

Oil Spill Containment

1.0 Summary of Activity

1.1 For all Fresh Waters excluding the Columbia River mainstem

Activities required for the containment (but not cleanup) of oil and hazardous substances [which are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)], including placement of booms and anchors, provided that:

1. Work is done within the approved work window.
2. No work is done in or adjacent to vegetated shallows (except where such vegetation is limited to State-designated noxious weeds).
3. No large woody debris is removed.
4. No new piling is driven.
5. Work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR Part 112.3 and any existing State contingency plan and the Regional Response Team (if one exists in the area) concurs with the proposed containment.
6. Booms are anchored securely and will not ground out.
7. Anchors are installed so that anchor and anchor lines do not drag.
8. Boom and anchor system will be placed so that neither boom, anchor, nor anchor line will result in streambed scour.
9. For emergency response actions, the lead federal agency (EPA, US Coast Guard, or the Corps for State response actions) will coordinate with NMFS and USFWS under “emergency procedures.”

All other actions that do not fit the terms of this informal programmatic consultation will be reviewed through individual informal or formal ESA consultation. [from NWP 20]

1.2 For the Columbia River Mainstem including the Snake River and Baker Bay

Activities required for the containment (but not cleanup) of oil and hazardous substances [which are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)], including placement of booms and anchors, provided that:

1. Work is done within the approved work window.

2. No work is done in or adjacent to vegetated shallows (except where such vegetation is limited to State-designated noxious weeds) or spawning habitat for listed or, proposed or prey / forage species, (i.e. forage fish for pacific salmon).
3. No large woody debris is removed.
4. No new piling is driven.
5. Work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR Part 112.3 and any existing State contingency plan and the Regional Response Team (if one exists in the area) concurs with the proposed containment.
6. Booms are anchored securely and will not ground out.
7. Anchors are installed so that anchor and anchor lines do not drag.
8. Boom and anchor system will be placed so that neither boom, anchor, nor anchor line will result in streambed scour.
9. For emergency response actions, the lead federal agency (EPA, US Coast Guard, or the Corps for State response actions) will coordinate with NMFS and USFWS under “emergency procedures.”

All other actions that do not fit the terms of this informal programmatic consultation will be reviewed through individual informal or formal ESA consultation. [from NWP 20]

1.3 For all Marine/Estuarine Waters excluding Baker Bay

Activities required for the containment (but not cleanup) of oil and hazardous substances [which are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)], including placement of booms and anchors, provided that:

1. Work is done within the approved work window.
 2. No work is done in or adjacent to vegetated shallows (except where such vegetation is limited to State-designated noxious weeds) or spawning habitat for listed or, proposed or prey / forage species, (i.e. forage fish for pacific salmon).
 3. No large woody debris is removed.
 4. No new piling is driven.
 5. Work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR Part 112.3 and any existing State contingency plan and the Regional Response Team (if one exists in the area) concurs with the proposed containment.
 6. Booms are anchored securely and will not ground out.
 7. Anchors are installed so that anchor and anchor lines do not drag.

8. Boom and anchor system will be placed so that neither boom, anchor, nor anchor line will result in streambed scour.

9. For emergency response actions, the lead federal agency (EPA, US Coast Guard, or the Corps for State response actions) will coordinate with NMFS and USFWS under “emergency procedures.”

All other actions that do not fit the terms of this informal programmatic consultation will be reviewed through individual informal or formal ESA consultation. [from NWP 20]

2.0 Programmatic Description

Nationwide Permit 20 (NPW 20) may authorize the containment and cleanup of oil spills. This programmatic biological evaluation covers only those activities associated with containment of oil spills. For emergency response actions, the lead federal agency (EPA, US Coast Guard, or the Corps for State response actions) will coordinate with NMFS and USFWS under “emergency procedures.” All other actions that do not fit the terms of this informal programmatic consultation will be reviewed through individual informal or formal ESA consultation.

3.0 Project Location

In all fresh and marine/estuarine waters only in the counties of Washington State where the National Marine Fisheries Service and U.S. Fish and Wildlife Service have concurred that the project is not likely to adversely affect listed species and designated critical habitat and will not jeopardize proposed species or destroy or adversely modify proposed critical habitat.

