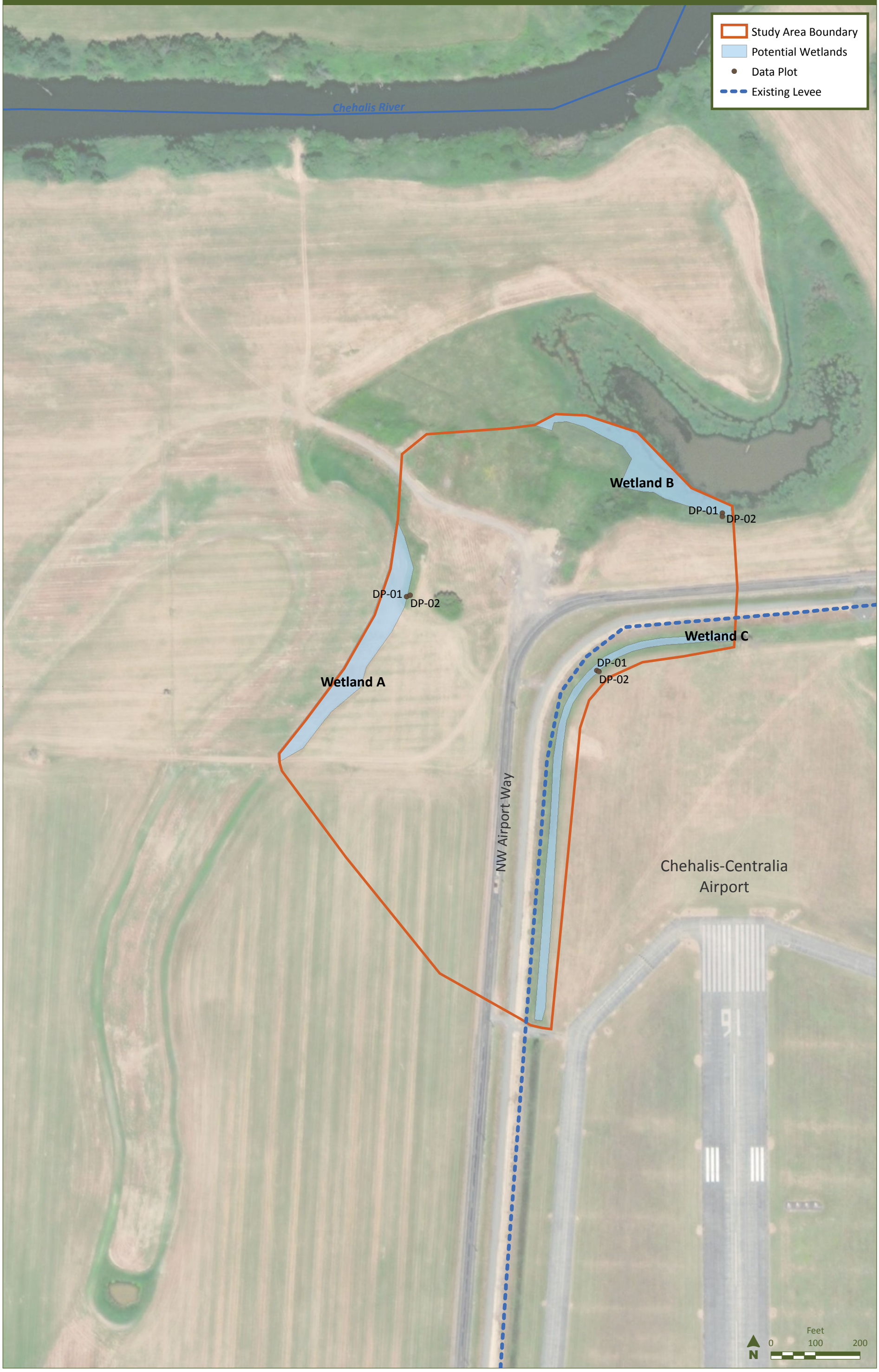


Figure E-3a
Chehalis Study Area Wetland Delineation

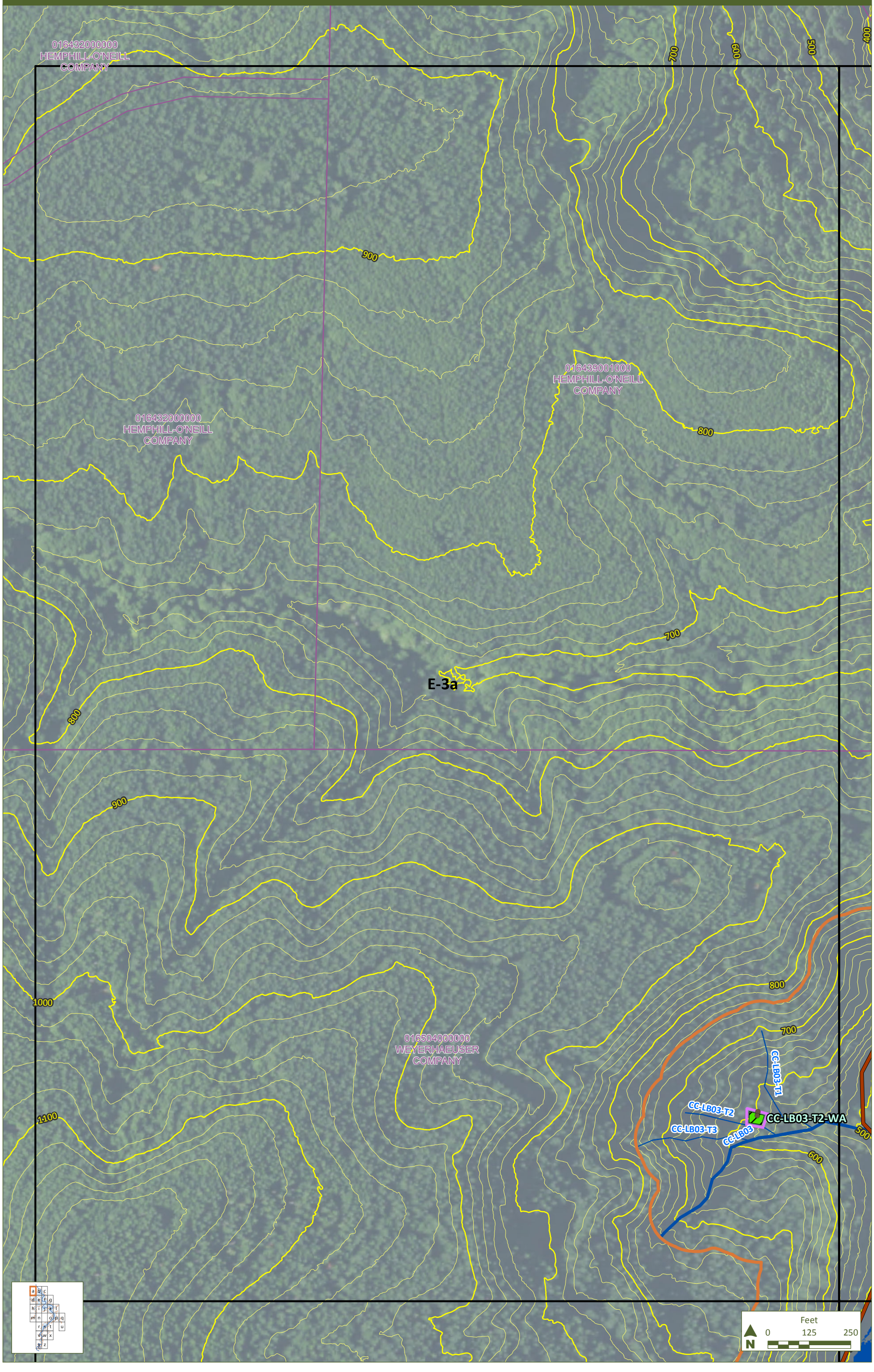


Figure E-3b
Chehalis Study Area Wetland Delineation

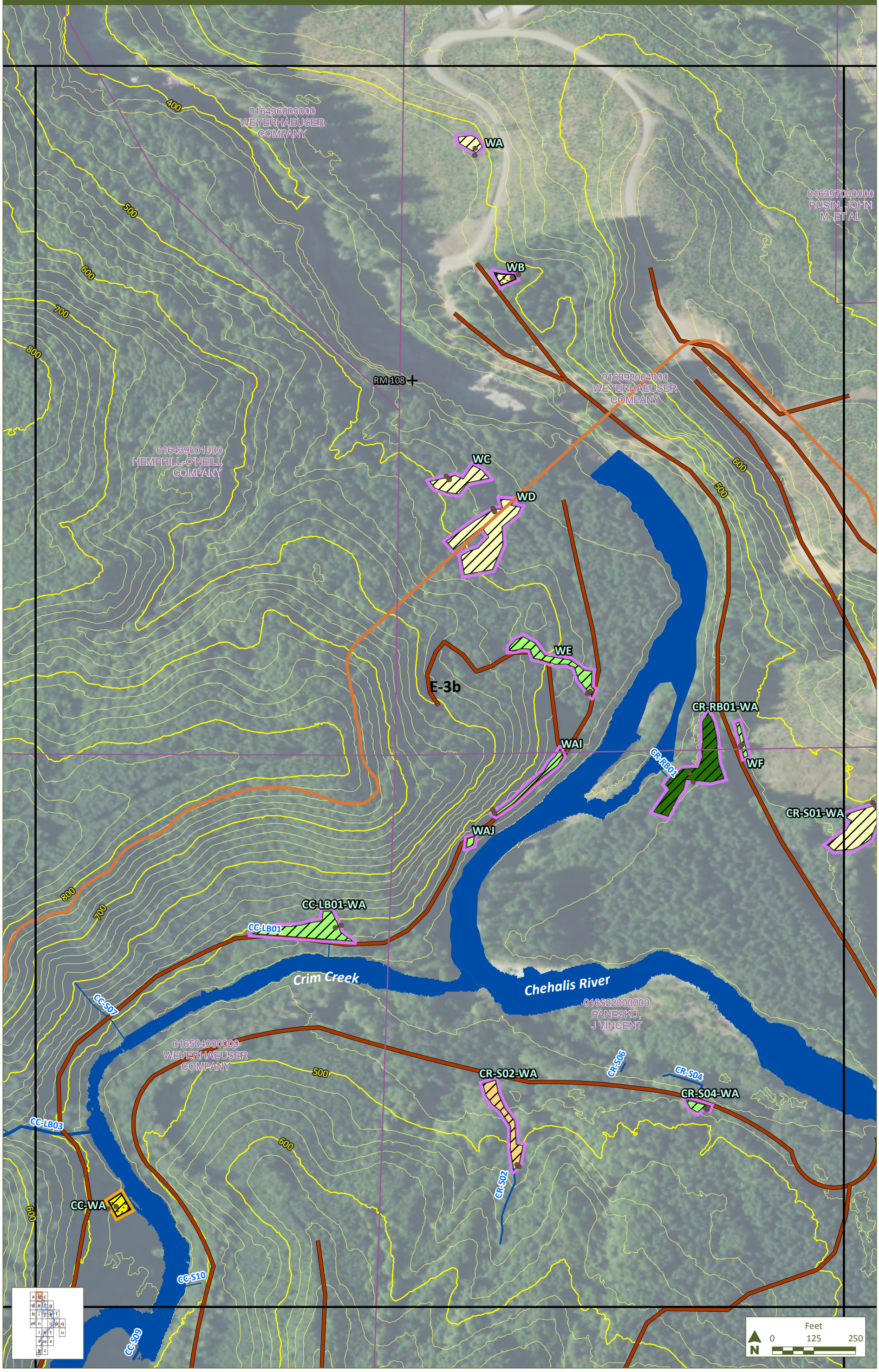


Figure E-3c
Chehalis Study Area Wetland Delineation

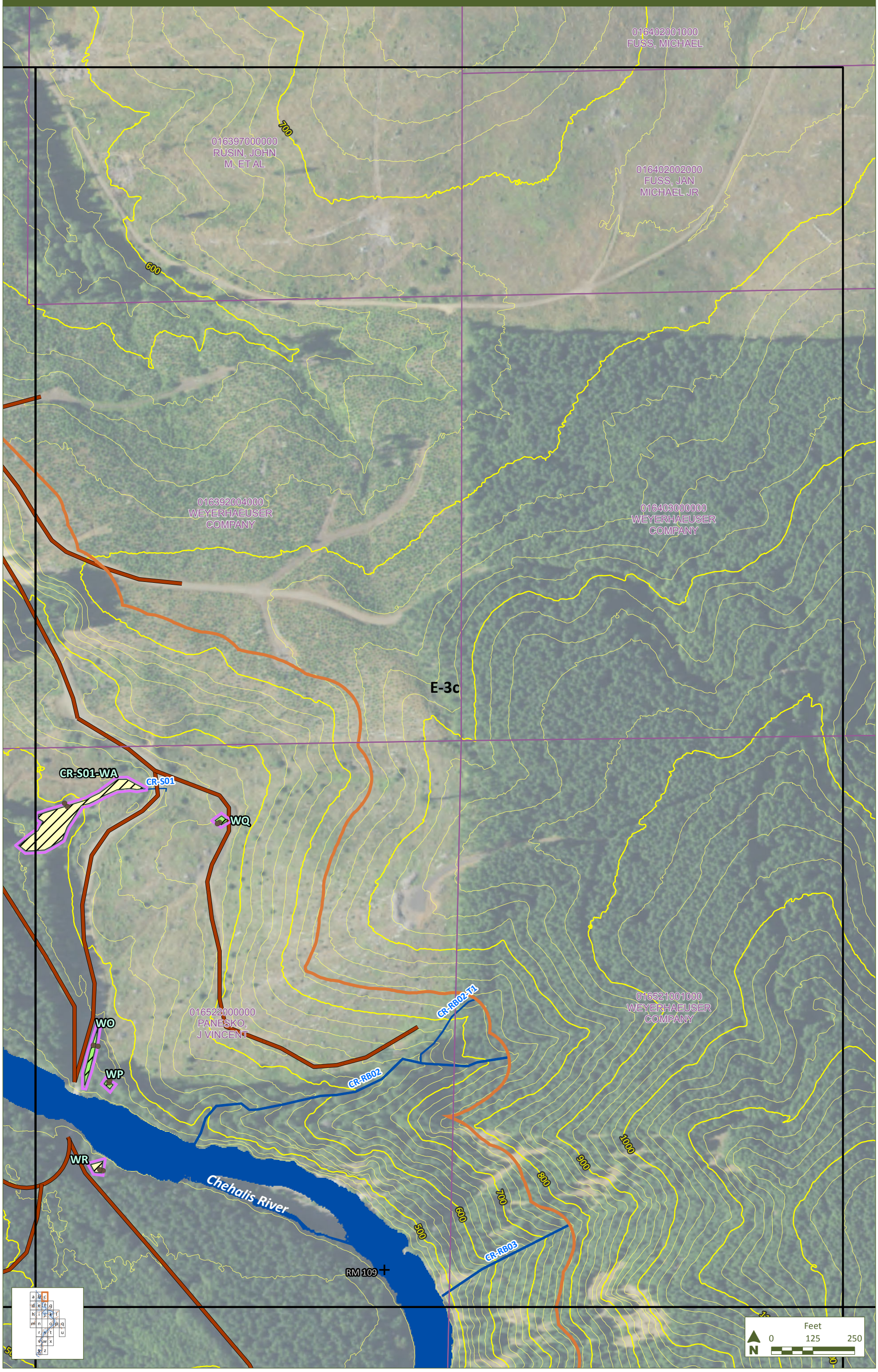


Figure E-3d
Chehalis Study Area Wetland Delineation

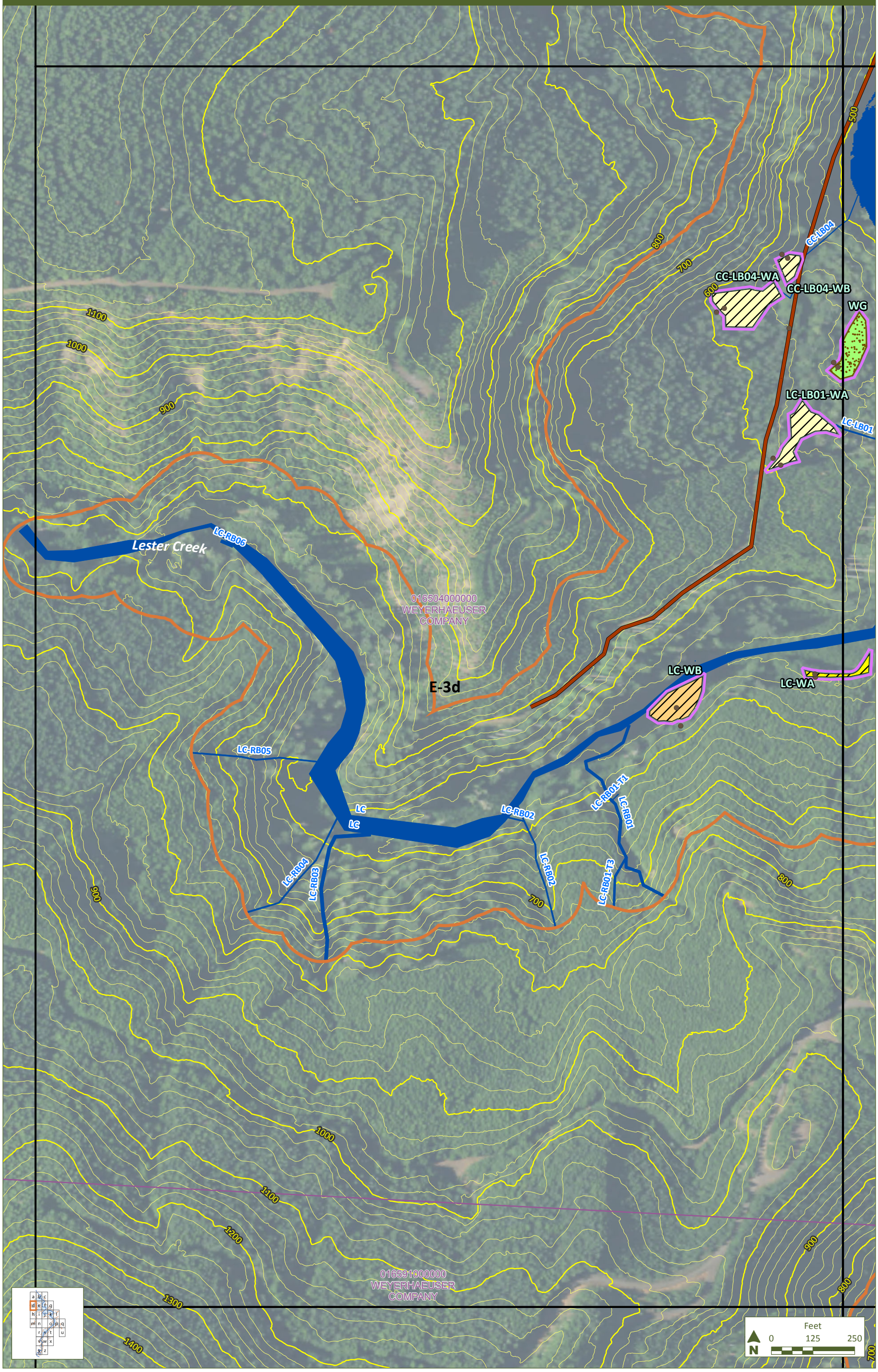


Figure E-3e
