Prepared by: Dredged Material Management Office Seattle District, US Army Corps of Engineers

#### Memorandum for Record

December 29, 2023

Subject: Tier 1 Antidegradation Evaluation for Northwest Grain Growers, Inc. Dredging-Wallula, Washington (NWS-2023-780)

#### Introduction

This memorandum documents the Tier 1 antidegradation evaluation conducted by the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers, Washington Departments of Ecology and Natural Resources, and the U.S. Environmental Protection Agency).

### **Project Description**

The Northwest Grain Growers, Inc. (NWGG) barge slip at Wallula Grain Elevator is located on the Columbia River just south of the town of Wallula at the juncture of State Routes 12 and 30). It has been operated as a grain loading facility for downstream barge transport since 1947. Proposed project is part of a regular maintenance dredging program necessary to maintain the function of the barge slip. Over time during regular operations, tugboat engines disturb the substrate causing sediment to mound in the center of the slip, impeding barge access to the grain elevator during minimum pool depths. As a result, the slip needs dredging approximately every six years; previous dredging was conducted in 1984, 1991, 1997, 2004 and 2014. The area proposed for dredging measures approximately 400 ft. by 125 ft. Dredged material is being disposed of at an upland site.

Table 1. Project Summary: Northwest Grain Growers, Wallula Grain Elevator

Project ranking	Low-moderate
Proposed dredging volume	6,250 cy
Proposed dredging depth	12 ft (323 ft. amsl – NGVD29)
Proposed disposal location	Upland
Recency Determination (LM = 6 years)	December 2029

#### **Tier 1 Evaluation**

Available data were obtained and reviewed by the Dredged Material Management Office (DMMO) to evaluate the project location's sediment chemical quality and understand whether sources of contamination could have historically impacted or currently be impacting the project site. A Tier 1 Evaluation Memo was submitted by Anderson Perry & Associates on November 9, 2023 (referenced as "AP Memo" hereafter). This document is attached as Appendix A. The following resources were reviewed to conduct this evaluation:

1. Previous studies, suitability determinations or antidegradation assessments conducted by DMMO or other agencies. A Tier 1 Antidegradation Memo was issued in 2013 (DMMP, 2013) and included a recency period of 6 years. The finding was that the sediment to be exposed by dredging was not considered to be degraded relative to the currently exposed sediment surface. On this basis the DMMP agencies concluded that this project was in compliance with the Washington State antidegradation policy. Additionally, the AP Memo summarized two sites within the vicinity of NWGG where sediment characterizations were performed and that resulted in surface sediments suitable

for in-water disposal and the exposed sediment surfaces were determined to meet antidegradation standards.

- 2. **Ecology's Environmental Information Management (EIM) Database**. A search was conducted to look at chemical or biological data within the vicinity of the project location. No sediment data were found within the vicinity of the project (Figure 1).
- 3. **Ecology's "What's in My Neighborhood" Site Cleanup Database**. A search was conducted to look at historical and active cleanup sites near the project location (Figure 2). No cleanup sites are located within 2 miles of the project site and the three most proximal cleanup sites are under a "no further action" classification. See the AP Memo for additional detail on these sites.
- 4. **Ecology's Spill Map.** A search was conducted to look at spills within the last 8 years within 0.5 mile of the project location (Figure 3). No spills were reported near the project location. The AP Memo identified a terrestrial spill from 1992 that occurred within 0.3 miles of the site; however, the spill location was not connected to the aquatic system and unlikely to have had any impact on the site.

#### **Invasive Species**

Based on the Washington Department of Fish and Wildlife (WDFW) aquatic invasive species website (WDFW, n.d.) the presence of New Zealand mud snails (NZMS) has not been positively identified at the NWGG site. However, NZMS are present within the Columbia River system with positive detections at the Hanford reach (26 miles upstream) and Lake Umatilla (44 miles downstream) (Figure 4). The excavation of dredged material at the NWGG site and placement upland does not present a significant risk of inadvertent spreading of NZMS beyond its current distribution in the Columbia River system.

#### No Test Determination

Based on the Tier 1 evaluation, the potential for onsite contamination to be present is low. Sediment characterization was last conducted in 2014, demonstrating no COCs above screening levels. Based on these factors and the upland disposal of the dredged material, the DMMP agencies have determined that no testing is required for this project. This finding is applicable for a recency period of six years.