4.0 Project Description

Work consists of placement of booms and anchors, and other like methods to deploy sorbent materials, to contain spills of oil and hazardous substances, which are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300). Emergency actions that require placement outside of the approved work windows and/or placement in vegetated shallows are not covered under this programmatic biological evaluation. For emergency response actions, the lead federal agency (EPA, US Coast Guard, or the Corps for State response actions) will coordinate with NMFS and USFWS under “emergency procedures.” Cleanup of oil or hazardous substances, including placement of surfactants, also is not covered under this programmatic biological evaluation. When an oil spill occurs, oil may sink or float on the surface, depending on the type of oil. That which floats can foul the gills of fish and have other physical impacts on birds and mammals. In addition, oil is a “carrier” substance. That is, it carries chemicals like dioxin, PCBs, pesticides, and the like. These chemicals also can have extremely adverse effects on wildlife. Thus, once a spill is identified one of the first things to happen is placement of a containment boom, either anchored to shore or tethered to anchors placed on the bottom of the waterbody. Thus, there are two main types of booms – nearshore booms and offshore booms. The nearshore ones are used to contain small seeps from shoreline banks, as well as spills. Additionally, there are different designs of sorbent pads for different uses. For example, sometimes larger, flatter pads are used for both containment and cleanup of spills concurrently, but generally these do not need Corps permits - as they are relatively quickly removed from the water and not left in place for any length of time.

5.0 Project Construction Description¹

Construction Equipment

Containment devices are installed via hand, small boat (up to 25-feet in length), barge (150- to 250- feet in length) and tugs (45- to 65 feet in length); crane operating from existing overwater structure (i.e., pier), barge, or shoreline; or helicopter (maximum length 60 feet) when there is no shore access. Both nearshore and offshore booms are typically used and consist of a tidal boom, anchor blocks, floats, rope, chain, chain hardware, and sorbent boom.

Construction Methods

Access to shore for placement of nearshore booms is typically via existing roads, wharves, or piers, and typically occurs at high tide when the booms can be floated into place and positioned by hand, small dingy or boat, or crane. Placement of the anchors may also be via helicopter when there is not ready shore access. Tidal booms are not typically placed by helicopter because even dry, they weigh 1,000 pounds. Access for placement of offshore booms is usually via small vessel. For larger spills, a barge and two tugs are used.

The work corridor includes the area around the linear booms where vessels will be operating during placement and the area on the shoreline where equipment may be operating if the booms are placed from the upland areas. If placed from the shoreline, the work corridor is a maximum width of 40 feet along the shoreline. Typically this is much smaller, as the equipment will be staged at one location on the shoreline or existing structure and then the booms are moved into place by hand or from a boat.

Materials Used

The entire length of the tidal boom varies depending on the spill. But the tidal boom itself comes in 50-foot segments. The tidal boom is separated into three chambers: 14-inch diameter buoyancy chamber filled with foam rubber, and two 12-inch diameter ballasts on either side filled with water (500 gallons per side). The entire tidal boom is enclosed in a hard plastic. The anchor blocks are ecology blocks (halved or whole depending on location of placement, currents, etc). The booms may be anchored to shore with guy lines attached to the ecology blocks or floated in deeper waters with lines attached to anchors placed on the bottom. The floats are secured on the boom at the location of the anchor placements. Floats are 24-inch diameter hard plastic filled with foam. The rope is 1/2" to 3/8" polypropylene line. The chain varies from 1/2" or 1/4" galvanized steel and the chain hardware (installed on the anchor and tidal boom) is 5/8" galvanized steel screw pin shackles, snap hooks and open spelter sockets. The sorbent boom is 5- to 8-inch diameter booms in 10 foot segments made of "melt-blown" polypropylene. The 5- inch diameter boom absorbs 32 gallons of fluid and the 8-inch diameter boom absorbs 74 gallons of fluid. Larger diameter sorbent booms may be used for extreme spills (i.e. tanker spills). This material is hydrophobic (repels water) but attracts oil and any chemicals carried by it.

Some booms are designed to ground out during low water. For these booms, the tidal boom and sorbent material are of similar size to the floating booms but the entire boom assemblage is anchored on land (with ecology blocks or the like) versus in-water anchors. Booms that ground out during low water are not

¹ Information about project construction methods provided by personal communication with Jonathan Maas and Glen Turei, Corps of Engineers, Technical Services Branch, and Foss Environmental on May 3, 2000.

covered under this informal programmatic consultation. Work of this type must go through individual informal or formal ESA consultation.