Chehalis Study Area Wetland Delineation

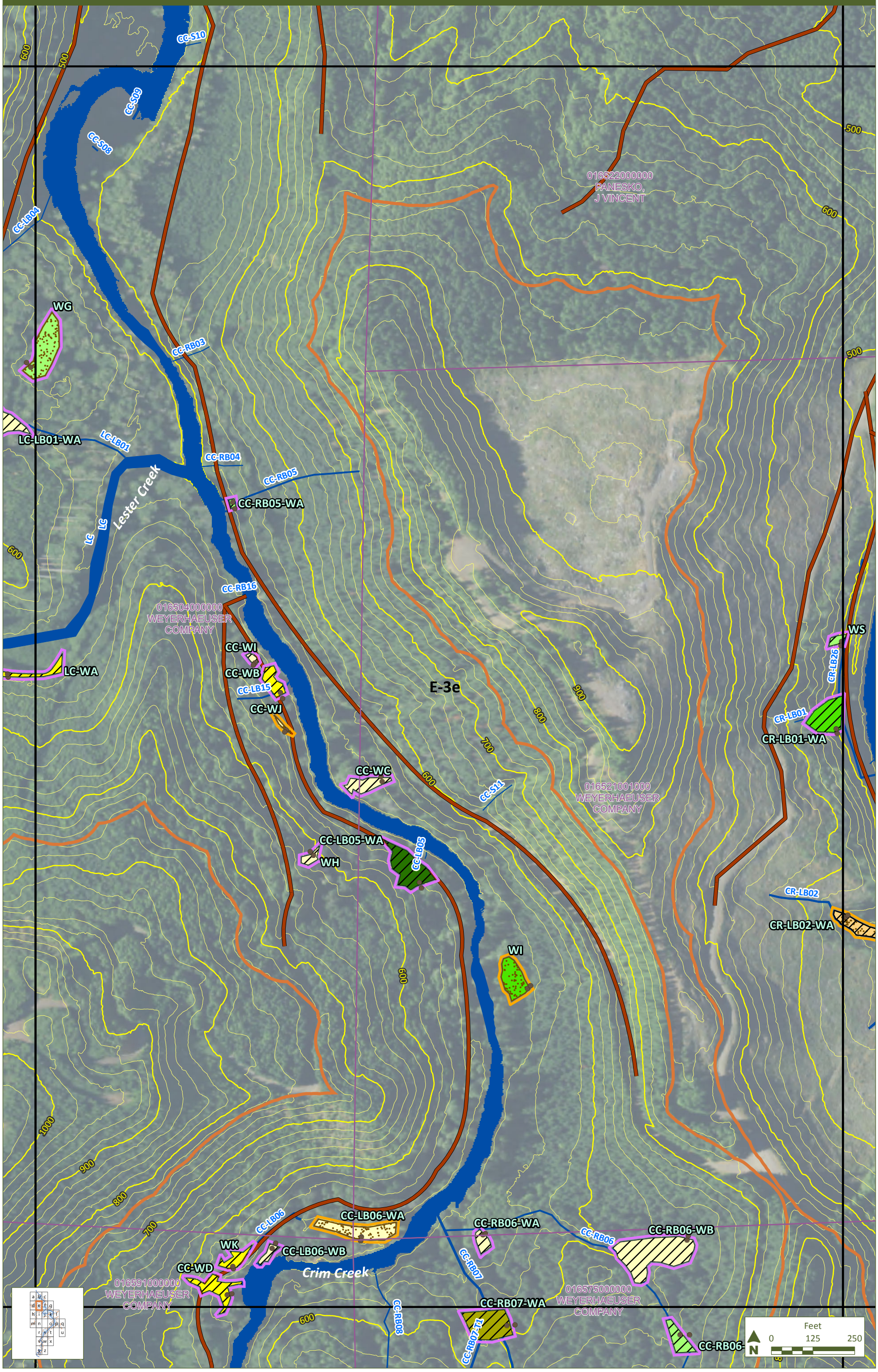


Figure E-3f
Chehalis Study Area Wetland Delineation

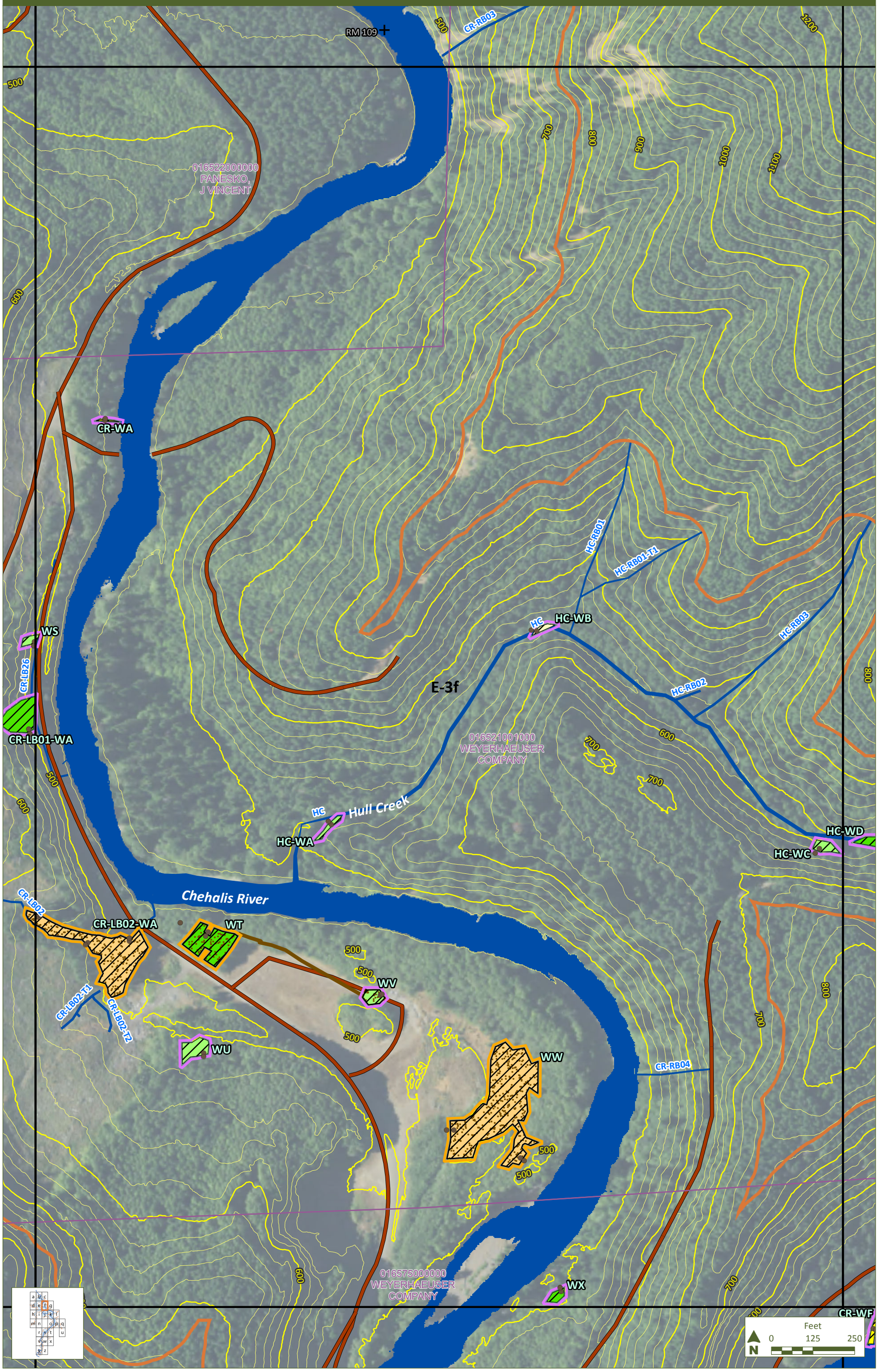


Figure E-3g
Chehalis Study Area Wetland Delineation

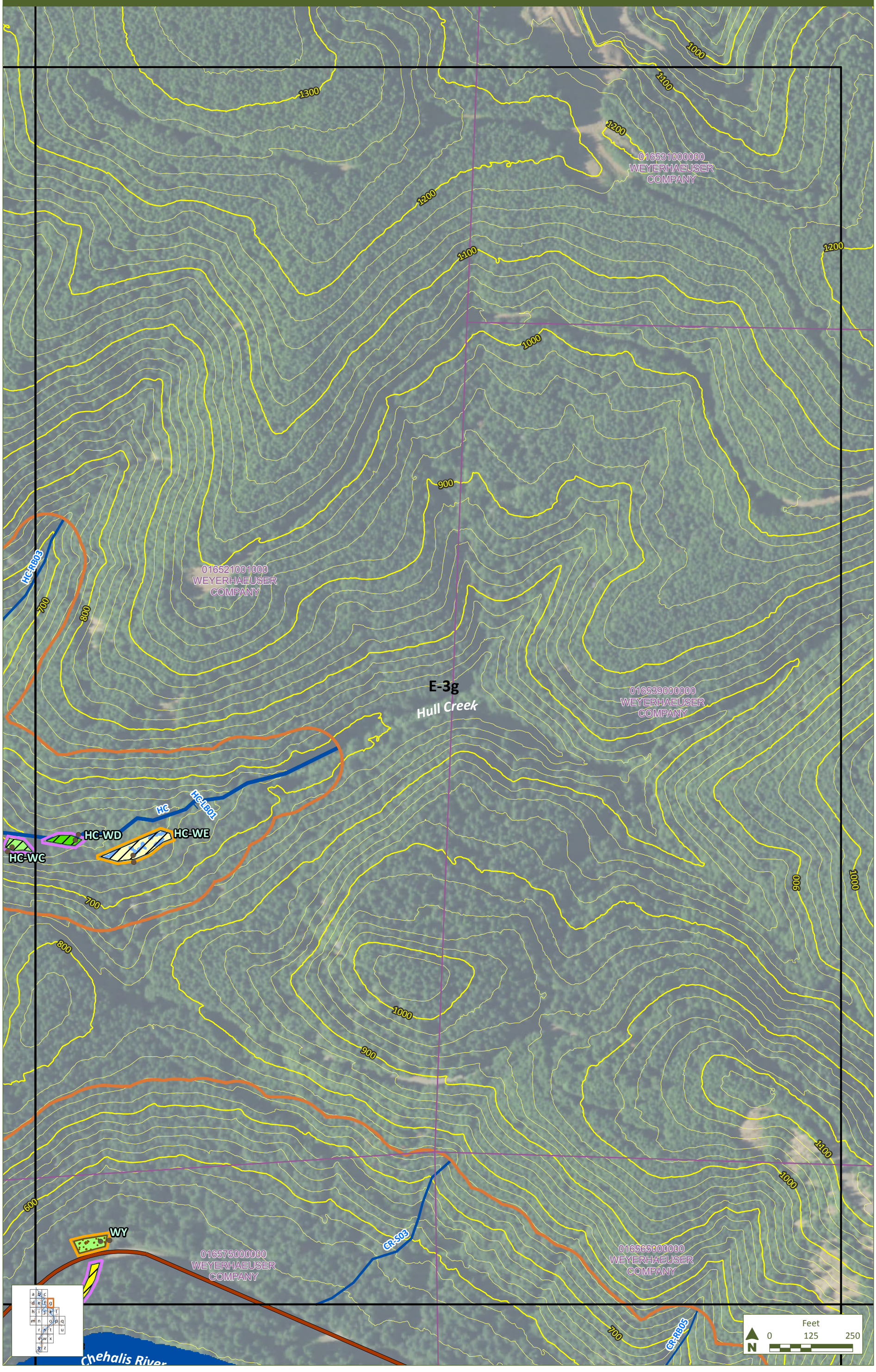


Figure E-3h
Chehalis Study Area Wetland Delineation

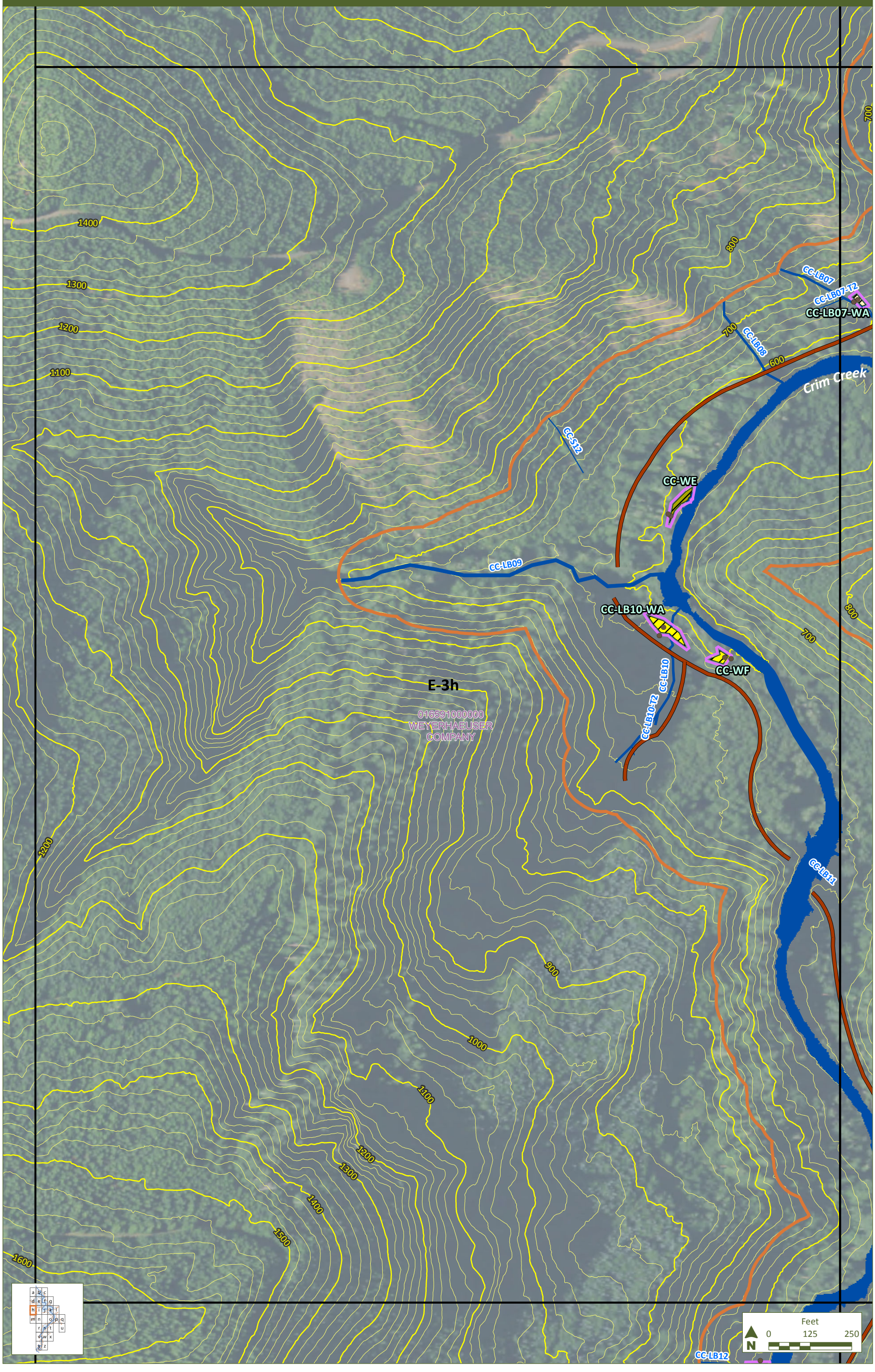


Figure E-3i
Chehalis Study Area Wetland Delineation