If the project scope changes to include in-water disposal or dredging outside of the proposed area, or new sediment quality information becomes available that could influence this determination, the DMMO should be contacted to determine if further DMMP coordination is needed.

#### **Antidegradation Determination**

The DMMP agencies have determined that the State of Washington antidegradation standard will be met and no DMMP testing of the leave surface is required for this project. This antidegradation determination does not constitute final agency approval of the project. During the public comment period that follows a public notice, resource agencies will provide input on the overall project. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under section 404(b)(1) of the Clean Water Act.

#### References

AP Memo. Kurtz, D. "Tier 1 Evaluation Memo." Anderson Perry & Associates, November 9, 2023

DMMP 2009. Determination Regarding the Suitability of Proposed Dredged Material From the Murphy's Landing Marina at Gig Harbor Washington for Beneficial Use or Unconfined Open Water Disposal At the Commencement Bay Site. May 22, 2009

DMMP 2021. *Dredged Material Evaluation and Disposal Procedures (User Manual)*. Dredged Material Management Program, updated July 2021.

Ecology's EIM Database Search: https://apps.ecology.wa.gov/eim/search/default.aspx

Ecology's What's in My Neighborhood Search: <a href="https://apps.ecology.wa.gov/neighborhood/">https://apps.ecology.wa.gov/neighborhood/</a>

Ecology's Spill Incidents Database: <a href="https://ecology.wa.gov/Spills-Cleanup/Spills/Spill-preparedness-response/Responding-to-spill-incidents/Spill-incidents">https://ecology.wa.gov/Spills-Cleanup/Spills/Spill-preparedness-response/Responding-to-spill-incidents/Spill-incidents</a>

Washington Department of Fish and Wildlife. (n.d.) New Zealand mud snail (*Potamopyrgus antipodarum*). Retrieved November 27, 2023, from <a href="https://wdfw.wa.gov/species-habitats/invasive/potamopyrgus-antipodarum#desc-range">https://wdfw.wa.gov/species-habitats/invasive/potamopyrgus-antipodarum#desc-range</a>