Disposal of Saturated Booms or Pads

At some point (which varies with the size of the spill and nature of the oil), the sorbent pads or booms become saturated. This can vary from hours for emergency spills or up to 6 months or so for the sorbent booms that contain slow leaking seeps in nearshore areas. They are then removed. Removal is by hand. If in the nearshore, the technician will access the boom using chest waders, a small dinghy (10 feet in length) or a single-man float tube (inner-tube like float where the technician sits inside the tube). If offshore, a small open vessel (16- to 25-feet in length) is used. The sorbent material is cut from the tidal boom and snaked into the vessel or into plastic bags and then brought to shore. Disposal methods vary based on the contaminants collected by the sorbent boom. If the contaminants are at acceptable Washington State Ecology and/or EPA levels for disposal at landfills, the sorbent booms may be stockpiled in the uplands in plastic bags and then covered with visqueen until relocated to an appropriate landfill. This is often the case when either the sorbent booms are changed frequently, or when it is more efficient to wait until there is a full load of material to dispose. If contaminants are not at acceptable levels for disposal at regular landfills, booms are disposed as regulated by Washington State Ecology and/or PA.

Placement Time

The initial placement and full removal of the tidal boom with anchors and sorbent boom may take up to a week. The removal and replacement of the sorbent boom (depending on length and location) takes up to two days.

6.0 Action Area Description

The action area includes all fresh waters and marine/estuarine waters and adjacent terrestrial areas within 1-mile of the proposed project in Washington State. The action area for the individual project includes the boom assemblage (tidal boom, sorbent boom, and associated anchors and line), the area the boom is containing, the access, staging and stockpiling areas for boom placement (either crane placement in the uplands or on and existing over-water structure, or the area the vessel and/or barge and tug will be maneuvering in to position the boom), a 25-foot radius² around the anchors for potential temporary water quality impacts, and if a helicopter is used, a diameter of 300 feet and a depth of 2 feet from water surface for potential temporary water quality impacts (increased turbidity) and a diameter of 1000 feet for potential noise impacts associated with the helicopter operation.³

7.0 Species and Habitat Information

² The determination of impact area for potential water quality impacts is based on personal communication with John Malek, Sediment Management, Environmental Protection Agency, on May 10, 2000. Mr. Malek stated that typically turbidity impacts of a pile driving, anchor placement or the like would not exceed a 15-foot radius, a 25-foot radius is the maximum extent of impact, regardless of substrate type and currents at a project site.

³ Potential turbidity and noise impacts associated with helicopter operation is based on personal communication with John Pell, Navigation Specialist, Corps of Engineers, Regulatory Branch and Eric Winters, Chief of Floating Plan, Corps of Engineer, Navigation Branch. Mr. Pell and Mr. Winters both have experience with helicopter operations from military service with the U.S. Coast Guard and U.S. Army, respectively.

Species Present

The plants, animals, insects, and fish present in the project area are provided in Table 1 through Table 4. Details on each species can be found in Appendix B.

Table 1. Sensitive Terrestrial Animals and Insects Potentially Occurring in Designated Project Areas

| Species Name <i>Scientific Name</i> | Status | Fresh Water Areas (excluding the Columbia River mainstem) | Mainstem Columbia River Area (including Snake River and Baker Bay) | Marine/Estuarine Water Area (excluding Baker Bay) |
|--|--------|--|---|---|
| Brown Pelican <i>Pelecanus occidentalis</i> | E | X | X | X |
| Marbled Murrelet <i>Brachyramphus marmoratus</i> | T | X | X | X |
| Northern Spotted Owl <i>Strix occidentalis</i> | T | X | | X |
| Short-Tailed Albatross <i>Phoebastria albatrus</i> | E | X | X | X |
| Western Snowy Plover <i>Charadrius alexandrinus</i> | T | X | X | X |
| Canada Lynx <i>Lynx canadensis</i> | T | X | | |
| Columbia White-Tailed Deer <i>Odocoileus virginianus leucurus</i> | E | X | X | |
| Gray Wolf <i>Canis lupis</i> | E | X | | |
| Grizzly Bear <i>Ursus arctos horribilis</i> | T | X | | |
| Pygmy Rabbit <i>Barylagus idahoensis</i> | E | X | X | |
| Woodland Caribou <i>Rangifer tarandus caribou</i> | E | X | | |
| Oregon Silverspot Butterfly <i>Speyeria zerene hippolyta</i> | T | X | X | X |