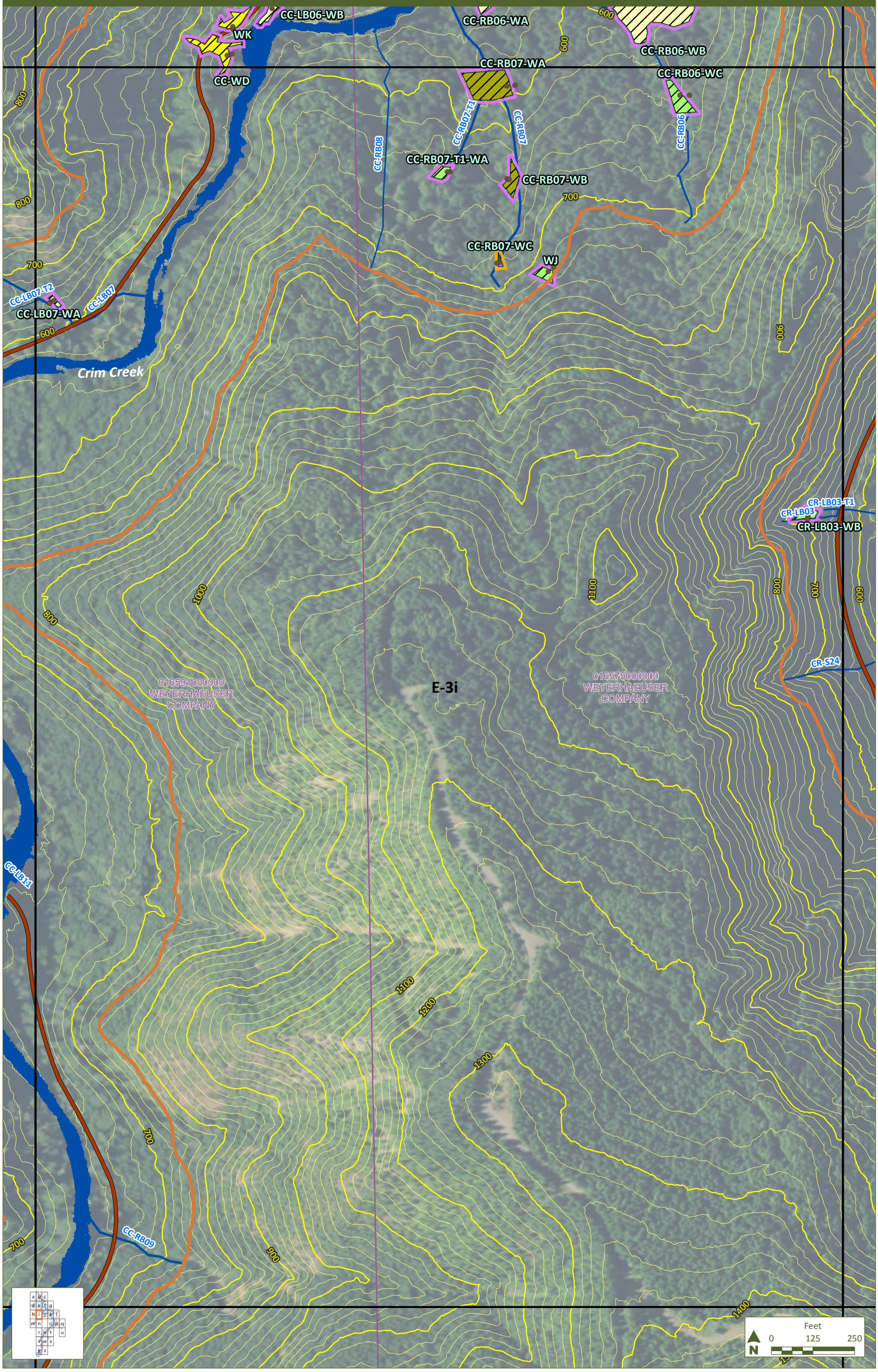


Figure E-3j
Chehalis Study Area Wetland Delineation

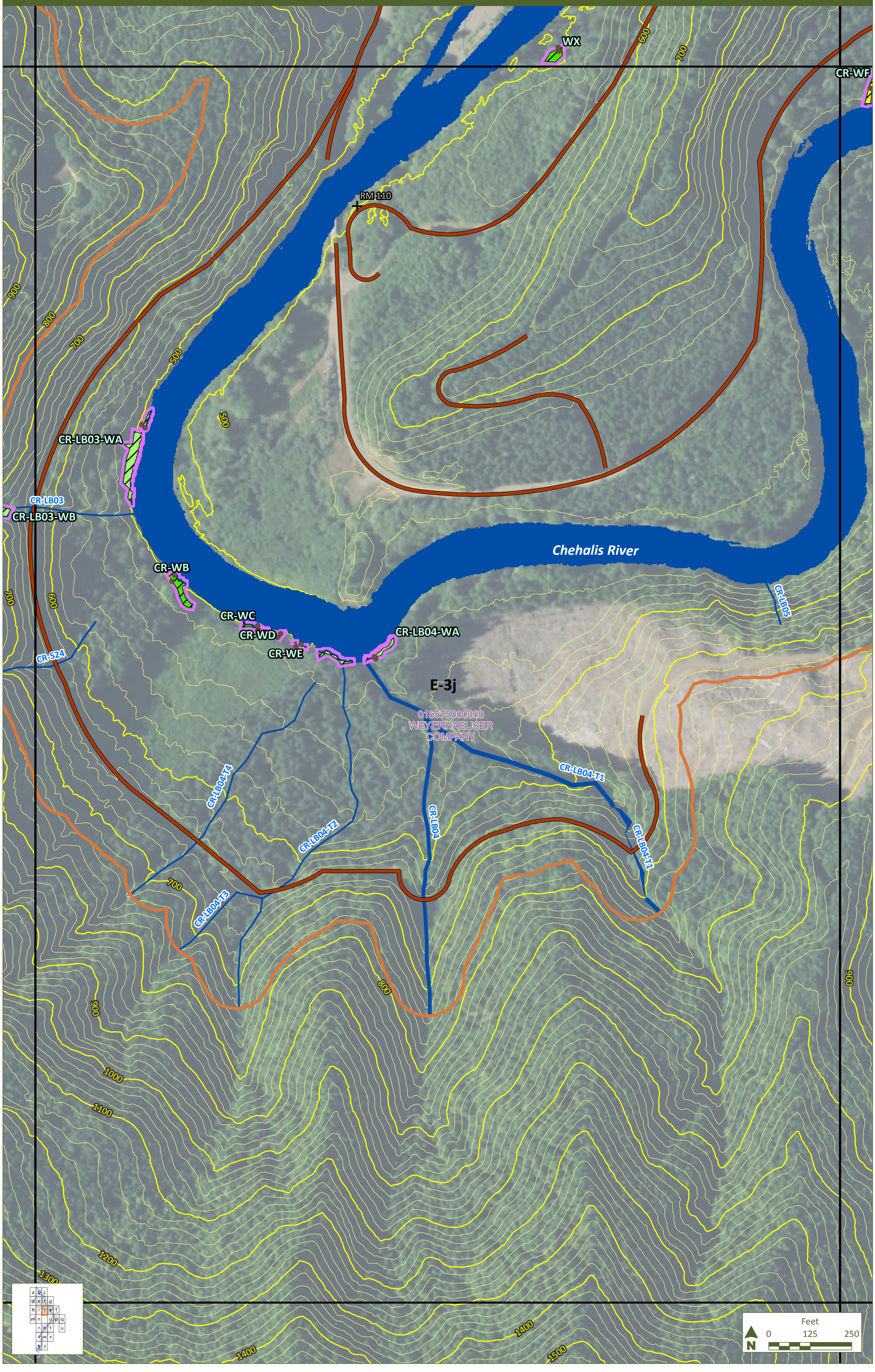


Figure E-3k
Chehalis Study Area Wetland Delineation

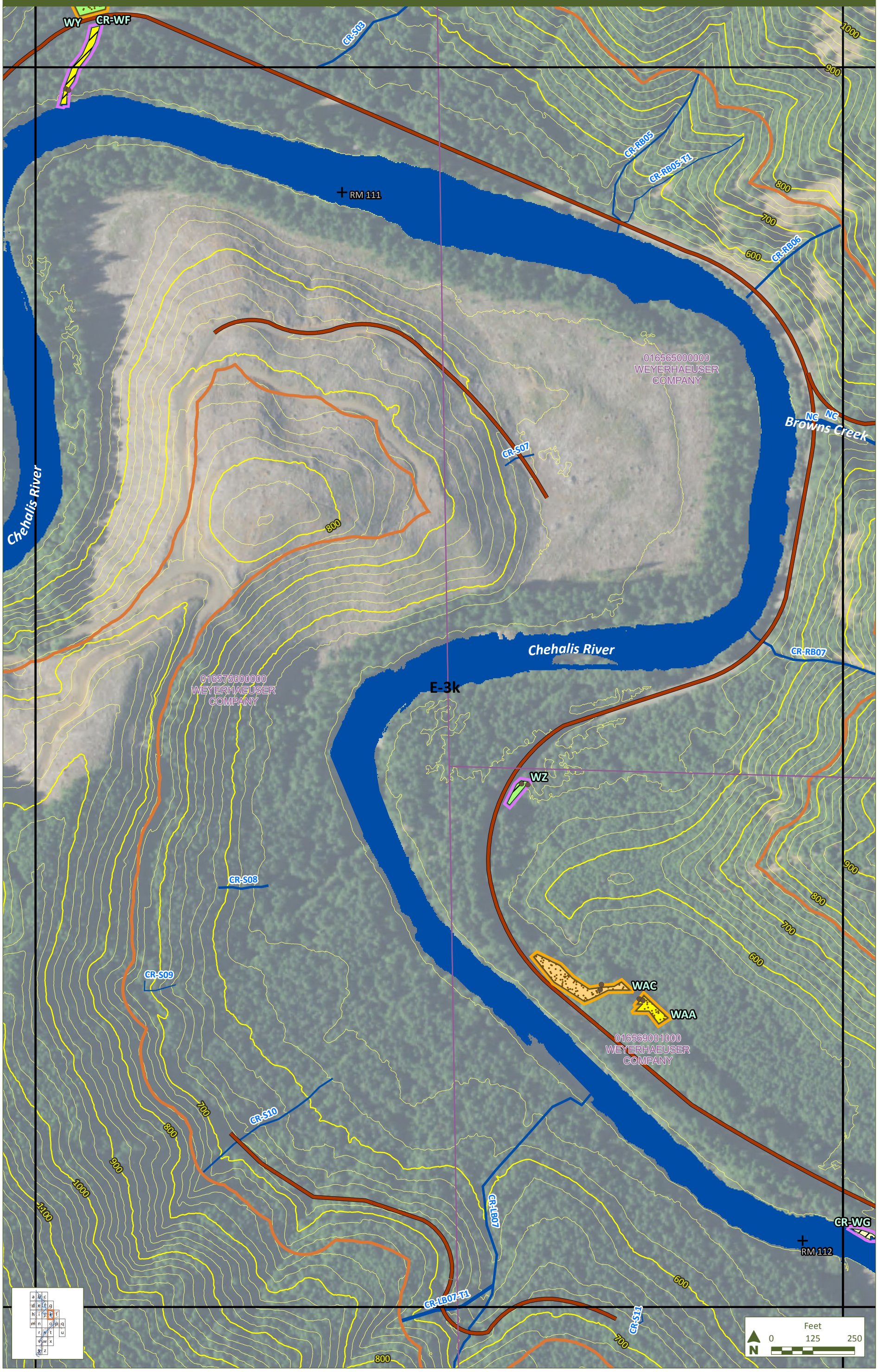


Figure E-3l
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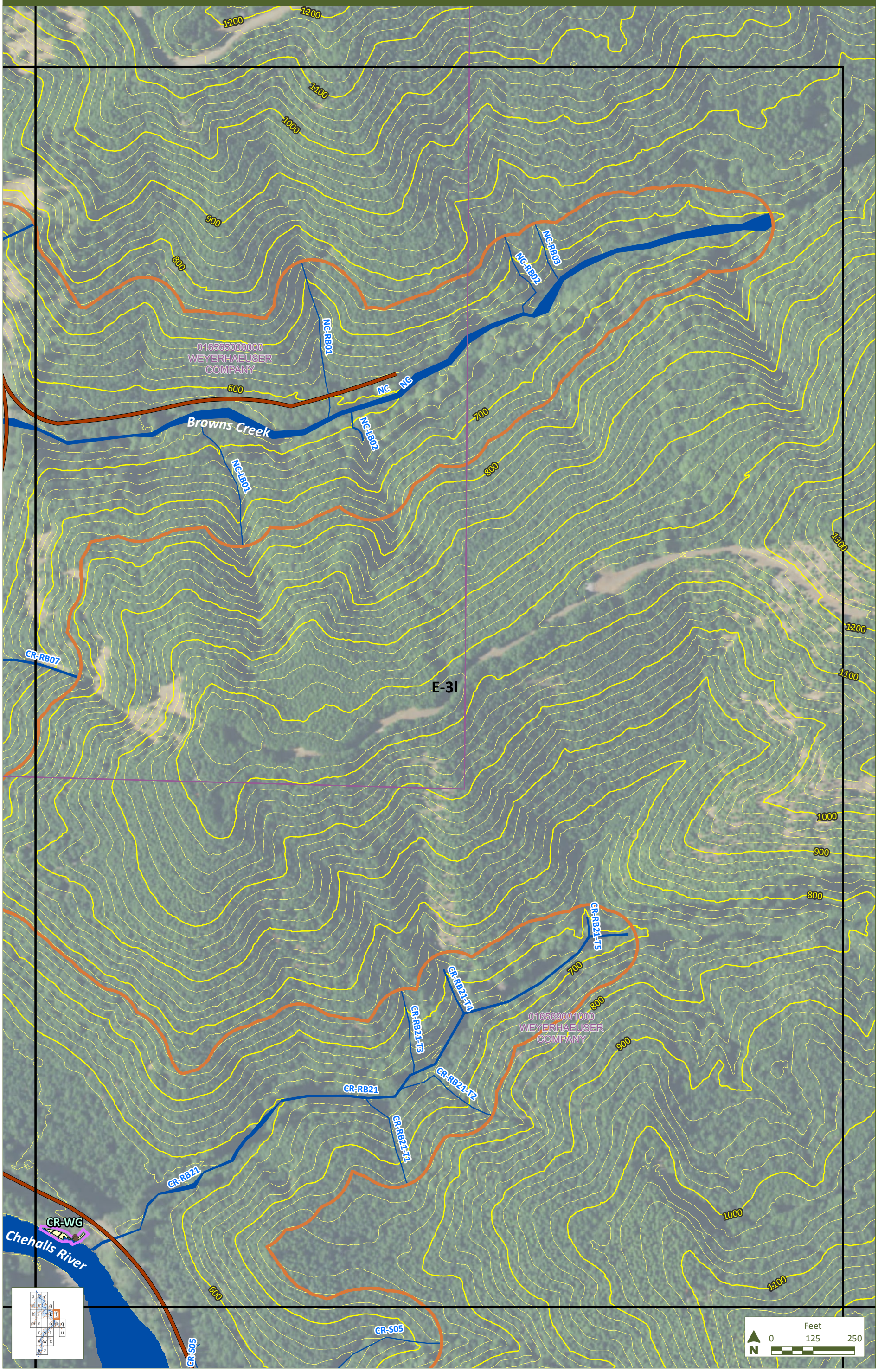


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Chehalis Study Area Wetland Delineation