### **Figures**

Figure 1: EIM Data Search

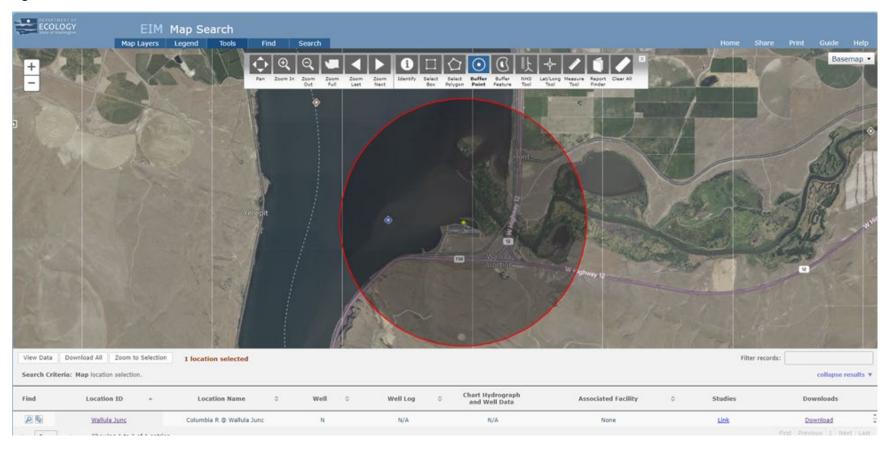


Figure 2: What's in My Neighborhood Cleanup Sites

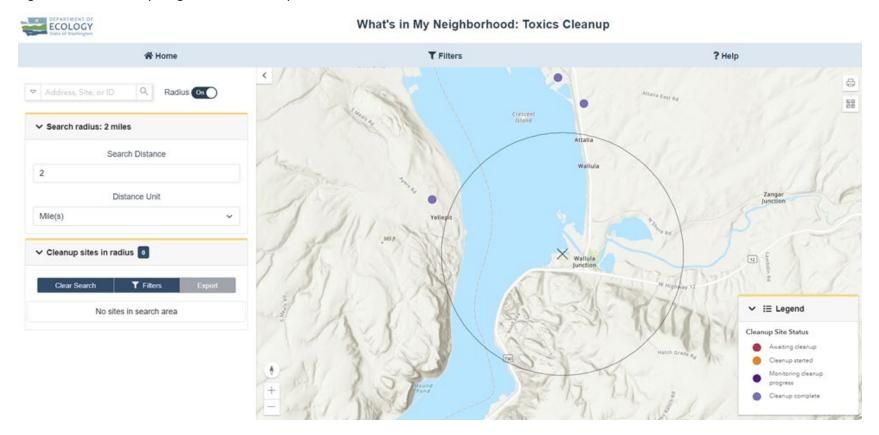


Figure 3. Ecology's Spills Database



Figure 4. Washington Department of Fish and Wildlife; New Zealand Mud Snail Detection Map

The following map shows water bodies in Washington where New Zealand mud snails have been detected.



### **Agency Signatures**

The signed copy is on file in the Dredged Material Management Office, Seattle District U.S. Army Corps of Engineers

Date	Brian Hester – U.S. Army Corps of Engineers, Seattle District
Date	Whitney Conard, PhD. – U.S. Environmental Protection Agency, Region 10
Date	Laura Inouye, PhD. – Washington State Department of Ecology
 Date	Shannon Soto – Washington State Department of Natural Resources

### **Copies Furnished:**

DMMP agencies
David J. Moore, USACE Regulatory Project Manager
Dana Kurtz, Anderson Perry & Associates
John Cranor, Northwest Grain Growers (NWGG)
DMMO File

## Appendix A.

Tier 1 Evaluation Memo Prepared By: Dana Kurtz, Anderson Perry & Associates



Engineering

Surveying

**Natural Resources** 

**Cultural Resources** 

GIS

# TIER 1 EVALUATION MEMO

**To:** Brian Hester, Biologist, U.S. Army Corps of Engineers (USACE)

From: Dana Kurtz, AICP, Senior Environmental Scientist

Subject: Northwest Grain Growers, Inc. - Wallula Dredging

Tier 1 Evaluation (USACE Permit Number Not Yet Assigned)

Date: November 9, 2023

**Job/File No.** 7008-803-126

cc: David Moore, Regulatory Project Manager, USACE, Seattle District (w/encl.)

John Cranor, Northwest Grain Growers (NWGG), Chief Operations Officer (w/encl.)

Adam Schmidtgall, P.E., Anderson Perry & Associates, Inc. (AP) (w/encl.) Patrick Blair, Environmental Planner-Project Manager, AP (w/encl.)

#### Introduction

This Tier 1 Evaluation Memo has been prepared in accordance with the Dredged Material Management Program's (DMMP) guidelines established in Chapter 4 of the *Dredged Material Evaluation and Disposal Procedures User Manual* (USACE, 2021).

"A Tier 1 evaluation is done for every DMMP project, and includes a comprehensive analysis of all existing information on the proposed dredging, including potential sources of contamination, site history and any existing data. Only limited testing, to determine the applicability of any exclusions, is sometimes necessary for Tier 1. If the information compiled in Tier 1 is adequate to meet exclusionary criteria, factual determinations can be made without proceeding to the higher tiers. (DMMP Clarification Paper ITM 1998)..." "Exclusions (to testing) can be made if a Tier 1 evaluation indicates that the dredged material is not considered to be a 'carrier of contaminants' (40 CFR 230.60 (b))."

#### **Project Description**

NWGG intends to conduct routine maintenance dredging of the barge slip located adjacent to its grain elevator near Wallula, Washington, along the Columbia River (see Figure 1, Location and Vicinity Maps). The project includes sediment characterization through this Tier 1 Evaluation. If additional sediment sampling is required by the Dredged Material Management Office, it will occur prior to dredging. Both sediment sampling (if required) and dredging will occur within the Washington State Department of Fish and Wildlife approved in-water work window for this segment of the Columbia River, which is July 16 (2024) through February 28 (2025).