Table 2. Sensitive Marine Animals Potentially Occurring in Designated Project

| Species Name <i>Scientific Name</i> | Status | Fresh Water Areas (excluding the Columbia River mainstem) | Mainstem Columbia River Area (including Snake River and Baker Bay) | Marine/Estuarine Water Area (excluding Baker Bay) |
|---|--------|--|---|---|
| Blue Whale <i>Balaenoptera musculus</i> | E | | | X |
| Fin Whale <i>Balaenoptera physalus</i> | E | | | X |
| Humpback Whale <i>Megaptera novaeangliae</i> | E | | | X |
| Sei Whale <i>Balaenoptera borealis</i> | E | | | X |
| Sperm Whale <i>Physeter macrocephalus</i> | E | | | X |
| Killer Whale <i>Orcinus orca</i> | E | | | X |
| Steller Sea Lion <i>Eumetopias jubatus</i> | T | | X | X |
| Green Sea Turtle <i>Chelonia mydas</i> | T | | | X |
| Leatherback Sea Turtle <i>Dermochelys coriacea</i> | E | | | X |
| Loggerhead Sea Turtle <i>Caretta caretta</i> | T | | | X |

Table 3. Sensitive Plants Species Potentially Occurring in Designated Project Areas

| Species Name <i>Scientific Name</i> | Status | Fresh Water Areas (excluding the Columbia River mainstem) | Mainstem Columbia River Area (including Snake River and Baker Bay) | Marine/Estuarine Water Area (excluding Baker Bay) |
|--|--------|--|---|---|
| Bradshaw's Desert Parsley <i>Lomatium bradshawii</i> | E | X | X | |
| Golden Paintbrush <i>Castilleja levisecta</i> | T | X | X | |
| Kincaid's Sulphur Lupine <i>Lupinus sulphureus ssp. Kincaidii</i> | T | X | | |
| Marsh Sandwort <i>Arenaria paludicola</i> | E | X | | |
| Nelson's Checker-Mallow <i>Sidalcea nelsoniana</i> | T | X | X | |
| Showy Stickseed <i>Hackelia venusta</i> | PE | X | | |
| Spalding's Silene <i>Silene spaldingii</i> | PT | | | |
| Water Howellia <i>Howellia aquatilis</i> | T | X | X | |
| Wenatchee Mountain Checker-Mallow <i>Sidalcea oregana var. calva</i> | E | X | | |
| Ute Ladies'-Tresses <i>Spiranthes diluvialis</i> | T | X | X | |

Table 4. Sensitive Fish Species Potentially Occurring in Designated Project Areas

| Species Name <i>Scientific Name</i> Evolutionary Significant Unit (ESU)/Distinct Population Segment (DPS) | Status | Fresh Water Areas (excluding the Columbia River mainstem) | Mainstem Columbia River Area (including Snake River and Baker Bay) | Marine/Estuarine Water Area (excluding Baker Bay) |
|--|--------|--|---|---|
| Bull Trout <i>Salvelinus confluentus</i> | | | | |
| Coastal/Puget Sound DPS | T | X | | X |
| Columbia River DPS | T | X | X | X |
| Chinook Salmon <i>Oncorhynchus tshawytscha</i> | | | | |
| Puget Sound ESU | T | X | | X |
| Snake River Fall Run ESU | T | X | X | X |
| Snake River Spring/Summer-run ESU | T | X | X | X |
| Lower Columbia River ESU | T | X | X | X |
| Upper Columbia River Spring-run ESU | E | X | X | X |
| Upper Willamette River ESU | T | | X | X |
| Sockeye Salmon <i>Oncorhynchus nerka</i> | | | | |
| Ozette Lake ESU | T | X | | X |
| Snake River ESU | E | | X | X |
| Coho Salmon <i>Oncorhynchus kisutch</i> | | | | |
| Puget Sound/Strait of Georgia ESU | C | X | | X |
| Lower Columbia River/SW WA ESU | C | X | X | X |
| Chum Salmon <i>Oncorhynchus keta</i> | | | | |
| Hood Canal Summer-run ESU | T | X | | X |
| Columbia River ESU | T | X | X | X |
| Steelhead Trout <i>Oncorhynchus mykiss</i> | | | | |
| Upper Columbia River ESU | E | X | X | X |
| Middle Columbia River ESU | T | X | X | X |
| Lower Columbia River ESU | T | X | X | X |
| Snake River Basin ESU | T | X | X | X |
| Upper Willamette River ESU | T | | X | X |
| Puget Sound ESU | T | X | | X |