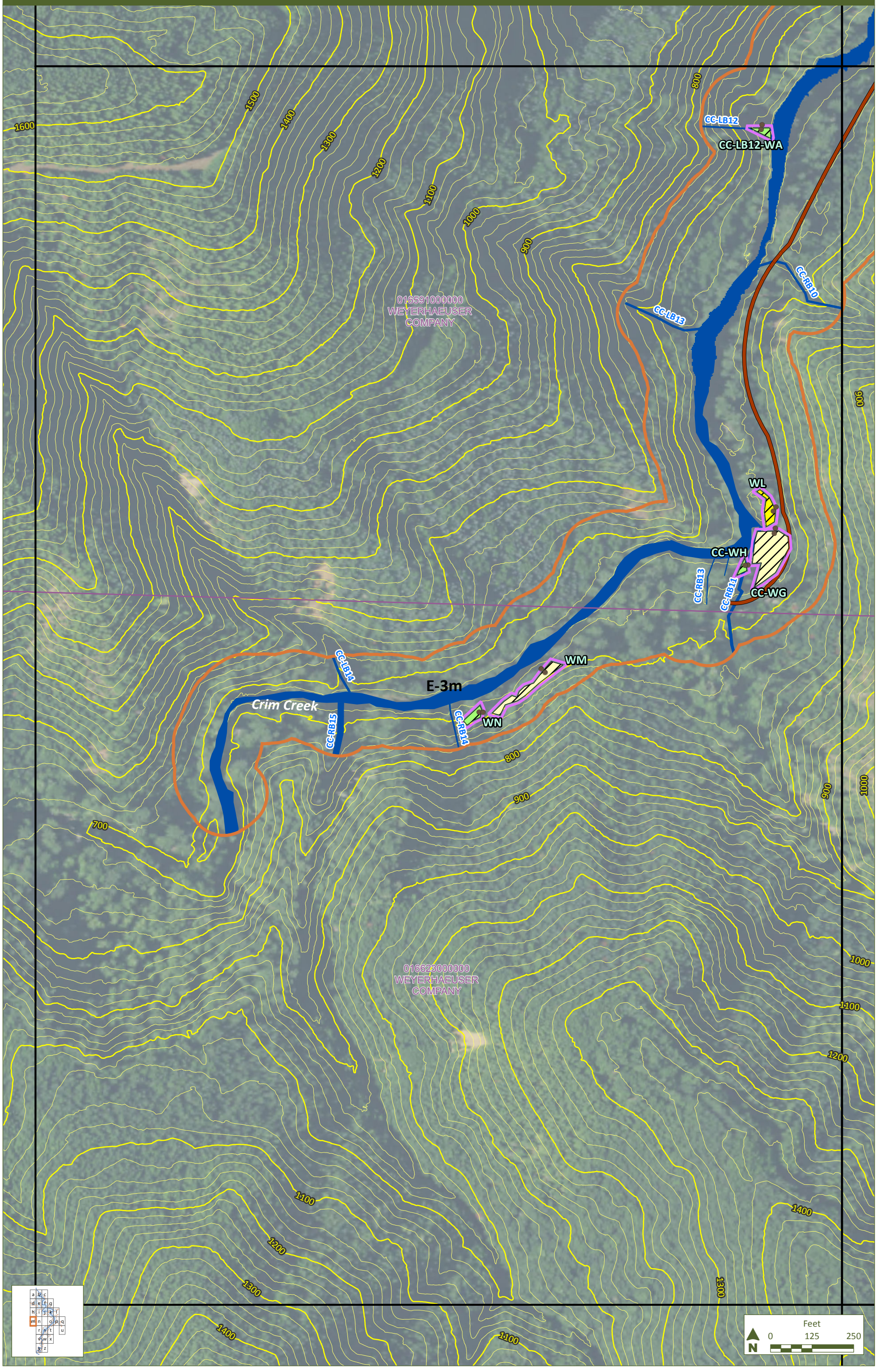


Figure E-3n
Chehalis Study Area Wetland Delineation

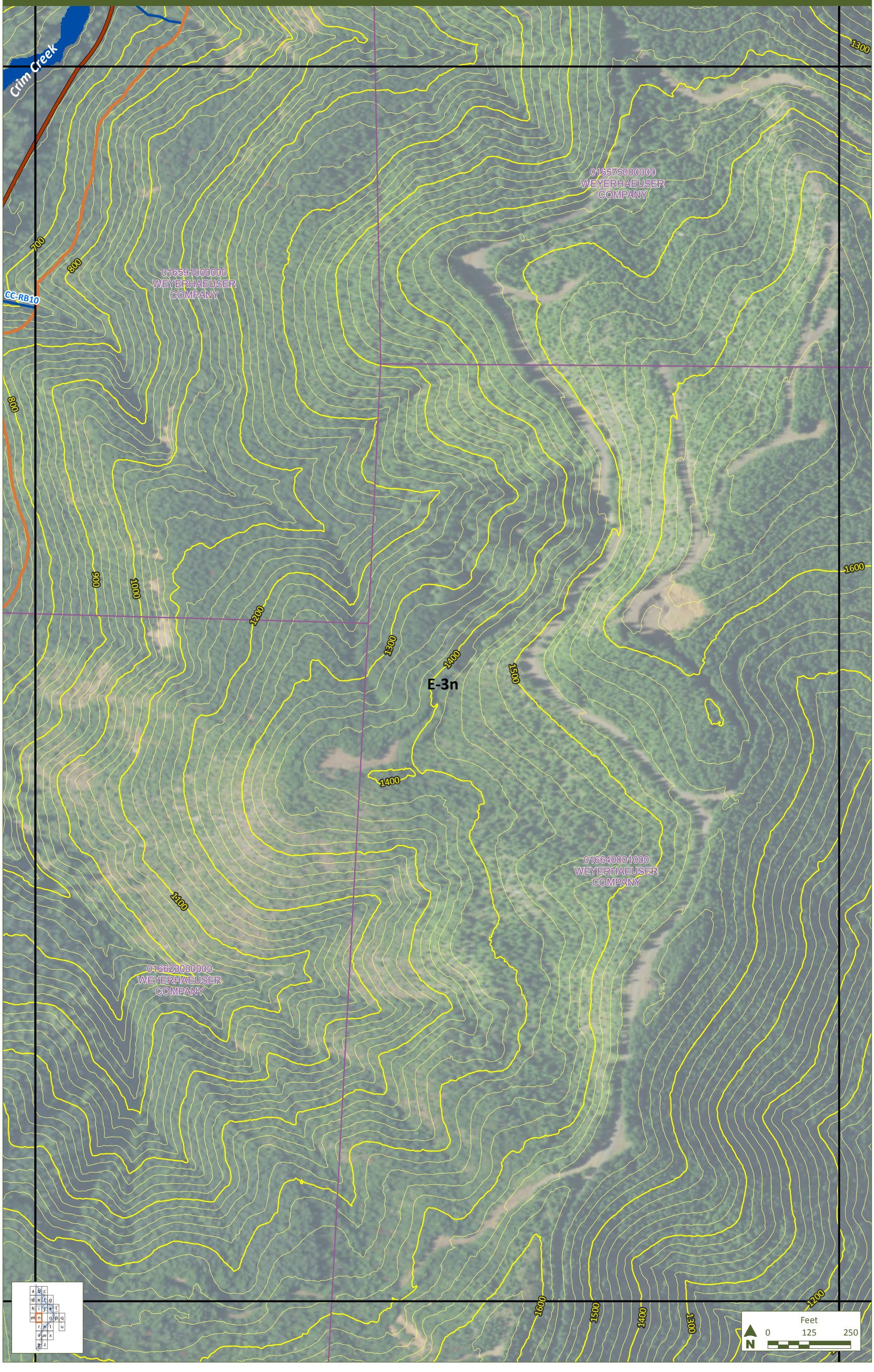


Figure E-3o
Chehalis Study Area Wetland Delineation

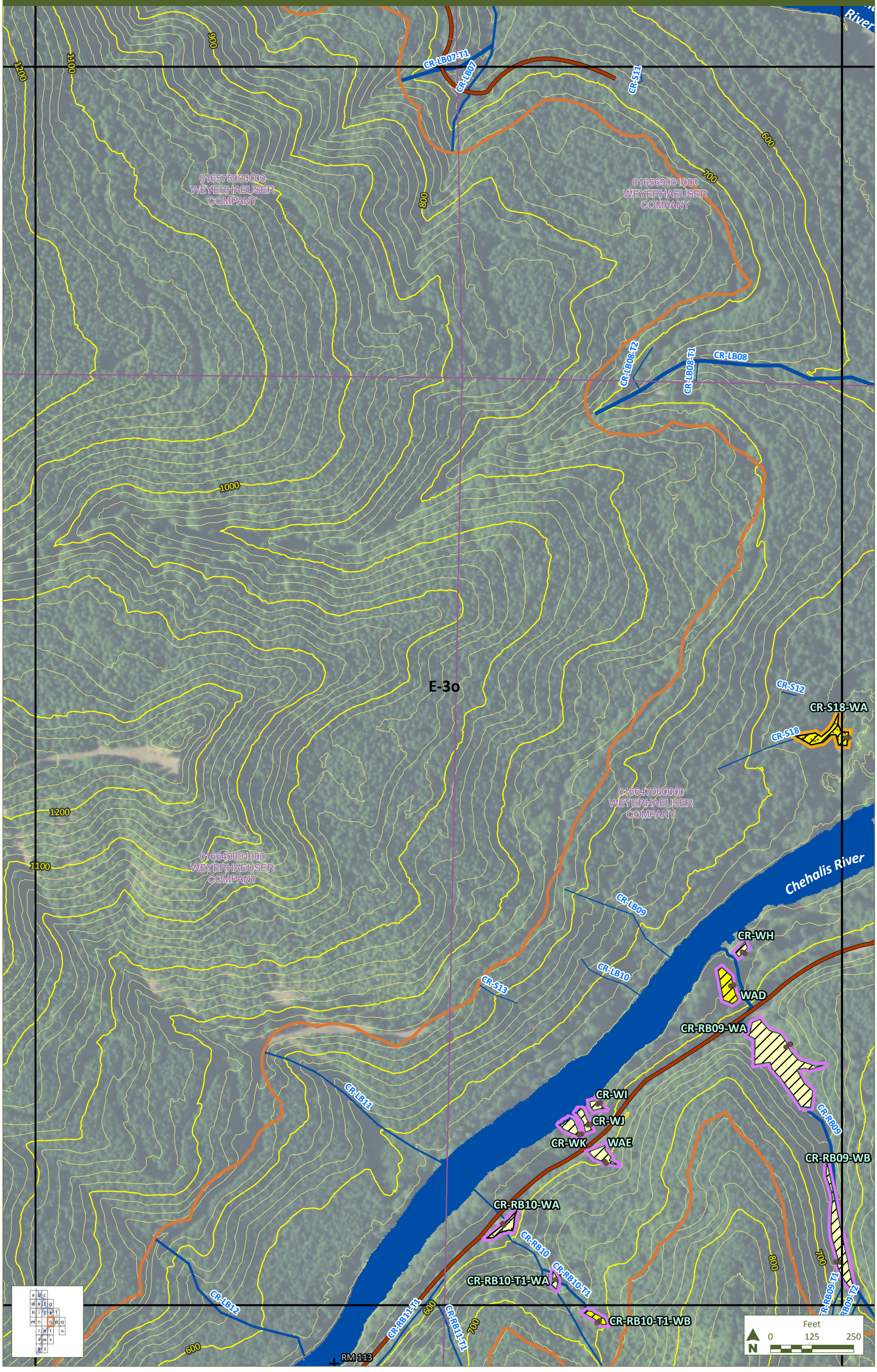


Figure E-3p
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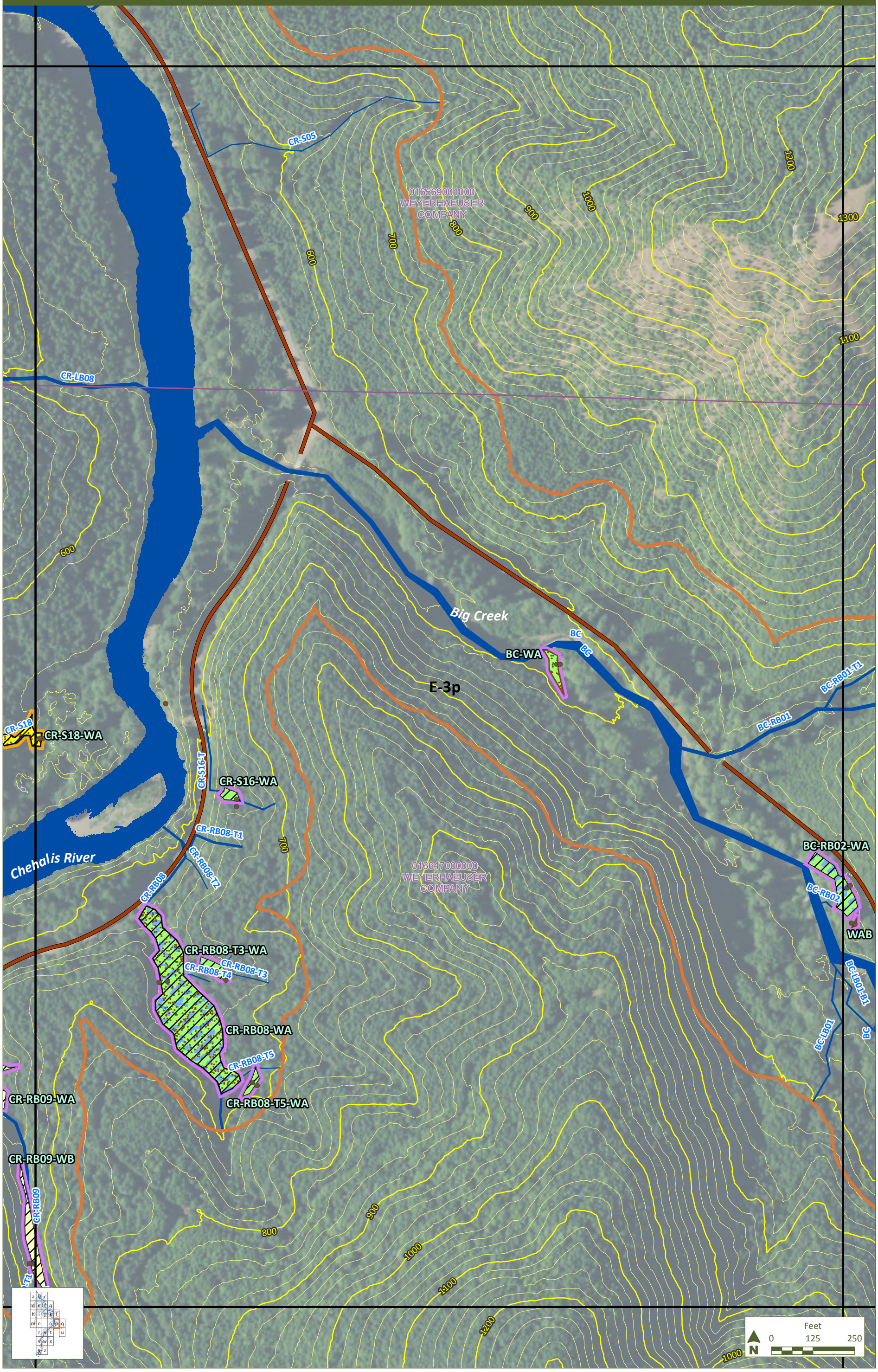


Figure E-3q
Chehalis Study Area Wetland Delineation

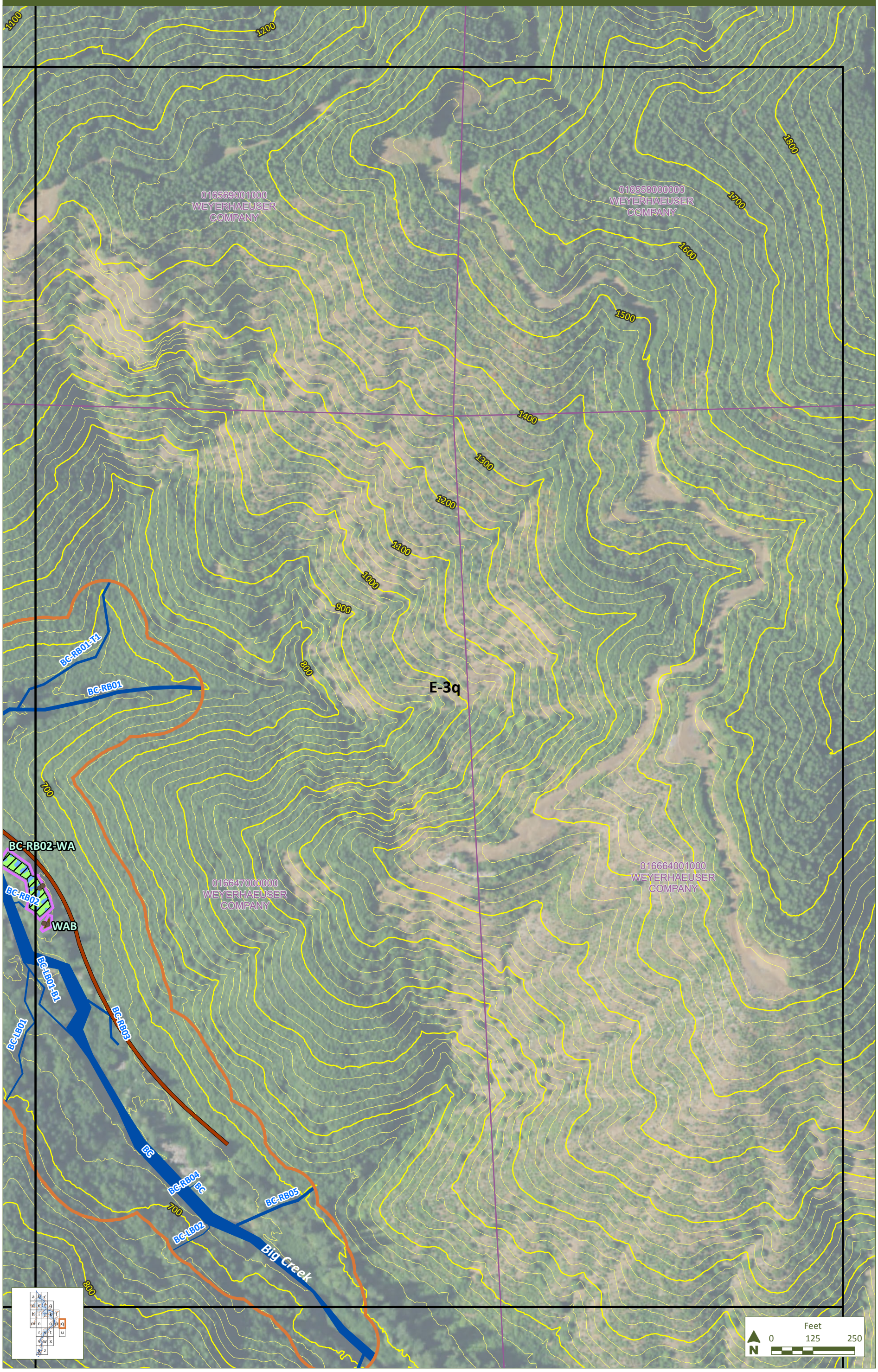


Figure E-3r
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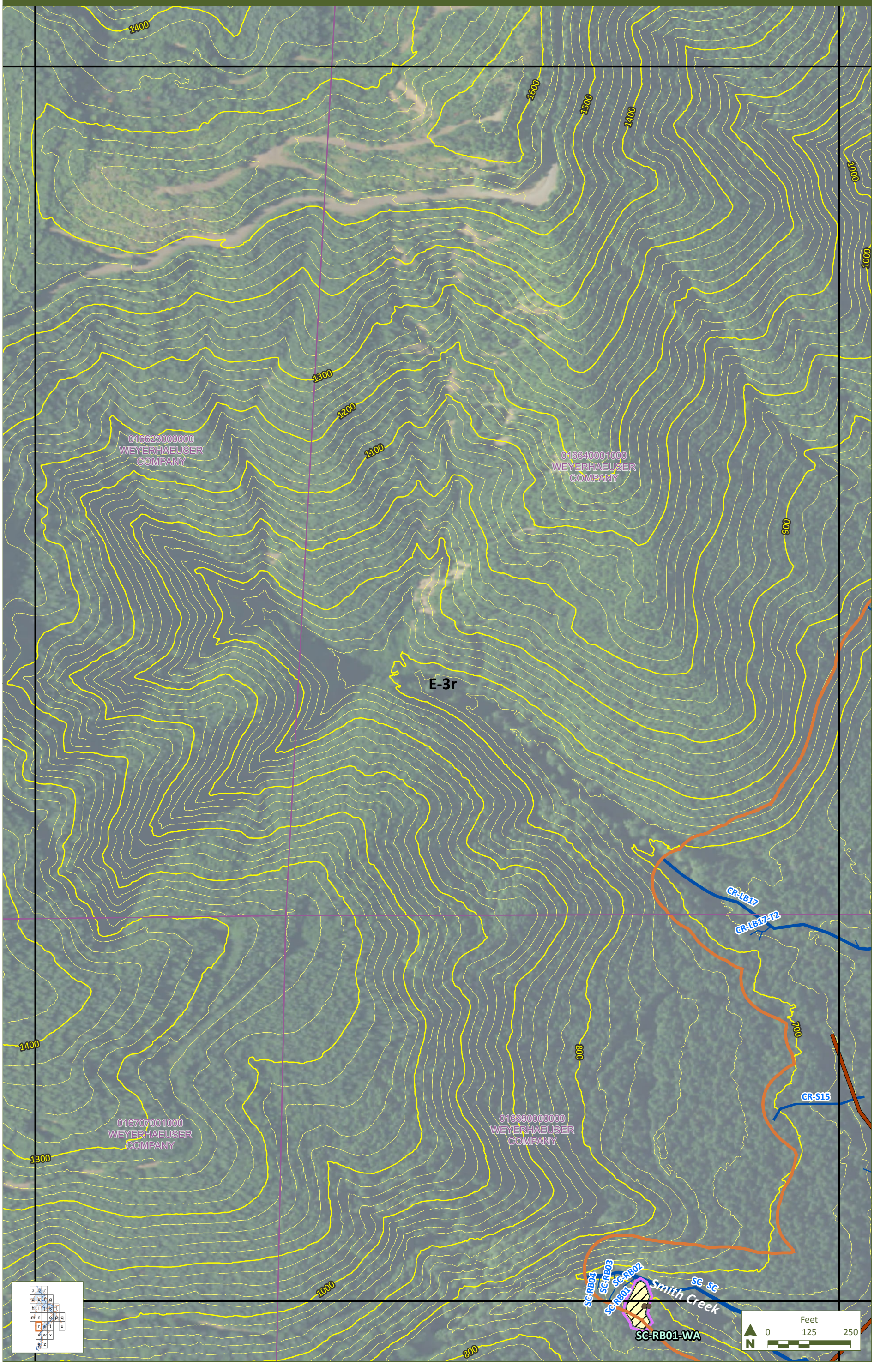