NWGG last conducted maintenance dredging at this location in 2014 under a Nationwide Permit 35 for *Maintenance Dredging of Existing Basins* (USACE reference number NWS-2014-243). Other maintenance dredging was performed in 1984, 1991, 1997, and 2004. The project area, and its use as a grain elevator and barge slip, has remained unchanged since the 2014 dredging occurred, with the exception of newly

La Grande, OR Walla Walla, WA Redmond, OR Hermiston, OR Enterprise, OR

Brian Hester November 9, 2023 Page -2-

accumulated sediment in the barge slip. The project area was ranked as Low-Moderate in 2014. Since site conditions have remained and adjacent area conditions have not changed, a ranking of Low-Moderate has been assumed. In 2014, NWGG dredged an area approximately 125 feet wide by 400 feet long by 3 feet deep and disposed of the material at its primary upland disposal site. The current dredging and upland disposal proposed by NWGG is anticipated to be similar to what was conducted in 2014 (see Figure 2, Barge Slip Dredge Plan). The anticipated dredge prism is shown on Figure 3, Typical Cross Section; however, this will be updated when the bathymetric survey is completed.

#### **Site History**

The following is a description of the site history, including both existing conditions and historical conditions, for the NWGG grain elevator and barge slip as required in Chapter 4.1 of the DMMP User Manual.

# 1. A map showing the site's location, layout, storm drainage, outfalls, and special aquatic sites such as eelgrass or wetlands.

The NWGG grain elevator and barge slip are located along the Columbia River in Walla Walla County on tax parcel number 31-07-27-13-00-08-00. The legal description for the property is the southeast quarter of Section 27, Township 7 North, Range 31 East, Willamette Meridian (see Figure 1). The nearest community is Wallula, Washington, located approximately 1.5 miles north (upstream) of the project area.

No stormwater collection, conveyance, or outfall structures are located within the project area. No National Pollutant Discharge Elimination System (NPDES) discharge permits were identified as being associated with the project area.

Code of Federal Regulations 40 Part 230.40 of Section 404(b)(1) *Guidelines for Specification of Disposal Sites for Dredged or Fill Material* specifies that designated wildlife sanctuaries and refuges are considered special aquatic sites. A portion of the planned dredging area is located within the McNary National Wildlife Refuge (NWR), a special aquatic site. In 2014, during the previous round of dredging, NWGG obtained Special Use Permit No. 13580-14-017 from the McNary NWR. Because a portion of the project area is within this special aquatic site, coordination with the McNary NWR is assumed to be required, and a Special Use Permit for commercial activities may be required for the currently proposed dredging.

The project area is relatively level and elevated above the water table influenced by the adjacent Columbia River. A review of the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory data indicated that the Columbia River is lake habitat classified L1UBHh (USFWS, 2023). No other wetland areas have been identified in the project area. A wetland delineation was not conducted for the 2014 dredging.

#### 2. Current site use.

The project area is a complex that includes multiple vertical grain storage bins, covered grain storage piles, conveyor belt systems, a barge loading facility, and a barge slip. The project area also includes one primary upland disposal site (see Figure 2). Two alternate disposal sites were

Brian Hester November 9, 2023 Page -3-

identified during the 2014 dredging but were not used (see Figure 4, 2014 Dredge - Disposal Site Plan). The project area is accessible by a paved road and rail spur (adjacent to a BNSF rail line), by which regionally grown grains are brought to the project area. A grain elevator and barge slip have been in operation within the project area since 1947 and is currently owned and operated by NWGG. Adjacent parcels are owned by the Port of Walla Walla. The project area is zoned as Rural Development - Commercial/Industrial (RD-CI).

3. Industrial processes at or near the site (and hazardous substances used/generated).

Industrial processes in the project area include the staging, stockpiling, and transport of grain products. Other than common fuels (diesel and gasoline) and lubricants used for equipment, no hazardous substances are used, stored, or generated on or near the project area. Industrial transportation in the project area includes the movement of trucks, train cars, barges, and tugboats. No other industrial facilities or processes are located near the project area.

4. Outfall information, such as type, volume, NPDES data.

No stormwater collection, conveyance, or outfalls are located in the project area. No NPDES discharge permits were identified as being associated with the project area.

5. MTCA, CERCLA or site information (including site manager if known), including those on adjacent upland areas (e.g., location of caps, sheet pile containment, use restrictions, etc.).