8.0 Activity History and Status

The Corps of Engineers authorizes the placement of booms for oil spill cleanup under NWP 20. NWP 20 does not require notification to the Corps as long as the applicant abides by the general and special conditions of the NWP. Any record the Corps would have of these activities would be if the applicant chose to notify the Corps even though it was not required. The Corps ran a report of how many NWP 20 verifications have been issued since 1991. According to the Corps database, NWP 20 has only been used twice by the Seattle District: 9/2/94 and 7/18/91. The spill in September 1994 is included in Table 5. Because Table 5 only includes information from 1992 to present, the July 1991 spill is not included.

The Corps obtained additional oil spill data from the Washington State Department of Ecology's Spill Program for the years 1992 to 2000. The information provided by Ecology only gives the number of oil spills in excess of 20 gallons and the total amount of spill in gallons for each activity. There is no

documentation of the type of equipment used to clean-up the spill. The spills are categorized as freshwater or marine and in the following regions: South Puget Sound, North Puget Sound, and Columbia River/Outer Coast.

Because no notification is required for NWP 20, the Corps acknowledges that tracking of oil spill cleanup activities has been inconsistent and infrequent. In light of the recent listings under ESA, the Corps proposes to track these activities as outlined in the “Programmatic Biological Evaluation Notification and Tracking Description”. The following table shows the number of spills and the cumulative amount spilled in various regions of Washington State. Since 1991, the only spills to date in Washington State to exceed 8,000 gallons were the 1999 Olympic Pipeline explosion in Bellingham (277,200 gallons), the 1991 Tenyo Maru in Cape Flattery (100,000 gallons), and the 1991 Texaco in Fidalgo Bay (40,000 gallons), and the 1994 Crowley 101 in the San Juan Islands (26,900 gallons). In comparison, the largest spill on record nationally was caused by the Exxon Valdez in Alaska, totaling 16 million gallons.

Table 5. Historical Record of Oil Spill Reports from Washington Department of Ecology

| Region | 1992-1994 | | 1995 | | 1996 | | 1997 | | 1998 | | 1999 | |
|-------------------------------|-----------|-------|------|------|------|-------|------|-------|------|-------|------|------|
| | # | Amt | # | Amt | # | Amt | # | Amt | # | Amt | # | Amt |
| S. Puget Sound | | | | | | | | | | | | |
| Fresh | 13 | 5091 | 5 | 370 | 5 | 667 | 3 | 280 | 1 | 86 | 2 | 375 |
| Marine | 21 | 16870 | 10 | 3415 | 9 | 5140 | 4 | 315 | 8 | 12791 | 6 | 474 |
| N. Puget Sound | | | | | | | | | | | | |
| Fresh | 3 | 289 | 0 | 0 | 2 | 1050 | 0 | 0 | 1 | 300 | 0 | 0 |
| Marine | 5 | 27895 | 7 | 413 | 7 | 1842 | 5 | 2027 | 5 | 366 | 4 | 763 |
| Columbia River or Outer Coast | | | | | | | | | | | | |
| Fresh | 5 | 5578 | 3 | 197 | 6 | 2091 | 10 | 7800 | 5 | 515 | 5 | 465 |
| Marine | 2 | 3040 | 0 | 0 | 1 | 769 | 2 | 135 | 1 | 50 | 1 | 800 |
| Total | 49 | 58763 | 25 | 4395 | 30 | 11559 | 24 | 10557 | 21 | 14108 | 18 | 2877 |

As of August 2005, this programmatic has not been used.

9.0 Environmental Baseline

The environmental baseline is provided in Appendix C.

10.0 Effects of the Action

10.1 Direct effects

Direct effects include potential impacts to intertidal areas upon placement of nearshore sorbent booms. For both nearshore and offshore booms, direct beneficial effects also include containment of oil and other hazardous substances.