Figure E-3s
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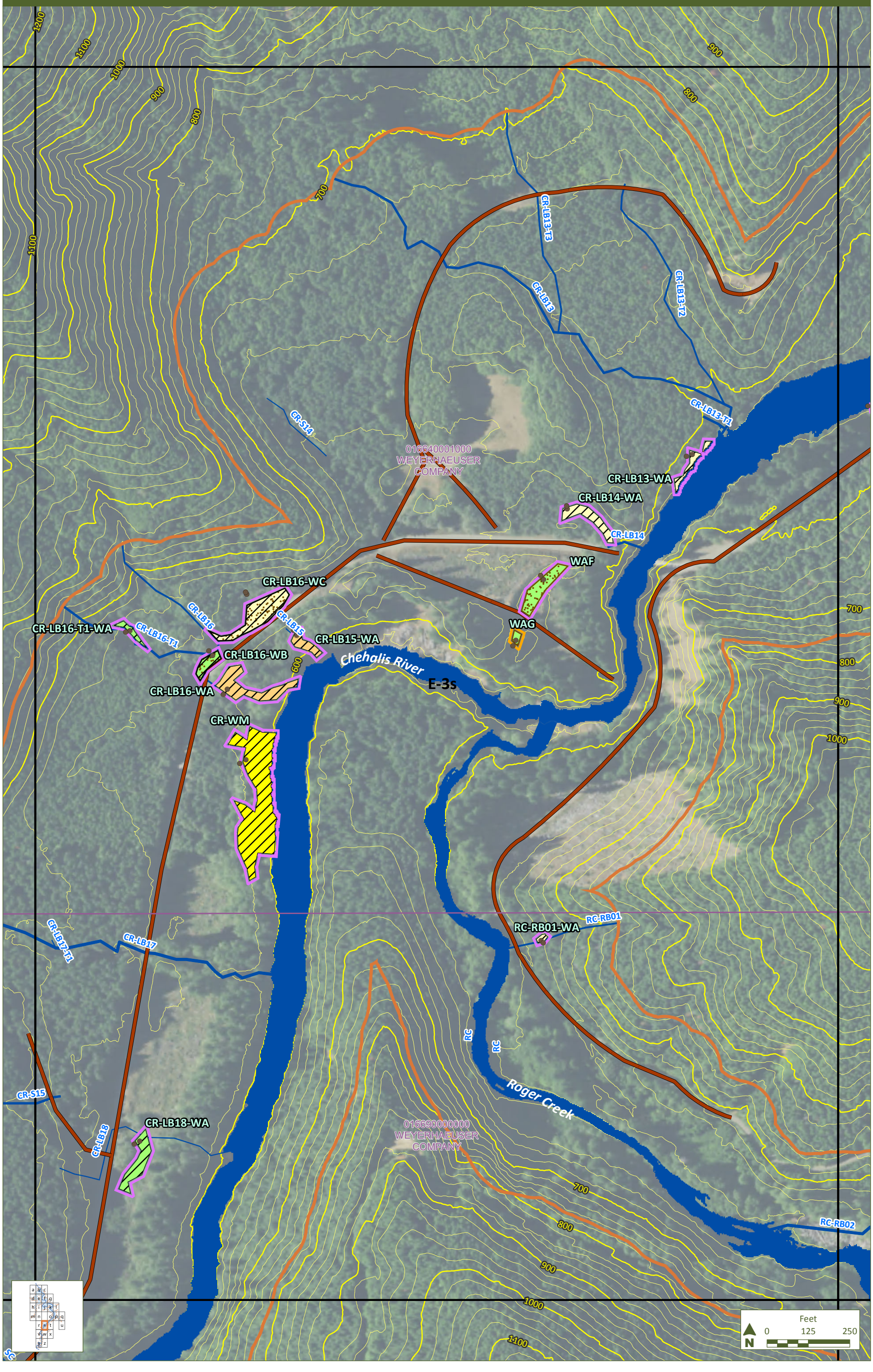


Figure E-3t
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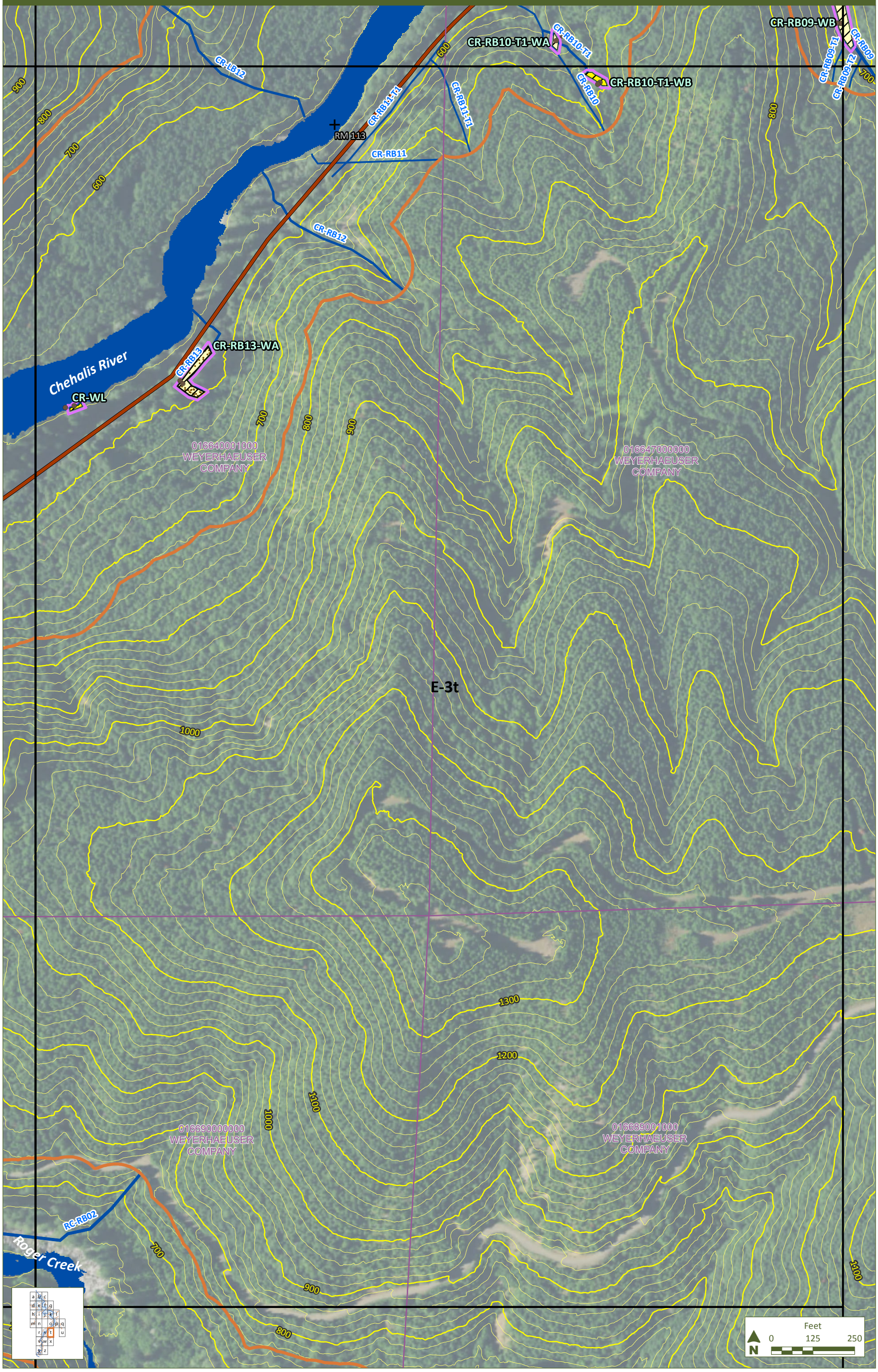