Review of Washington State Department of Ecology's (Ecology) *What's in My Neighborhood: Toxics Cleanup* database (Ecology, 2023a) showed no listed Model Toxics Control Act or Comprehensive Environmental Response Compensation Liability Act of 1980 contaminated cleanup sites are located in or adjacent to the project area. The nearest toxic cleanup sites are more than 2 miles away and are not anticipated to be impacted by the localized dredging activities. Nearby cleanup sites include:

- Kennewick Port Hover Industrial Area (Cleanup Site 1520). This facility is located on Toothaker Road in Kennewick, Washington, on the opposite side of the Columbia River, 2.4 miles northwest of the project area. Contaminated soils (metals) were remediated to below cleanup levels.
- Boise Trucking (Cleanup Site 8482). This facility is located along the east side of Highway 12, 2.5 miles north of the project area. Petroleum-contaminated soils associated with a leaking underground storage tank have been remediated with no further action required.
- Boise White Paper, L.L.C. (Cleanup Site 2211). This facility is located along the west side
  of Highway 12, approximately 3.0 miles north of the project area. Petroleum products
  and conventional inorganic contaminants in soils and groundwater are reported to have
  been cleaned up at this facility.

The only hazardous facility/site identified in Ecology's Facility/Site database (Ecology, 2023b) for the project area is the NWGG grain elevator (Facility ID 29159) located at 324 Western Farmer

Brian Hester November 9, 2023 Page -4-

Road, Wallula, Washington. This facility is adjacent to the dredging area and is listed as a registered air quality generator. Specific air quality contaminants are not provided; however, for the purposes of this Tier 1 Evaluation Memo it is assumed to be PM 10 (grain dust). Project dredging activities are not likely to affect or be affected by this air quality contaminant source.

#### 6. Spill events.

Nearby hazardous facilities/sites include a pesticide spill (Facility ID 5922556) off the north shoulder of the Highway 12/US Route 730 interchange that occurred in November 1992 (Ecology, 2023b). No details regarding chemical types, quantities, or cleanup status are available regarding this spill. The spill site is located approximately 0.3 mile southeast of the NWGG grain elevator in an upland area with no clear surface drainage connection to the dredging area. Therefore, it is unlikely that soils contaminated in the spill area will be impacted by dredging activities.

#### 7. History of site ownership and land uses.

As noted in Item 2, a grain elevator and barge slip have been in operation within the project area since 1947, and are currently owned and operated by NWGG. Adjacent parcels are owned by the Port of Walla Walla and are undeveloped. The Walla Walla River discharges into the Columbia River just north of the project area and forms a sediment delta. Aerial imagery (Google Earth) through 1985 indicated this delta area has remained relatively stable since 1985.

The project area is zoned as RD-CI, which allows for "....shoreline development areas where development patterns differ from those in the surrounding area, and they either include or have access to public facilities and services such as roads and water systems." The grain elevator and barge slip, as well as the associated rail spur and access road, are allowed uses under RD-CI zoning and have remained consistent with the County's zoning requirements since the facility's establishment. Land use records prior to 1947 were not available at the time this evaluation was written.

McNary Dam was completed in 1954, and barge traffic became possible through the McNary pool approximately the same time. This Tier 1 Evaluation Memo assumes that barge traffic and the associated configuration of the barge slip/pilings must have been modified to some extent between 1947 and 1954 to allow for barge traffic; however, detailed land use documentation and/or mapping from this period was not available for review.

#### 8. Adjacent property use, especially those up-gradient or up-current/upstream.

Adjacent property use (upstream and downstream of the project area) includes undeveloped land owned by the Port of Walla Walla, which is zoned as either RD-CI or Rural Activity Center. The BNSF operates a rail line just south and east of the project area.

# 9. Site characteristics that could affect movement of contaminants (e.g., prop wash, ferry traffic).

The site will continue to operate as a grain storage and barge loading facility. Barges will dock in the slip, receive grain, and exit the slip. Prop wash from the tugs used to move the barges has the potential to disturb sediments if the slip is not dredged to suitable depths.

#### 10. Results of any previous sampling and testing on and around the project site.

Currently, AP is aware of three sediment sampling efforts in or near the project vicinity that may provide useful informing for the planned dredging, and subsequent disposal of dredged material in the project area. This section briefly summarizes DMMP's ranking, sediment sampling, analytes evaluated, and conclusions made for each sampling effort.