1. Water quality (Temperature, Turbidity, Chemical Contamination): Under this informal programmatic consultation, all work is done in approved work windows when listed or proposed species, or prey/forage species are least likely to be present, the booms are be anchored securely, and the anchor and anchor lines are installed so that they do not drag. Temporary water quality impacts may occur with the placement or removal of the booms and associated anchors. When the anchor drops and a small amount of sediment is temporarily suspended in the water column. When possible, booms are placed during “slack tide” when the water is relatively still. Because the anchor drops in a matter of seconds and settles, sediment suspension is unlikely to exceed a radius of 25 feet⁴ from the anchor and would settle out of the water column to background levels in no more than an hour, depending on sediment type and currents. If the anchor is not installed properly or the weight is not sufficient, the anchor could drag along the substrate, causing additional sediment suspension. The Corps’ experience is that this is rare. No changes in temperature are likely to occur from placement of either nearshore or offshore booms. Based on the design and function of the booms, oil leaching into the water from a boom that has absorbed its full capacity is discountable. The booms are changed at regular intervals to ensure that booms are functioning properly. Once place, the booms will act to absorb chemical contamination, and thus have a beneficial affect. For example, the sorbent materials attract benzene and some of the more soluble components in oil, keeping them from becoming soluble over time. When placed as described, impacts from placement of booms on water quality are seen to be insignificant and/or discountable.
2. Water quality (propwash, spud placement, and helicopter activity): Under this informal programmatic consultation, work will be done in the approved work windows when listed or proposed fish species or forage fish are least likely to be present. The boat placing or removing the boom and/or anchors may cause some sediment suspension associated with propwash. The boat is stopped or moving extremely slowly during boom and anchor placement so the disturbance with the propwash is extremely small. Turbidity associated with the boat activity would settle out of the water column to background levels in no more than an hour, depending on depth, sediment type and currents. If a tug and barge are used, the activity is more likely over deeper waters (20 feet at high water) so disturbance to the substrate may not occur. The tug and barge method in deeper waters has the boom placed on the barge and then threaded into place by two small tugs. If in shallow water, the tug is used to bring in and retrieve the barge (positioning takes a maximum of 1 hour for both placement and retrieval), a small vessel (maximum 25 feet in length) is then used to thread the boom in place. In order to minimize expansion of the oil spill, all efforts are made to minimize water turbidity as well. When at all possible, work is done in slack tides. Turbidity associated with propwash of the tug and the spud or anchor placement to secure the barge would take no more than 1 hour after positioning is complete to settle out of the water column to background levels, depending on depth, sediment type and currents. Helicopter activity may result in increased water turbidity. As noted in action area, the anticipated area of affect when helicopters are used for anchor placement is a 300 foot diameter over the water, centered on the belly of the helicopter and to a depth of 2 feet below the water surface. When helicopters are used, the water depth is over 2 feet deep (5 feet plus). There is little likelihood that the helicopter will result in increase turbidity at these depths. If any turbidity were to inadvertently occur, the sediment would settle out of the water column to background levels in no more than an hour, depending on depth, sediment type and currents. When placed as described, all temporary water quality impacts are insignificant and/or discountable.
3. Habitat Access (Physical barriers): Under this informal programmatic consultation, all work is done in the approved work windows when listed, proposed, or prey/forage species are least likely to be present, no work is done in or adjacent to vegetated shallows (except where such vegetation is limited to State-designated noxious weeds), and booms will not ground out. During placement of the boom,

⁴ See footnote 2

the barge may cause temporary disturbance to species migration patterns, for example some fish may migrate into deeper waters to avoid the barge. With the placement of the boom taking no more than a week and the work being done in the approved work windows, disturbance to migratory patterns of listed and proposed species will be minimal and temporary. When a helicopter is used for anchor placement it may result in fish species disbursing from the 300-foot diameter area, into adjacent waters, or other sensitive species (birds, marine mammals) altering their migration and avoiding the area. The helicopter placement of the anchors takes a maximum of 1 hour per anchor (usually significantly less). Any disturbance to species migration from the helicopter would be temporary and discountable. When work occurs as described, impacts to habitat access from placement of booms are insignificant and/or discountable.