Figure E-3u
Chehalis Study Area Wetland Delineation

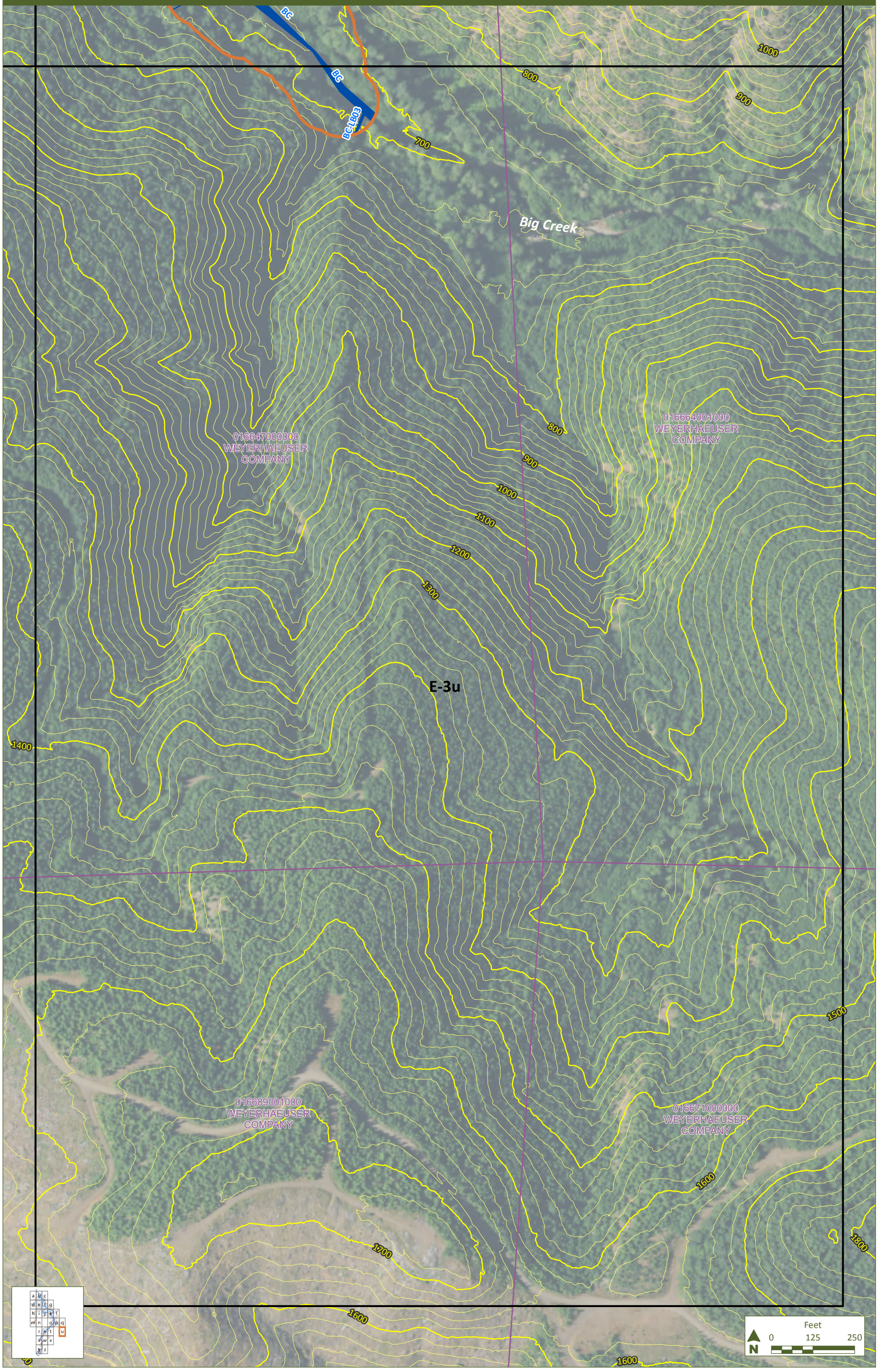


Figure E-3v
Chehalis Study Area Wetland Delineation

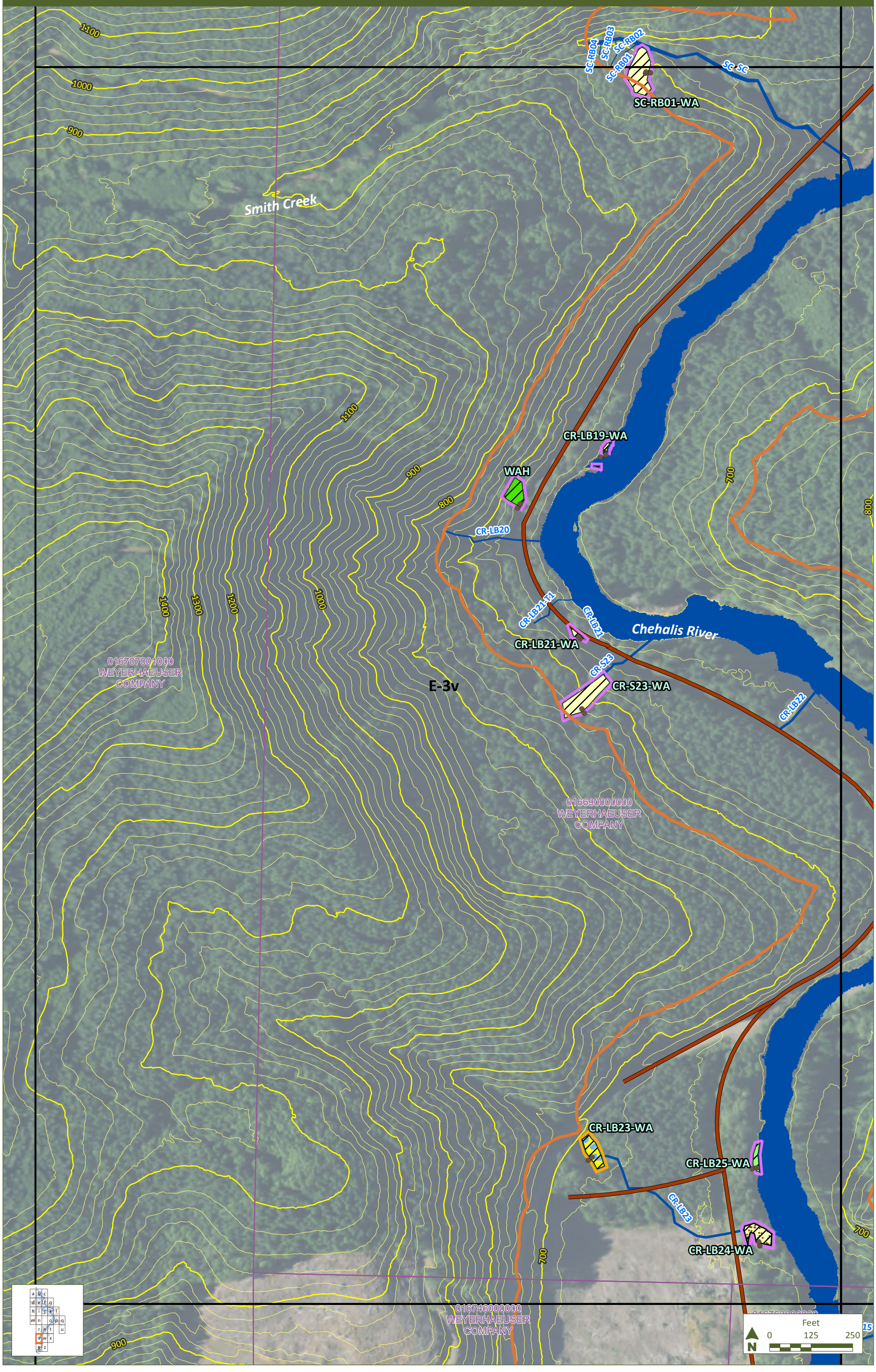


Figure E-3w
Chehalis Study Area Wetland Delineation

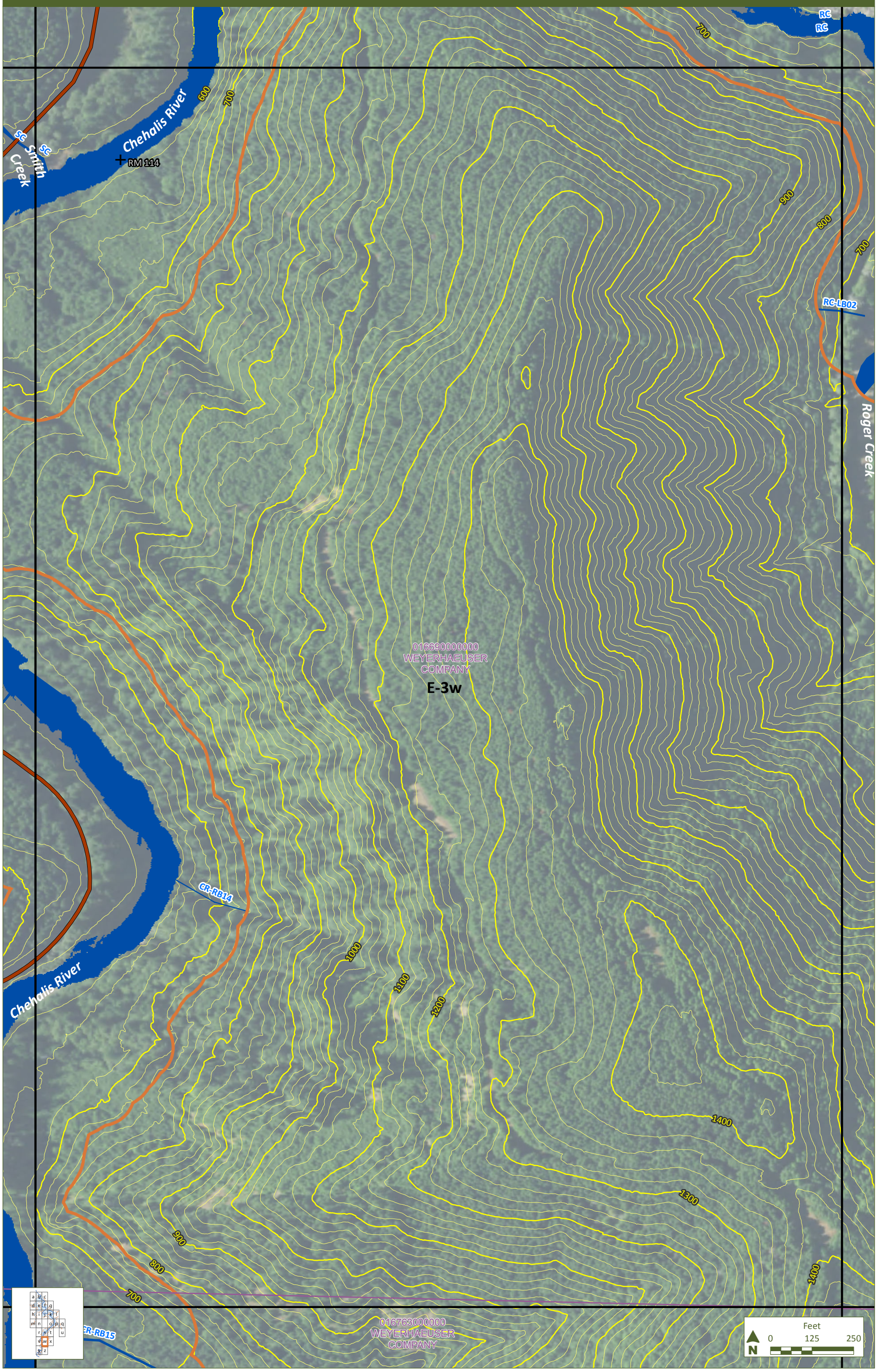


Figure E-3x
Chehalis Study Area Wetland Delineation

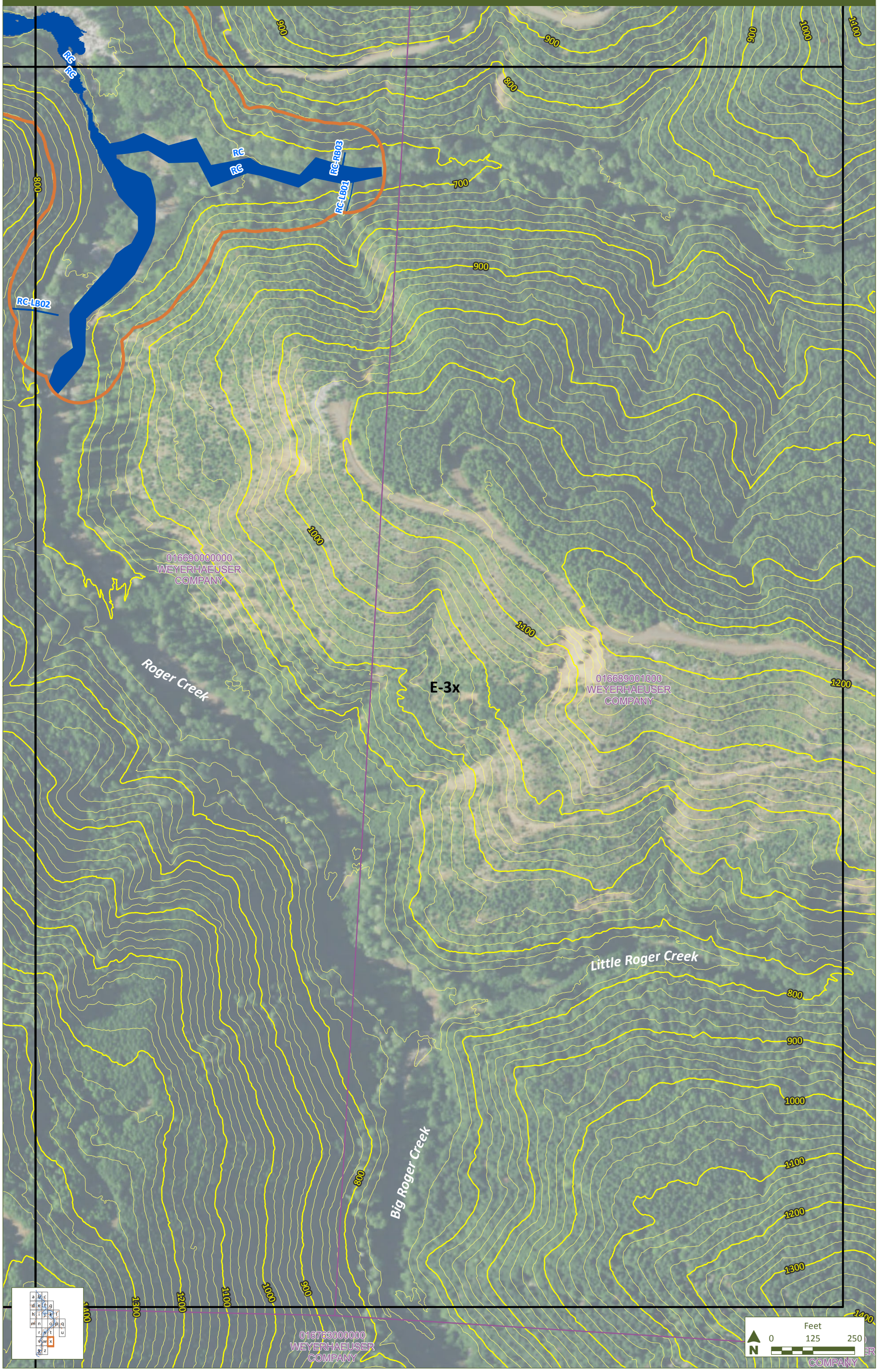


Figure E-3y
Chehalis Study Area Wetland Delineation

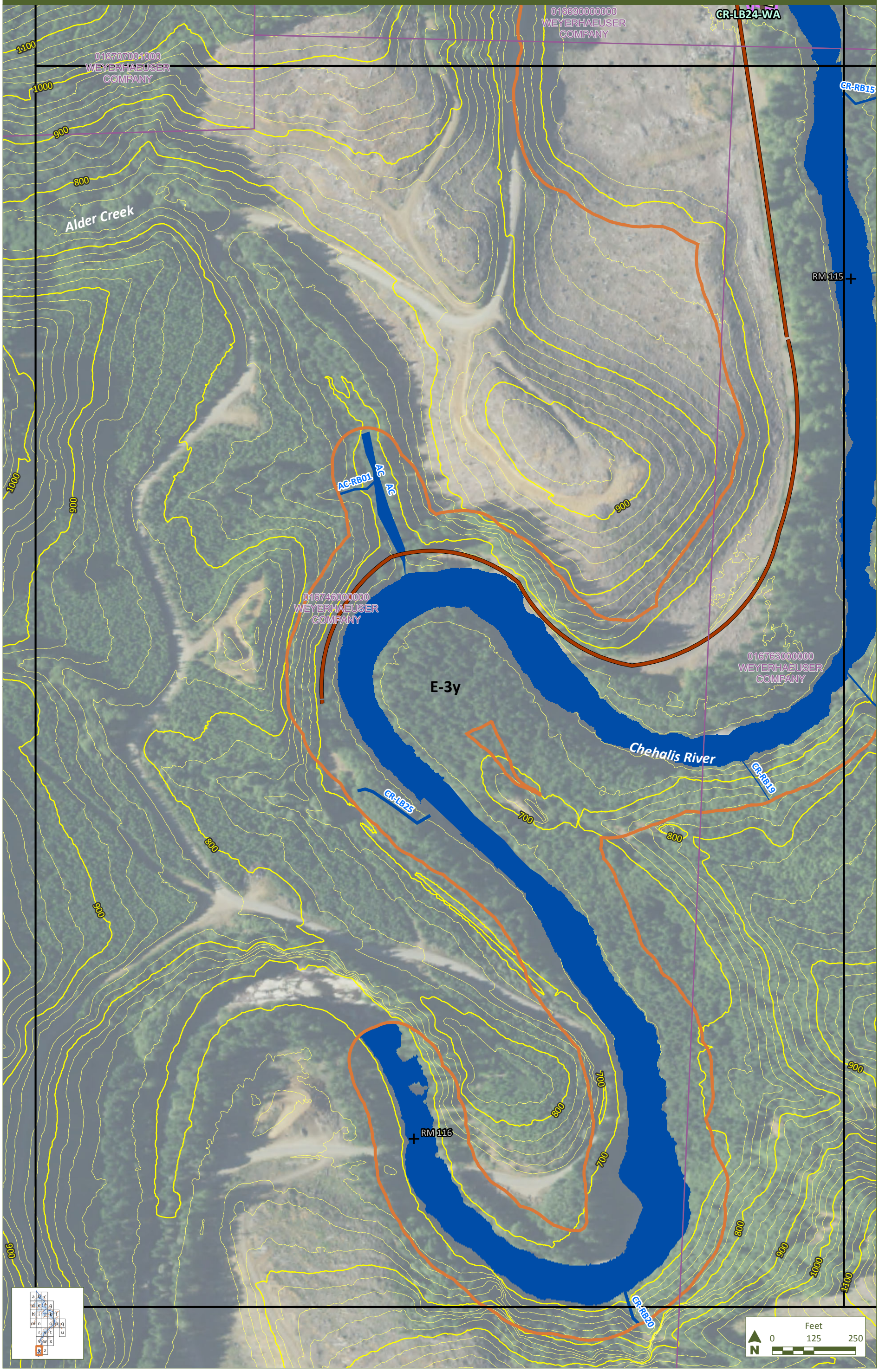
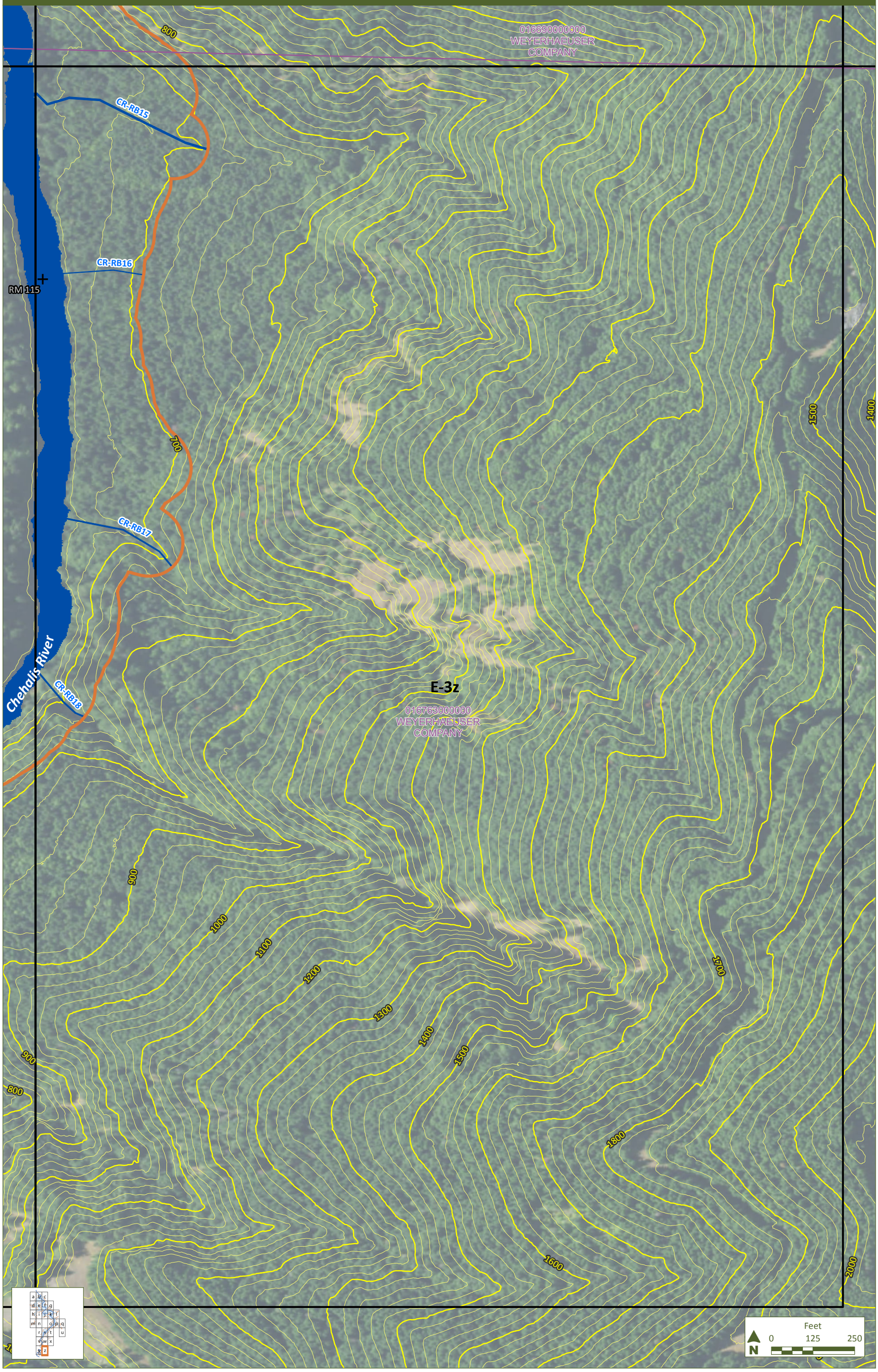


Figure E-3z
Chehalis Study Area Wetland Delineation



Appendix F
Wetland Summary Tables

Table F-1
Wetland Summary Table for the Chehalis Study Area

BASIN NAME	WETLAND NAME	LATITUDE[1]	LONGITUDE[1]	TOTAL AREA (SQUARE FEET)	TOTAL AREA (ACRES)	HYDROGEOMORPHIC CLASS	COWARDIN	ASSOCIATED STREAM NAME	ECOLOGY SCORE	ECOLOGY RATING	FIGURE NUMBER
Big Creek	BC-RB02-WA	46.5116916	-123.2649032	8,108	0.186	Riverine/Slope	PEM	BC-RB02	19	III	B-3p, B-3q
Big Creek	BC-WA	46.5133939	-123.2683599	2,412	0.055	Depressional	PEM	BC	18	III	B-3p
Big Creek	WAB	46.5113726	-123.2646697	125	0.003	Depressional	PEM	None	19	III	B-3q
Chehalis River	CR-LB01-WA	46.5327824	-123.2950096	7,523	0.173	Slope	PFO/PEM	CR-LB01	19	III	B-3e
Chehalis River	CR-LB02-WA	46.5308722	-123.2939162	23,454	0.538	Depressional/Slope	PFO/PSS/PEM	CR-LB02	20	II	B-3e, B-3f
Chehalis River	CR-LB03-WA	46.524724	-123.2932466	4,463	0.102	Slope	PEM	CR-LB03	19	III	B-3j
Chehalis River	CR-LB03-WB	46.5242384	-123.2948216	1,435	0.033	Slope	PEM	CR-LB03	18	III	B-3i
Chehalis River	CR-LB04-WA	46.5231834	-123.2902082	1,243	0.029	Slope	PEM	CR-LB04	19	III	B-3j
Chehalis River	CR-LB13-WA	46.5044165	-123.2855027	2,235	0.051	Slope	PSS/PEM	CR-LB13	18	III	B-3s
Chehalis River	CR-LB14-WA	46.5038061	-123.2864637	4,943	0.113	Slope	PSS/PEM	CR-LB14	18	III	B-3s
Chehalis River	CR-LB15-WA	46.502812	-123.290051	2,690	0.062	Slope	PFO/PSS/PEM	CR-LB15	19	III	B-3s
Chehalis River	CR-LB16-T1-WA	46.5028697	-123.2921495	1,004	0.023	Slope	PEM	CR-LB16-T1	18	III	B-3s
Chehalis River	CR-LB16-WA	46.5024413	-123.2909434	7,826	0.180	Slope	PFO/PSS/PEM	CR-LB16	19	III	B-3s
Chehalis River	CR-LB16-WB	46.5026219	-123.2912099	2,289	0.053	Depressional/Slope	PEM	CR-LB16	19	III	B-3s
Chehalis River	CR-LB16-WC	46.5030509	-123.290617	10,467	0.240	Depressional/Slope	PSS/PEM	CR-LB16	19	III	B-3s
Chehalis River	CR-LB18-WA	46.4984758	-123.2918355	5,907	0.136	Slope	PEM	CR-LB17	18	III	B-3s
Chehalis River	CR-LB19-WA	46.49409	-123.2956513	257	0.006	Slope	PSS/PEM	CR-LB19	19	III	B-3v
Chehalis River	CR-LB21-WA	46.4925488	-123.2959281	359	0.008	Slope	PSS/PEM	CR-LB21	19	III	B-3v
Chehalis River	CR-LB23-WA	46.4882802	-123.2955047	2,722	0.062	Riverine/Slope	PFO/PSS	CR-LB23	21	II	B-3v
Chehalis River	CR-LB24-WA	46.4876498	-123.2934948	2,801	0.064	Depressional/Slope	PSS/PEM	CR-LB24	19	III	B-3v
Chehalis River	CR-LB25-WA	46.4882731	-123.2935521	987	0.023	Slope	PEM	CR-LB25	18	III	B-3v
Chehalis River	CR-RB01-WA	46.5425182	-123.2971007	16,251	0.373	Slope	PFO	CR-RB01	19	III	B-3b
Chehalis River	CR-RB08-T3-WA	46.5108237	-123.2722895	2,179	0.050	Slope	PEM	CR-RB08-T3	18	III	B-3p
Chehalis River	CR-RB08-T5-WA	46.509887	-123.2717881	1,333	0.031	Slope	PEM	CR-RB08-T3	18	III	B-3p
Chehalis River	CR-RB08-WA	46.5104893	-123.2725932	50,957	1.170	Depressional/Slope/Riverine	PEM	CR-RB08	19	III	B-3p
Chehalis River	CR-RB09-WA	46.5099772	-123.2751041	17,416	0.400	Slope	PSS/PEM	CR-RB09	19	III	B-3o
Chehalis River	CR-RB09-WB	46.5085154	-123.2743384	4,660	0.107	Slope	PSS/PEM	CR-RB09	18	III	B-3o, B-3p
Chehalis River	CR-RB10-T1-WA	46.5080992	-123.2777149	379	0.009	Slope	PSS/PEM	CR-RB10-T1	18	III	B-3o
Chehalis River	CR-RB10-T1-WB	46.507811	-123.2772056	714	0.016	Slope	PFO/PSS	CR-RB10-T1	18	III	B-3t
Chehalis River	CR-RB10-WA	46.5085303	-123.2783324	1,634	0.038	Depressional/Slope	PSS/PEM	CR-RB10	19	III	B-3o
Chehalis River	CR-RB13-WA	46.5051533	-123.2819645	2,734	0.063	Depressional/Slope	PSS/PEM	CR-RB13	19	III	B-3t
Chehalis River	CR-S01-WA	46.5421595	-123.2949534	15,471	0.355	Slope	PSS/PEM	CR-S01	19	III	B-3b, B-3c
Chehalis River	CR-S02-WA	46.5393206	-123.2990691	5,947	0.137	Slope	PFO/PSS/PEM	CR-S02	19	III	B-3b
Chehalis River	CR-S04-WA	46.5397476	-123.2969367	1,121	0.026	Slope	PEM	CR-S04	19	III	B-3b
Chehalis River	CR-S16-WA	46.5122503	-123.2721736	1,183	0.027	Slope	PEM	CR-S16	18	III	B-3p
Chehalis River	CR-S18-WA	46.5126725	-123.2746914	3,989	0.092	Depressional/Slope	PFO/PSS	CR-S18	20	II	B-3o, B-3p
Chehalis River	CR-S23-WA	46.4920298	-123.2957987	5,903	0.136	Slope	PSS/PEM	CR-S23	18	III	B-3v
Chehalis River	CR-WA	46.5352479	-123.2941072	236	0.005	Slope	PSS	CR	19	III	B-3f
Chehalis River	CR-WB	46.5236455	-123.2926141	1,864	0.043	Slope	PFO/PEM	CR	19	III	B-3j
Chehalis River	CR-WC	46.5233699	-123.2917685	240	0.006	Slope	PFO/PEM	CR	19	III	B-3j
Chehalis River	CR-WD	46.5233093	-123.2914047	45	0.001	Slope	PFO/PEM	CR	19	III	B-3j
Chehalis River	CR-WE	46.5232158	-123.2911032	3	0.000	Slope	PFO/PEM	CR	19	III	B-3j
Chehalis River	CR-WF	46.5282197	-123.2844153	4,196	0.096	Slope	PFO/PSS	CR	19	III	B-3g, B-3k
Chehalis River	CR-WG	46.5187929	-123.2745028	1,013	0.023	Slope	PSS/PEM	CR	19	III	B-3l