- In 2014, Scoular Company's barge slip at Burbank, Washington, was ranked as
  Moderate. This site is located at the Port of Walla Walla's facility at the confluence of
  the Snake and Columbia Rivers, approximately 11.5 miles north of the project area.
   Sediments in the barge slip were tested for the following analytes:
  - Semi-volatile organic compounds (SVOCs) by Environmental Protection Agency (EPA) Methods 8270D and 8081.
  - o Organochlorine pesticides by EPA Method 8081B.
  - o Arochlors polychlorinated biphenyls (PCBs) by EPA Method 8082.
  - Metals (including mercury) by EPA Methods 6010C, 6020, and 7471A.
  - Ammonia by Puget Sound Estuary Program (PSEP)/350.3.
  - Sulfides by EPA Method PSEP/376.2.
  - Total organic carbon (TOC) by Plumb (1981).
  - Total solids and total volatile solids by PSEP/SM2540G.
  - Grain size by ASTM International (ASTM) D421/422 (ASTM 2005, 2006).

Analytical results from sediment sampling at the Scoular Company's barge slip indicated that "...chemicals analyzed were below the lowest DMMP screening levels. Most results were non-detect or very low. This sediment is compliant with all applicable regulatory standards for dredged material."

- In 2017/2018, Packaging Corporation of America's (PCA) barge channel and slip near Wallula, Washington, were ranked as Low and Moderate, respectively. This site is located at PCA's pulp and paper mill (formerly Boise White Paper, L.L.C.), located along the east bank of the Columbia River, approximately 3.0 miles north of the project area. Sediments were tested for the following analytes:
  - SVOCs by EPA Methods 8270D and 8081.
  - Organochlorine pesticides by EPA Method 8081B.
  - o Aroclor PCBs by EPA Method 8082.
  - Metals (including mercury) by EPA Methods 6010C, 6020, and 7471A.

Brian Hester November 9, 2023 Page -6-

- o Ammonia by PSEP/350.3.
- o Sulfides by EPA Method PSEP/376.2.
- TOCs by Plumb (1981).
- Total solids, preserved total solids, and total volatile solids by PSEP/SM2540G.
- Grain size by PSEP methodology.
- o Butyltins by EPA Method 8270D-SIM.
- Dioxin/furans by EPA Method 1613B.
- Bulk petroleum hydrocarbons by Ecology Method NW-TPH-Dx (total petroleum hydrocarbons in the diesel range).

Results from PCA's analytical testing of sediments indicated that "...chemicals analyzed were below the lowest DMMP agencies' screening levels and were very low or non-detect. The sediment samples appear to be compliant with all applicable regulatory standards for dredged material."

- In 2014, NWGG's Wallula grain elevator was ranked as Low-Moderate. The proposed dredging will occur at this same site. In 2014, sediments in the barge slip were tested for the following analytes:
  - Dioxins and furans
  - SVOCs
  - o Polycyclic aromatic hydrocarbons and 2,4-Dimephylphenol
  - Organochlorine pesticides
  - Arochlors PCBs
  - o TPH-Dx
  - Metals (including mercury)
  - Total solids
  - o TOC
  - Grain size

Analytical results from the 2014 sediment testing indicated that "...all standard freshwater chemicals of concern were either detected or undetected at levels below the regulatory guidelines. Dioxin analysis showed that both samples had TEQs below 1 pptr TEQ, well below DMMP guidelines."

The relative proximity in distance and time, the overlap in site ranking, as well as the sediment testing parameters for these three sites suggest their relevance for comparative purposes to the proposed dredging project. Additionally, a visual review of publicly available aerial imagery (Google Earth) from 2014 to 2023 was completed for the project vicinity and no notable changes, such as new commercial or industrial facilities, were visually evident. Conditions in the vicinity of NWGG's grain elevator and barge slip appear to have remained relatively stable and unchanged since 2014. Therefore, this Tier 1 Evaluation Memo assumes that sediment conditions, volume, and potential contaminants have remained relatively similar since 2014.