Table F-1
Wetland Summary Table for the Chehalis Study Area

BASIN NAME	WETLAND NAME	LATITUDE[1]	LONGITUDE[1]	TOTAL AREA (SQUARE FEET)	TOTAL AREA (ACRES)	HYDROGEOMORPHIC CLASS	COWARDIN	ASSOCIATED STREAM NAME	ECOLOGY SCORE	ECOLOGY RATING	FIGURE NUMBER
Chehalis River	CR-WH	46.5108856	-123.2756213	641	0.015	Slope	PSS/PEM	CR	19	III	B-3o
Chehalis River	CR-WI	46.5095564	-123.2772989	703	0.016	Slope	PSS/PEM	CR	19	III	B-3o
Chehalis River	CR-WJ	46.5094317	-123.2774277	1,033	0.024	Slope	PSS/PEM	CR	19	III	B-3o
Chehalis River	CR-WK	46.5093735	-123.2775912	1,444	0.033	Slope	PSS/PEM	CR	19	III	B-3o
Chehalis River	CR-WL	46.5049557	-123.2832748	288	0.007	Slope	PFO/PSS	CR	19	III	B-3t
Chehalis River	CR-WM	46.5018614	-123.2905664	34,420	0.790	Slope	PFO/PSS	CR	19	III	B-3s
Chehalis River	WA	46.5476041	-123.300041	2,205	0.051	Slope	PSS/PEM	None	19	III	B-3b
Chehalis River	WAA	46.5205819	-123.2772031	2,774	0.064	Depressional	PFO/PSS	None	21	II	B-3k
Chehalis River	WAC	46.5207964	-123.2781546	9,310	0.214	Depressional	PFO/PSS/PEM	None	20	II	B-3k
Chehalis River	WAD	46.510576	-123.2757802	3,395	0.078	Slope	PFO/PSS	None	19	III	B-3o
Chehalis River	WAE	46.5091513	-123.2772098	1,874	0.043	Slope	PSS/PEM	None	19	III	B-3o
Chehalis River	WAF	46.5033415	-123.2872456	6,346	0.146	Depressional	PEM	None	19	III	B-3s
Chehalis River	WAG	46.5029295	-123.2875167	790	0.018	Depressional	PEM	None	20	II	B-3s
Chehalis River	WAH	46.4936955	-123.2967106	3,108	0.071	Slope	PFO/PEM	None	18	III	B-3v
Chehalis River	WAI	46.5424005	-123.2989702	2,711	0.062	Slope	PEM	None	18	III	B-3b
Chehalis River	WAJ	46.5418545	-123.2997472	455	0.010	Slope	PEM	None	18	III	B-3b
Chehalis River	WB	46.5465017	-123.2995734	1,360	0.031	Depressional/Slope	PSS/PEM	None	19	III	B-3b
Chehalis River	WC	46.5448184	-123.300035	5,949	0.137	Slope	PSS/PEM	None	18	III	B-3b
Chehalis River	WD	46.5441808	-123.299761	19,046	0.437	Slope	PSS/PEM	None	18	III	B-3b
Chehalis River	WE	46.5433666	-123.2988242	7,078	0.162	Slope	PEM	None	18	III	B-3b
Chehalis River	WF	46.5427682	-123.296553	1,096	0.025	Slope	PEM	None	18	III	B-3b
Chehalis River	WO	46.540198	-123.2945501	1,461	0.034	Slope	PEM	None	18	III	B-3c
Chehalis River	WP	46.5399912	-123.2943239	297	0.007	Slope	PEM	None	18	III	B-3c
Chehalis River	WQ	46.5421992	-123.2930882	485	0.011	Slope	PEM	None	18	III	B-3c
Chehalis River	WR	46.5393076	-123.2944199	767	0.018	Slope	PSS/PEM	None	18	III	B-3c
Chehalis River	WS	46.5334151	-123.294922	1,122	0.026	Slope	PEM	None	18	III	B-3e, B-3f
Chehalis River	WT	46.5309744	-123.2926428	10,479	0.241	Depressional/Slope	PFO/PEM	None	20	II	B-3f
Chehalis River	WU	46.5301005	-123.2927843	3,828	0.088	Slope	PEM	None	17	III	B-3f
Chehalis River	WV	46.5305814	-123.2906777	2,219	0.051	Depressional/Slope	PEM	None	19	III	B-3f
Chehalis River	WW	46.5297189	-123.2891301	47,576	1.092	Depressional/Slope	PFO/PSS/PEM	None	20	II	B-3f
Chehalis River	WX	46.5281724	-123.2883638	1,277	0.029	Slope	PFO/PEM	None	19	III	B-3f
Chehalis River	WY	46.5286817	-123.2843116	3,204	0.074	Depressional	PEM	None	20	II	B-3g
Chehalis River	WZ	46.5223471	-123.2788965	1,404	0.032	Slope	PEM	None	19	III	B-3k
Crim Creek	CC-LB01-WA	46.5410859	-123.3016087	10,105	0.232	Slope	PEM	CC-LB01	19	III	B-3b
Crim Creek	CC-LB03-T2-WA	46.5393899	-123.3058045	1,336	0.031	Slope	PFO/PEM	CC-LB03-T2	18	III	B-3a
Crim Creek	CC-LB04-WA	46.535909	-123.3057982	15,530	0.357	Slope	PSS/PEM	CC-LB04	19	III	B-3d
Crim Creek	CC-LB04-WB	46.5362456	-123.3052807	3,227	0.074	Slope	PSS/PEM	CC-LB04	19	III	B-3d
Crim Creek	CC-LB05-WA	46.5314124	-123.2999394	9,622	0.221	Slope	PFO	CC-LB05	18	III	B-3e
Crim Creek	CC-LB06-WA	46.5284186	-123.3003594	7,930	0.182	Depressional	PSS/PEM	CC-LB06	21	II	B-3e
Crim Creek	CC-LB06-WB	46.528199	-123.301449	1,293	0.030	Slope	PSS/PEM	CC-LB06	18	III	B-3e
Crim Creek	CC-LB07-WA	46.5257741	-123.3038766	503	0.012	Slope	PSS/PEM	CC-LB07	18	III	B-3i
Crim Creek	CC-LB10-WA	46.5230008	-123.3060412	2,483	0.057	Slope	PFO/PSS	CC-LB10	18	III	B-3h
Crim Creek	CC-LB12-WA	46.5169259	-123.3045841	685	0.016	Slope	PEM	CC-LB12	18	III	B-3m
Crim Creek	CC-RB05-WA	46.5343647	-123.3021963	237	0.005	Slope	PEM	CC-RB05	19	III	B-3e

Table F-1
Wetland Summary Table for the Chehalis Study Area

BASIN NAME	WETLAND NAME	LATITUDE[1]	LONGITUDE[1]	TOTAL AREA (SQUARE FEET)	TOTAL AREA (ACRES)	HYDROGEOMORPHIC CLASS	COWARDIN	ASSOCIATED STREAM NAME	ECOLOGY SCORE	ECOLOGY RATING	FIGURE NUMBER
Crim Creek	CC-RB06-WA	46.5283618	-123.2989009	1,959	0.045	Slope	PSS/PEM	CC-RB06	18	III	B-3e
Crim Creek	CC-RB06-WB	46.5283123	-123.2968558	18,659	0.428	Slope	PSS/PEM	CC-RB06	18	III	B-3e
Crim Creek	CC-RB06-WC	46.5276158	-123.2965158	3,277	0.075	Slope	PEM	CC-RB06	18	III	B-3i
Crim Creek	CC-RB07-T1-WA	46.5269435	-123.2993146	1,239	0.028	Slope	PEM	CC-RB07-T1	18	III	B-3i
Crim Creek	CC-RB07-WA	46.5276816	-123.2987963	9,324	0.214	Slope	PSS	CC-RB07	18	III	B-3i
Crim Creek	CC-RB07-WB	46.5269008	-123.2984709	2,258	0.052	Slope	PSS	CC-RB07	18	III	B-3i
Crim Creek	CC-RB07-WC	46.52623	-123.2985839	204	0.005	Riverine	PFO	CC-RB07	20	II	B-3i
Crim Creek	CC-WA	46.5387645	-123.3037752	2,436	0.056	Depressional/Slope	PFO/PSS	CC	20	II	B-3b
Crim Creek	CC-WB	46.5329089	-123.301636	3,020	0.069	Slope	PFO/PSS	CC	19	III	B-3e
Crim Creek	CC-WC	46.5320916	-123.3004889	3,936	0.090	Slope	PSS/PEM	CC	19	III	B-3e
Crim Creek	CC-WD	46.527898	-123.3020591	4,941	0.113	Slope	PFO/PSS	CC	18	III	B-3e, B-3i
Crim Creek	CC-WE	46.524062	-123.3059196	1,540	0.035	Slope	PSS	CC	18	III	B-3h
Crim Creek	CC-WF	46.5227769	-123.3053824	961	0.022	Slope	PFO/PSS	CC	18	III	B-3h
Crim Creek	CC-WG	46.5134531	-123.3043378	11,347	0.260	Slope	PSS/PEM	CC	18	III	B-3m
Crim Creek	CC-WH	46.5133225	-123.3046477	431	0.010	Slope	PEM	CC	18	III	B-3m
Crim Creek	CC-WI	46.533093	-123.3018919	617	0.014	Slope	PSS/PEM	None	18	III	B-3e
Crim Creek	CC-WJ	46.5325556	-123.3015114	376	0.009	Depressional	PSS/PEM	None	21	II	B-3e
Crim Creek	WG	46.5355804	-123.3044975	10,635	0.244	Depressional	PEM	None	19	III	B-3d, B-3e
Crim Creek	WH	46.5314704	-123.301117	1,333	0.031	Slope	PSS/PEM	None	19	III	B-3e
Crim Creek	WI	46.5305317	-123.2986429	6,674	0.153	Depressional	PFO/PEM	None	20	II	B-3e
Crim Creek	WJ	46.5261392	-123.2980405	1,442	0.033	Slope	PEM	None	17	III	B-3i
Crim Creek	WK	46.5281418	-123.3018497	2,390	0.055	Slope	PFO/PSS	None	18	III	B-3e
Crim Creek	WL	46.5138091	-123.3043644	2,298	0.053	Slope	PFO/PSS	None	18	III	B-3m
Crim Creek	WM	46.5122836	-123.3071419	4,308	0.099	Slope	PSS/PEM	None	18	III	B-3m
Crim Creek	WN	46.5120236	-123.3077978	1,274	0.029	Slope	PEM	None	17	III	B-3m
Hull Creek	HC-WA	46.5319661	-123.291276	1,064	0.024	Slope	PEM	HC	18	III	B-3f
Hull Creek	HC-WB	46.5336635	-123.2888138	194	0.004	Slope	PSS/PEM	HC	18	III	B-3f
Hull Creek	HC-WC	46.531947	-123.2853586	1,815	0.042	Slope	PEM	HC	18	III	B-3f
Hull Creek	HC-WD	46.5320053	-123.2847847	1,233	0.028	Slope	PFO/PEM	HC	18	III	B-3g
Hull Creek	HC-WE	46.5319655	-123.2839022	7,715	0.177	Riverine/Slope	PSS/PEM	HC	21	II	B-3g
Lester Creek	LC-LB01-WA	46.534884	-123.3050687	10,762	0.247	Slope	PSS/PEM	LC-LB01	18	III	B-3d
Lester Creek	LC-WA	46.5329617	-123.3042161	2,563	0.059	Slope	PFO/PSS	LC	18	III	B-3d, B-3e
Lester Creek	LC-WB	46.5326191	-123.3064227	11,440	0.263	Slope	PFO/PSS/PEM	LC	18	III	B-3d
Roger Creek	RC-RB01-WA	46.5004469	-123.2870841	424	0.010	Slope	PSS/PEM	RC-RB01	18	III	B-3s
Smith Creek	SC-RB01-WA	46.4972023	-123.2954007	5,140	0.118	Slope	PSS/PEM	SC-RB01	18	III	B-3r, B-3v
TOTAL				605,044	13.890						

Notes:
1. Latitude and longitude coordinates are for the approximate centroid of the wetland.
PEM = palustrine emergent
PSS = palustrine scrub-shrub
PFO = palustrine forested

Table F-2

Wetland Summary Table for the Chehalis-Centralia Airport Study Area

WETLAND NAME	LATITUDE[1]	LONGITUDE[1]	TOTAL AREA (SQUARE FEET)	TOTAL AREA (ACRES)	HGM	COWARDIN	ECOLOGY SCORE	ECOLOGY RATING	FIGURE NUMBER
Wetland A	46.685466	-122.986554	27,382	0.629	Depressional	Palustrine Emergent	20	II	Figure B-4
Wetland B	46.686627	-122.984075	22,308	0.512	Depressional	Palustrine Emergent	21	II	Figure B-4
Wetland C	46.683671	-122.984832	20,462	0.470	Depressional	Palustrine Emergent	19	III	Figure B-4
TOTAL			70,152	1.610					

Notes:

1. Latitude and longitude coordinates are for the approximate centroid of the wetland.

Appendix G
Site Photographs

Figure G-1
Representative Wetland Photographs within the Chehalis River Basin (March and April 2017)









Figure G-2
Representative Wetland Photographs within the Big Creek Basin









Figure G-3
Representative Wetland Photographs within the Crim Creek Basin









Figure G-4
Representative Wetland Photographs within the Hull Creek Basin









Figure G-5
Representative Wetland Photographs within the Lester Creek Basin









Figure G-6
Representative Wetland Photographs within the Rogers Creek Basin









Figure G-7
Representative Wetland Photographs within the Smith Creek Basin









Figure G-8
Representative Wetland Photographs at the Chehalis-Centralia Airport Levee









Appendix H
Summary Tables of Waters and Ordinary High Water Mark

Table H-1
List of Waters Identified within the Chehalis Study Area

BASIN NAME	STREAM ID	LATITUDE[1]	LONGITUDE[1]	STREAM LENGTH (FEET)	STREAM AREA (SQUARE FEET)	STREAM AREA (ACRES)	FIGURE NUMBER
Alder Creek	AC	46.4833316	-123.2978502	449	10,196	0.234073	Figure 25
Alder Creek	AC-RB01	46.4834743	-123.2980968	119	700	0.016063	Figure 25
Big Creek	BC	46.512036	-123.2661279	4,446	106,329	2.440988	Figure 16, 17, 21
Big Creek	BC-LB01	46.5104247	-123.2648994	455	1,749	0.040142	Figure 16
Big Creek	BC-LB01-B1	46.5107264	-123.2647276	283	1,130	0.025941	Figure 16, 17
Big Creek	BC-LB02	46.5088198	-123.2628031	141	282	0.006478	Figure 17
Big Creek	BC-LB03	46.50782	-123.2607742	77	524	0.012022	Figure 21
Big Creek	BC-RB01	46.513135	-123.2648706	1,063	10,328	0.237094	Figure 16, 17
Big Creek	BC-RB01-T1	46.5135598	-123.2643056	535	3,177	0.072926	Figure 16, 17
Big Creek	BC-RB02	46.5115372	-123.2650081	36	146	0.003341	Figure 16
Big Creek	BC-RB03	46.5106173	-123.2638815	178	1,070	0.024572	Figure 17
Big Creek	BC-RB04	46.5092698	-123.2628055	35	70	0.001613	Figure 17
Big Creek	BC-RB05	46.5091347	-123.2617203	319	2,103	0.048276	Figure 17
Crim Creek	CC	46.5258051	-123.3027454	15,300	670,973	15.403539	Figure 2, 5, 8, 9, 13
Crim Creek	CC-LB01	46.5410229	-123.301766	302	601	0.013797	Figure 2
Crim Creek	CC-LB03	46.5391984	-123.3058906	901	6,895	0.158291	Figure 1, 2
Crim Creek	CC-LB03-T1	46.5396149	-123.3056752	379	747	0.017145	Figure 1
Crim Creek	CC-LB03-T2	46.5393544	-123.3060905	288	563	0.012936	Figure 1
Crim Creek	CC-LB03-T3	46.5392018	-123.3065419	348	680	0.015618	Figure 1
Crim Creek	CC-LB04	46.5363645	-123.3050528	471	941	0.021594	Figure 4, 5
Crim Creek	CC-LB05	46.5315244	-123.2997357	20	39	0.000907	Figure 5
Crim Creek	CC-LB06	46.5284168	-123.3013832	201	1,205	0.027652	Figure 5
Crim Creek	CC-LB07	46.5256751	-123.303768	590	3,540	0.081275	Figure 8, 9
Crim Creek	CC-LB07-T1	46.5256866	-123.3037354	50	82	0.001878	Figure 9
Crim Creek	CC-LB07-T2	46.5257342	-123.3042171	96	180	0.004133	Figure 8, 9
Crim Creek	CC-LB08	46.5253607	-123.3051775	328	1,915	0.043971	Figure 8
Crim Creek	CC-LB09	46.5234027	-123.3079298	1,040	10,293	0.236303	Figure 8
Crim Creek	CC-LB10	46.5224785	-123.3059726	543	3,251	0.074625	Figure 8
Crim Creek	CC-LB10-T1	46.521986	-123.3063901	28	49	0.001119	Figure 8
Crim Creek	CC-LB10-T2	46.5222559	-123.306119	37	170	0.003911	Figure 8
Crim Creek	CC-LB11	46.5209925	-123.3041266	8	14	0.000325	Figure 8
Crim Creek	CC-LB12	46.516946	-123.3048874	216	830	0.019061	Figure 13
Crim Creek	CC-LB13	46.5153248	-123.3056697	271	1,446	0.033202	Figure 13
Crim Creek	CC-LB14	46.5123717	-123.309443	158	712	0.016356	Figure 13