#### 11. Presence or absence of invasive species.

Invasive species were not addressed in the 2014 dredging plan, and no records of a recent site evaluation for invasive species have been identified. However, review of the Washington State Noxious Weed Data Viewer (Washington State Department of Agriculture, 2023) indicated that upland and aquatic weed species documented in the project vicinity include yellow flag iris, yellow star thistle, tree of heaven, Scotch thistle, purple loosestrife, and Russian knapweed. Therefore, it is possible these species may also be present in the dredging and upland disposal areas.

12. Evidence of the presence/absence of debris in the dredge prism based on previous rounds of dredging or other lines of evidence.

Dredging data from 2014 do not indicate that debris was present in the dredge prism. The currently proposed dredging area will be approximately the area dredged in 2014. NWGG has not indicated that debris or other than excess sediment is currently present in the barge slip. Therefore, no debris is anticipated to be encountered in the proposed dredge prism.

#### **Conclusion**

Sediment in the project area has not been tested for contamination within the DMMP's recency period (six years based on the project area's previous ranking of Low-Moderate). However, sediment in the vicinity of the project area (PCA slip 3.0 miles north of the project area) has been tested for contamination within DMMP's recency period. All sediment testing in the vicinity of the project area has yielded low to non-detections for contaminants. It is unlikely that the project area has been exposed to new contamination since the 2014 dredging event. Additional review and testing of sediment is not anticipated to be required prior to the collection of dredged sediments for disposal.

#### References

- U.S. Army Corps of Engineers. 2021. Dredged Materials Management Program. *Dredged Material Evaluation and Disposal Procedures User Manual*. Available at: https://www.nws.usace.army.mil/Missions/Civil-Works/Dredging/User-Manual/. Accessed November 2023.
- U.S. Fish and Wildlife Service. 2023. National Wetlands Inventory. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed October 2023.
- Washington State Department of Agriculture. 2023. Washington State Noxious Weed Data Viewer. Available at:
  - https://www.arcgis.com/apps/webappviewer/index.html?id=cec83bd1b9fc4d7681afd219a9197654. Accessed October 2023.
- Washington State Department of Ecology. 2023a. *What's in My Neighborhood: Toxics Cleanup* database. Available at: https://apps.ecology.wa.gov/neighborhood. Accessed October 2023.

Brian Hester November 9, 2023 Page -8-

Washington State Department of Ecology. 2023b. Available at: https://apps.ecology.wa.gov/facilitysite/Map/MapSearch. Accessed October 2023.