Table H-1
List of Waters Identified within the Chehalis Study Area

BASIN NAME	STREAM ID	LATITUDE[1]	LONGITUDE[1]	STREAM LENGTH (FEET)	STREAM AREA (SQUARE FEET)	STREAM AREA (ACRES)	FIGURE NUMBER
Crim Creek	CC-LB15	46.5327848	-123.3017212	170	681	0.015624	Figure 5
Crim Creek	CC-RB03	46.5355777	-123.3027477	118	237	0.005440	Figure 5
Crim Creek	CC-RB04	46.5346727	-123.3023334	124	248	0.005694	Figure 5
Crim Creek	CC-RB05	46.5346008	-123.3013659	532	1,879	0.043145	Figure 5
Crim Creek	CC-RB06	46.5281339	-123.2970441	1,333	5,310	0.121907	Figure 5, 9
Crim Creek	CC-RB07	46.5273451	-123.298491	1,028	6,143	0.141020	Figure 5, 9
Crim Creek	CC-RB07-T1	46.5273904	-123.2989539	300	1,777	0.040801	Figure 9
Crim Creek	CC-RB08	46.5270805	-123.2999911	761	2,200	0.050500	Figure 5, 9
Crim Creek	CC-RB09	46.518037	-123.3025223	347	1,932	0.044355	Figure 9
Crim Creek	CC-RB10	46.5156644	-123.3040813	331	1,924	0.044165	Figure 13, 14
Crim Creek	CC-RB11	46.5131337	-123.3046609	416	3,276	0.075206	Figure 13
Crim Creek	CC-RB12	46.5133266	-123.3048426	54	107	0.002467	Figure 13
Crim Creek	CC-RB13	46.5132045	-123.3050632	141	281	0.006459	Figure 13
Crim Creek	CC-RB14	46.5119342	-123.3080292	135	539	0.012376	Figure 13
Crim Creek	CC-RB15	46.5118507	-123.309382	178	2,904	0.066657	Figure 13
Crim Creek	CC-RB16	46.5336246	-123.3019737	33	15	0.000340	Figure 5
Crim Creek	CC-S07	46.5403575	-123.3040866	224	447	0.010262	Figure 2
Crim Creek	CC-S08	46.5372447	-123.3039853	21	84	0.001930	Figure 5
Crim Creek	CC-S09	46.5375421	-123.3035086	38	226	0.005179	Figure 5
Crim Creek	CC-S10	46.5381325	-123.3028625	49	92	0.002108	Figure 2
Crim Creek	CC-S11	46.5320301	-123.2989241	116	231	0.005314	Figure 5
Crim Creek	CC-S12	46.5244998	-123.3073173	201	401	0.009211	Figure 8
Chehalis River	CR	46.517481	-123.2737289	45,104	4,864,845	111.682338	Figure 2, 3, 6, 10, 11, 12, 15, 16, 19, 20, 22, 23, 25, 26
Chehalis River	CR-LB01	46.532743	-123.2953362	34	67	0.001546	Figure 5
Chehalis River	CR-LB02	46.531004	-123.294331	747	3,722	0.085437	Figure 5, 6
Chehalis River	CR-LB02-T1	46.5304018	-123.2941781	164	986	0.022635	Figure 6
Chehalis River	CR-LB02-T2	46.5303871	-123.2938428	130	760	0.017447	Figure 6
Chehalis River	CR-LB02-T3	46.5303476	-123.2941925	14	64	0.001476	Figure 6
Chehalis River	CR-LB03	46.5242816	-123.2941925	502	2,003	0.045991	Figure 9, 10
Chehalis River	CR-LB03-T1	46.5242885	-123.2945246	46	173	0.003977	Figure 9
Chehalis River	CR-LB04	46.5217993	-123.2895747	1,178	11,736	0.269421	Figure 10
Chehalis River	CR-LB04-T1	46.5221694	-123.2876492	1,075	10,436	0.239572	Figure 10
Chehalis River	CR-LB04-T2	46.5216084	-123.2908073	1,219	4,852	0.111388	Figure 10

Table H-1
List of Waters Identified within the Chehalis Study Area

BASIN NAME	STREAM ID	LATITUDE[1]	LONGITUDE[1]	STREAM LENGTH (FEET)	STREAM AREA (SQUARE FEET)	STREAM AREA (ACRES)	FIGURE NUMBER
Chehalis River	CR-LB04-T3	46.5209866	-123.2920488	339	1,307	0.030001	Figure 10
Chehalis River	CR-LB04-T4	46.522004	-123.2919574	887	3,530	0.081034	Figure 10
Chehalis River	CR-LB05	46.523715	-123.2854978	135	536	0.012295	Figure 10
Chehalis River	CR-LB07	46.5187673	-123.2790799	1,094	6,720	0.154262	Figure 11, 15
Chehalis River	CR-LB07-T1	46.5180628	-123.279489	303	2,990	0.068650	Figure 11, 15
Chehalis River	CR-LB08	46.5157088	-123.2755151	1,144	11,419	0.262157	Figure 15, 16
Chehalis River	CR-LB08-T1	46.5156402	-123.2763993	62	113	0.002595	Figure 15
Chehalis River	CR-LB08-T2	46.5156439	-123.2770957	154	297	0.006826	Figure 15
Chehalis River	CR-LB09	46.5111609	-123.2770201	394	785	0.018016	Figure 15
Chehalis River	CR-LB10	46.5106005	-123.2771793	221	426	0.009775	Figure 15
Chehalis River	CR-LB11	46.5095187	-123.2801929	651	2,554	0.058621	Figure 15
Chehalis River	CR-LB12	46.507762	-123.2817145	622	3,654	0.083894	Figure 15, 20
Chehalis River	CR-LB13	46.5057259	-123.2874199	1,650	9,879	0.226796	Figure 19
Chehalis River	CR-LB13-T1	46.5047722	-123.2852347	76	436	0.010013	Figure 19
Chehalis River	CR-LB13-T2	46.5058281	-123.2858688	777	3,089	0.070920	Figure 19
Chehalis River	CR-LB13-T3	46.5064052	-123.2874228	715	2,830	0.064958	Figure 19
Chehalis River	CR-LB14	46.5037485	-123.2862433	115	636	0.014589	Figure 19
Chehalis River	CR-LB15	46.5029147	-123.2902439	26	51	0.001172	Figure 19
Chehalis River	CR-LB16	46.5027455	-123.2910909	918	3,471	0.079687	Figure 19
Chehalis River	CR-LB16-T1	46.5028036	-123.2920951	558	3,305	0.075881	Figure 19
Chehalis River	CR-LB17	46.5002238	-123.292822	1,441	11,170	0.256428	Figure 18, 19
Alder Creek	CR-LB17-T1	46.5002581	-123.2929333	26	40	0.000921	Figure 19
Chehalis River	CR-LB17-T2	46.5003394	-123.2940973	72	136	0.003133	Figure 18
Chehalis River	CR-LB17-T3	46.5003005	-123.2940959	30	58	0.001334	Figure 18
Chehalis River	CR-LB18	46.4987499	-123.2919425	676	1,316	0.030222	Figure 19
Chehalis River	CR-LB20	46.4933144	-123.2969619	305	1,182	0.027139	Figure 22
Chehalis River	CR-LB21	46.4927477	-123.2962154	176	345	0.007914	Figure 22
Chehalis River	CR-LB21-T1	46.4926827	-123.2963074	77	303	0.006954	Figure 22
Chehalis River	CR-LB22	46.4919654	-123.2932388	173	987	0.022655	Figure 22
Chehalis River	CR-LB23	46.4878035	-123.2945242	786	4,465	0.102506	Figure 22
Chehalis River	CR-LB25	46.4808723	-123.2975104	255	2,040	0.046835	Figure 25
Chehalis River	CR-LB26	46.5331193	-123.2948827	717	3,586	0.082321	Figure 5, 6
Chehalis River	CR-LB26-T1	46.5324263	-123.2944582	17	34	0.000785	Figure 6
Chehalis River	CR-RB01	46.5424708	-123.2974605	49	84	0.001926	Figure 2

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List of Waters Identified within the Chehalis Study Area

BASIN NAME	STREAM ID	LATITUDE[1]	LONGITUDE[1]	STREAM LENGTH (FEET)	STREAM AREA (SQUARE FEET)	STREAM AREA (ACRES)	FIGURE NUMBER
Chehalis River	CR-RB02	46.5400584	-123.2912257	1,224	6,369	0.146219	Figure 3
Chehalis River	CR-RB02-T1	46.5407249	-123.2901455	427	1,048	0.024070	Figure 3
Chehalis River	CR-RB03	46.5386819	-123.2895254	440	2,635	0.060485	Figure 3
Chehalis River	CR-RB04	46.5300412	-123.2870643	222	883	0.020280	Figure 6
Chehalis River	CR-RB05	46.5276604	-123.2776594	582	2,323	0.053337	Figure 11
Chehalis River	CR-RB05-T1	46.5274681	-123.2772818	477	950	0.021809	Figure 11
Chehalis River	CR-RB06	46.526841	-123.2758568	372	2,191	0.050293	Figure 11, 12
Chehalis River	CR-RB07	46.5235091	-123.2754295	447	2,677	0.061446	Figure 11, 12
Chehalis River	CR-RB08	46.5107175	-123.2727268	1,098	6,171	0.141673	Figure 16
Chehalis River	CR-RB08-T1	46.5118856	-123.2724546	231	1,340	0.030752	Figure 16
Chehalis River	CR-RB08-T2	46.5116147	-123.2725179	119	230	0.005291	Figure 16
Chehalis River	CR-RB08-T3	46.5107803	-123.272062	221	436	0.010015	Figure 16
Chehalis River	CR-RB08-T3-T	46.5108694	-123.2721776	65	129	0.002971	Figure 16
Chehalis River	CR-RB08-T4	46.5107569	-123.2725373	110	213	0.004879	Figure 16
Chehalis River	CR-RB08-T5	46.5099792	-123.2718318	205	403	0.009250	Figure 16
Chehalis River	CR-RB09	46.5095083	-123.2746254	1,365	10,839	0.248832	Figure 15, 16
Chehalis River	CR-RB09-T1	46.5080437	-123.2743401	164	605	0.013885	Figure 15, 16, 20
Chehalis River	CR-RB09-T2	46.5079428	-123.2741338	99	378	0.008677	Figure 16
Chehalis River	CR-RB10	46.5081363	-123.2778634	746	2,804	0.064366	Figure 15, 20
Chehalis River	CR-RB10-T1	46.5080174	-123.277511	235	1,400	0.032130	Figure 15, 20
Chehalis River	CR-RB11	46.5070714	-123.2796457	499	1,605	0.036838	Figure 20
Chehalis River	CR-RB11-T1	46.5069869	-123.2802398	861	3,341	0.076694	Figure 15, 20
Chehalis River	CR-RB12	46.5064045	-123.2803561	596	3,468	0.079622	Figure 20
Chehalis River	CR-RB13	46.5054146	-123.2817634	403	2,361	0.054206	Figure 20
Chehalis River	CR-RB14	46.4904963	-123.2905474	259	475	0.010902	Figure 23
Chehalis River	CR-RB15	46.4867255	-123.2913434	613	3,391	0.077857	Figure 26
Chehalis River	CR-RB16	46.4854433	-123.291458	311	485	0.011135	Figure 26
Chehalis River	CR-RB17	46.4832743	-123.2911462	419	1,442	0.033095	Figure 26
Chehalis River	CR-RB18	46.4818887	-123.2918969	226	767	0.017616	Figure 26
Chehalis River	CR-RB19	46.4811817	-123.2932052	184	295	0.006781	Figure 25
Chehalis River	CR-RB20	46.4767412	-123.2944628	175	877	0.020143	Figure 25
Chehalis River	CR-RB21	46.520597	-123.269913	2,016	13,024	0.298991	Figure 12
Chehalis River	CR-RB21-T1	46.5196639	-123.2705961	327	597	0.013701	Figure 12
Chehalis River	CR-RB21-T2	46.5200954	-123.2699558	348	641	0.014722	Figure 12

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Chehalis River	CR-RB21-T3	46.5205782	-123.2704557	264	508	0.011673	Figure 12
Chehalis River	CR-RB21-T4	46.5209056	-123.2699518	146	571	0.013110	Figure 12
Chehalis River	CR-RB21-T5	46.5214805	-123.2683608	59	224	0.005152	Figure 12
Chehalis River	CR-S01	46.5424419	-123.2938759	78	155	0.003564	Figure 3
Chehalis River	CR-S02	46.5390293	-123.2990915	358	1,431	0.032851	Figure 2
Chehalis River	CR-S03	46.5287394	-123.280602	634	3,783	0.086841	Figure 7, 11
Chehalis River	CR-S04	46.5399618	-123.2970668	150	597	0.013706	Figure 2
Chehalis River	CR-S05	46.5175846	-123.271557	970	1,897	0.043542	Figure 16
Chehalis River	CR-S06	46.5400457	-123.2978324	30	120	0.002765	Figure 2
Chehalis River	CR-S07	46.5250908	-123.279022	95	378	0.008684	Figure 11
Chehalis River	CR-S08	46.5214653	-123.2821216	150	899	0.020648	Figure 11
Chehalis River	CR-S09	46.5205982	-123.2831278	126	252	0.005786	Figure 11
Chehalis River	CR-S10	46.5195373	-123.281745	483	1,932	0.044343	Figure 11
Chehalis River	CR-S11	46.5180026	-123.277206	80	160	0.003671	Figure 15
Chehalis River	CR-S12	46.5130081	-123.2751668	43	86	0.001970	Figure 15
Chehalis River	CR-S13	46.5104623	-123.2786046	177	263	0.006034	Figure 15
Chehalis River	CR-S14	46.5046004	-123.2902643	255	509	0.011691	Figure 19
Chehalis River	CR-S15	46.4989273	-123.2933642	299	1,792	0.041137	Figure 18, 19
Chehalis River	CR-S16-T	46.5123462	-123.2724154	470	1,879	0.043126	Figure 16
Chehalis River	CR-S18	46.5126166	-123.2751629	452	904	0.020746	Figure 15, 16
Chehalis River	CR-S23	46.4922444	-123.2955536	343	2,030	0.046600	Figure 22
Chehalis River	CR-S24	46.5229743	-123.2942359	450	1,733	0.039781	Figure 9, 10
Hull Creek	HC	46.5325708	-123.2864504	3,380	31,860	0.731409	Figure 6, 7
Hull Creek	HC-LB01	46.5323272	-123.2832485	23	36	0.000833	Figure 7
Hull Creek	HC-RB01	46.5344182	-123.288141	608	2,410	0.055317	Figure 6
Hull Creek	HC-RB01-T1	46.5341955	-123.2876415	423	1,678	0.038530	Figure 6
Hull Creek	HC-RB02	46.5331539	-123.2870576	82	461	0.010583	Figure 6
Hull Creek	HC-RB03	46.5337202	-123.2857463	830	4,880	0.112027	Figure 6, 7
Lester Creek	LC	46.5314229	-123.3087677	4,321	149,117	3.423272	Figure 4, 5
Lester Creek	LC-LB01	46.5348423	-123.3040679	313	1,250	0.028695	Figure 4, 5
Lester Creek	LC-RB01	46.5317395	-123.3071166	712	5,595	0.128452	Figure 4
Lester Creek	LC-RB01-T1	46.5318206	-123.307137	28	47	0.001083	Figure 4
Lester Creek	LC-RB01-T3	46.5311324	-123.3071046	160	908	0.020853	Figure 4
Lester Creek	LC-RB02	46.5310005	-123.3079017	467	1,721	0.039502	Figure 4

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Lester Creek	LC-RB03	46.5310149	-123.3105985	516	4,889	0.112228	Figure 4
Lester Creek	LC-RB04	46.5310748	-123.3108537	416	1,649	0.037861	Figure 4
Lester Creek	LC-RB05	46.5320282	-123.3114631	381	1,517	0.034835	Figure 4
Lester Creek	LC-RB06	46.5337966	-123.3118748	39	393	0.009021	Figure 4
Browns Creek	NC	46.5258101	-123.2707936	2,659	46,632	1.070522	Figure 11, 12
Browns Creek	NC-LB01	46.5250645	-123.2727773	425	836	0.019192	Figure 12
Browns Creek	NC-LB02	46.5255203	-123.271367	100	400	0.009194	Figure 12
Browns Creek	NC-RB01	46.5262568	-123.27181	486	959	0.022020	Figure 12
Browns Creek	NC-RB02	46.5268164	-123.2694338	285	552	0.012674	Figure 12
Browns Creek	NC-RB03	46.5270375	-123.2691677	196	369	0.008470	Figure 12
Roger Creek	RC	46.4991726	-123.2873332	4,901	227,567	5.224254	Figure 19, 20, 24
Roger Creek	RC-LB01	46.4965455	-123.2795778	100	186	0.004281	Figure 24
Roger Creek	RC-LB02	46.4955381	-123.2833128	158	580	0.013320	Figure 23, 24
Roger Creek	RC-RB01	46.500499	-123.2868252	371	1,366	0.031359	Figure 19
Roger Creek	RC-RB02	46.4981056	-123.2831001	659	4,831	0.110915	Figure 19, 20
Roger Creek	RC-RB03	46.4968728	-123.2796669	38	154	0.003533	Figure 24
Chehalis River	SC	46.4972096	-123.2942123	998	8,938	0.205187	Figure 18, 22, 23
Chehalis River	SC-RB01	46.4973124	-123.2954153	108	215	0.004939	Figure 18, 22
Chehalis River	SC-RB01-T1	46.4972476	-123.2953556	95	188	0.004326	Figure 18, 22
Chehalis River	SC-RB02	46.4973971	-123.295524	42	83	0.001912	Figure 18
Chehalis River	SC-RB03	46.4973284	-123.2956981	96	181	0.004164	Figure 18, 22
Chehalis River	SC-RB04	46.4973812	-123.2958868	34	68	0.001561	Figure 18

Notes:
1. Latitude and longitude coordinates are for the approximate centroid of the stream.