### **Figures**

Figure 1 - Location and Vicinity Maps

Figure 2 - Barge Slip Dredge Plan

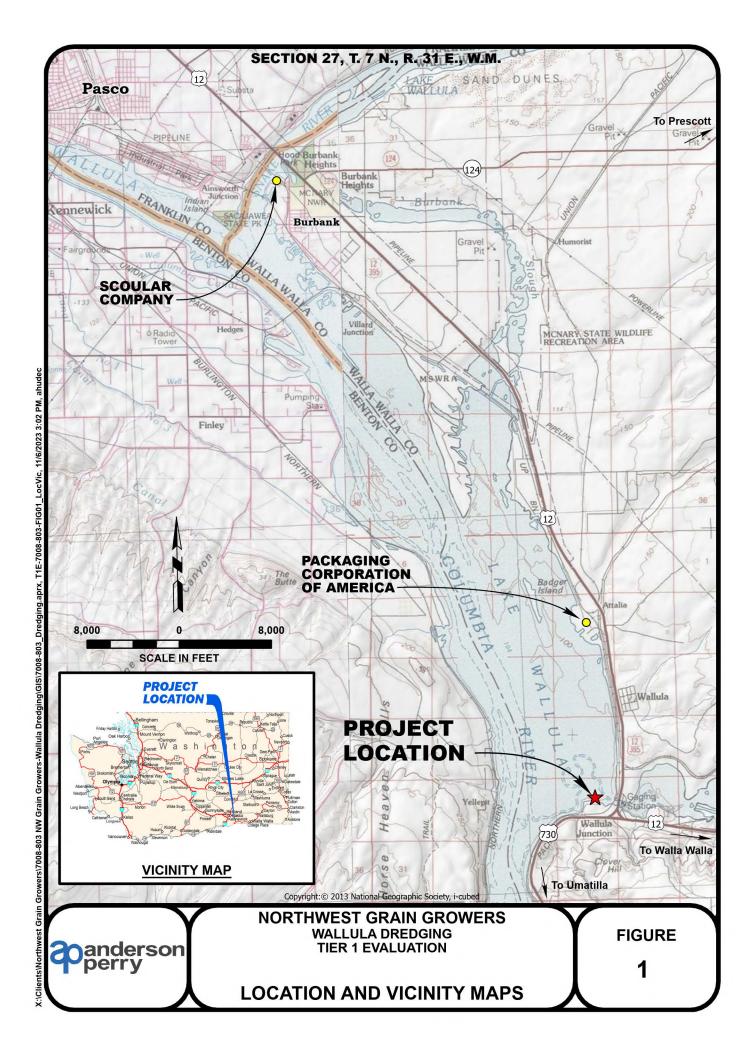
Figure 3 - Typical Cross Section

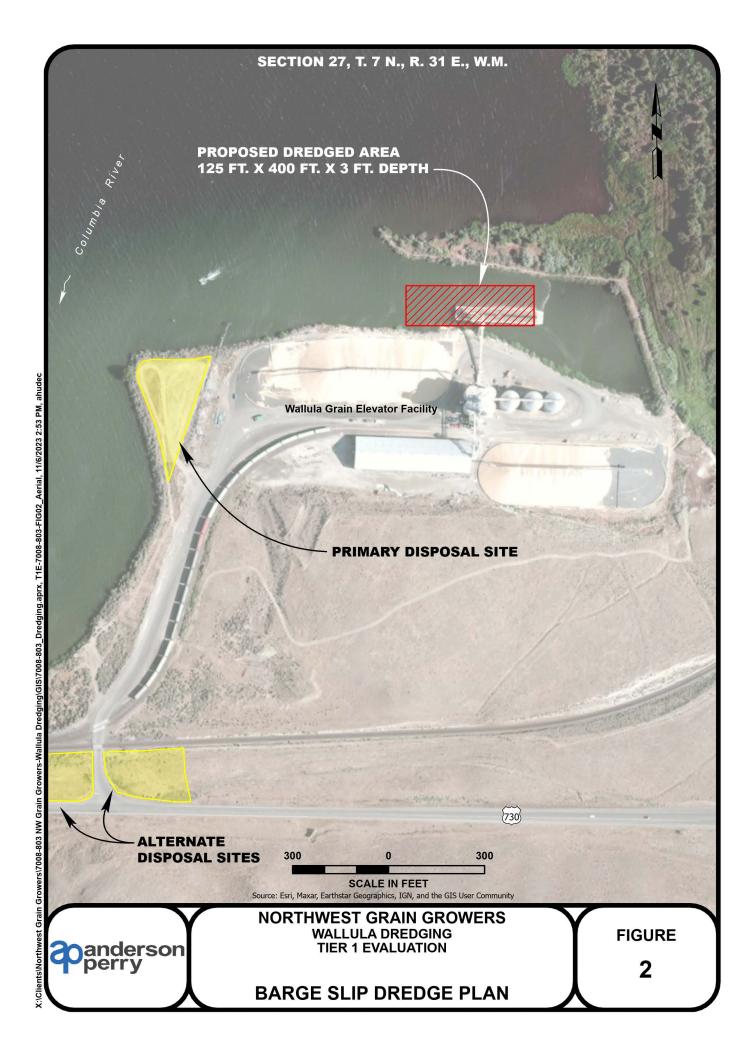
Figure 4 - 2014 Dredge - Disposal Site Plan

PB/ct

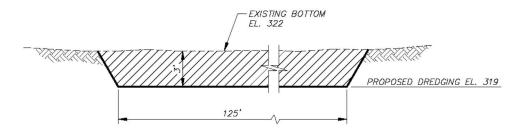
 $01\hbox{-}Tier1Eval\_NWGrainGrws\_WallulaDredge\_7008-803-126.docx$ 

# **FIGURES**





7 MINIMUM OPERATING POOL EL. 335



# TYPICAL SECTION N. T.S.



NORTHWEST GRAIN GROWERS
WALLULA DREDGING
TIER 1 EVALUATION

**TYPICAL CROSS SECTION** 

**FIGURE** 

3