4. **Habitat Health (noise):** Under this informal programmatic consultation, work is done in the approved work windows when listed and proposed species are least likely to be present. The helicopter activity may result in noise impacts at a 1000-foot diameter, centered on the belly of the helicopter and at levels of 100-125 db above water. The helicopter noise is a constant, loud noise with a sudden onset.⁵ This noise may have an effect on listed species, including birds, marine mammals, and fish. The noise associated with construction equipment and activities could disrupt murrelet nesting and foraging activities and cause murrelets to temporarily avoid the project area. Underwater noise impacts on whales can include confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding (IWC 2002). Noise impacts on sea turtles include interference with travel and foraging. Pulsing noise has been shown to result in a “startled” reaction or general avoidance in salmonids (Feist, 1991). In order to ensure that listed or proposed species will not be disturbed by the noise of the helicopter, usage will be permitted only during approved work windows when listed and proposed are least likely to be present (Appendix D and E). Sound disturbance impacts related to construction activities would likely be short-term and result in temporary displacement of animals rather than injury. Since the work is done when the species are least likely to be present, the noise generated by helicopters and construction activities is expected to have a minor impact on protected species.
5. **Habitat Health (oil spill):** The proposed placement of the boom is to assist in the clean up of the oil spill. The boom will not generate additional expansion of the spill but will consolidate and remove the spilled fluid. The sorbent booms are replaced once they have absorbed the full amount possible (if not beforehand). The sorbent booms and disposed as directed by Washington State Department of Ecology and/or EPA at locations that can adequately dispose of or treat the contaminants removed. Oil spills in marine waters are likely to affect salmonids through impacts to their forage species versus the fish directly. Marine/estuarine habitats most sensitive to oil pollution are areas with the lowest physical energy, such as estuaries, tidal marshes, lagoons, and seafloor sediments. Once the oil is present in these areas, there is not adequate energy or wave action to repurify the areas. (NMFS, 1998b). When marine birds come in to contact with oil, the oil severely affects the function of their feathers for flying, insulation, and buoyancy. In addition, oiled birds try to clean themselves thereby ingesting the oil. Other marine animals such as whales and turtle can suffer toxicity effects when exposed to oil or by accidentally ingesting oil. Fish are generally able to avoid oil spills in open seas, but in nearshore areas, the spills may impair or impact estuarine nursery areas. In freshwater areas, the concern is potential impacts to eggs, larvae and early juvenile stages of fish, which have a significantly smaller toxicity threshold to petroleum than adult fish. (NPFMC, 1997). As oil mixes with the water column, it can reach the substrate directly or be carried on suspended sediments in the water column. Once mixed with the substrate, the oil may persist for years and become a long-term source of pollution introduced into benthic organisms (NPFMC, 1997). Capturing as much oil on the water surface as possible through the use of sorbent booms, minimizes the potential contamination of the substrate as well as removing harmful oil from the sea surface microlayer, where in marine areas

⁵ See footnote 3

pelagic spawning fish may have deposited eggs. This programmatic biological evaluation covers only the placement of the boom. The cleanup action itself will require ESA consultation with the Services by the initiating agency (either EPA or the US Coast Guard). Cleanup actions requiring Corps permits cannot proceed until the U.S. Environmental Protection Agency or U.S. Coast Guard has finalized the ESA consultation. Impacts to habitat health from placement of booms are seen to be insignificant and/or discountable relative to the negative effects of uncontained oil spills.

6. **Habitat Health (Forage Fish):** Under this informal programmatic consultation, work is done in the approved work windows when listed, proposed, or forage fish species are least likely to be present. No work is done in or adjacent to vegetated shallows (except where such vegetation is limited to State-designated noxious weeds), booms are anchored securely, anchors are installed so that anchor and anchor lines do not drag, and booms will not ground out. Vegetated shallows provide refuge for juvenile salmonids and support forage species that the listed or proposed species are dependent upon, such as invertebrates for juvenile salmonids and forage fish for adult salmonids. For example, herring spawn in eelgrass beds in marine areas. Boat activity near or adjacent to vegetated areas has been documented to damage and/or destroy the vegetated areas. (NOAA, 1998) The substrate may support benthic invertebrates that listed or proposed species are dependent upon for forage. When the placed as described, impacts to habitat health and forage species are insignificant and/or discountable.
7. **Habitat Health (Refugia and Substrate):** This programmatic biological evaluation covers those activities where, in fresh waters including the Columbia River, large woody debris (LWD) is not removed from the beach or bank for the boom placement and boom and anchor systems will be placed so that neither boom, anchor, nor anchor lines will result in streambed scour. In marine/estuarine waters excluding Baker Bay, no natural beach complexity features will be removed. LWD and/or natural beach complexity features provide refuge for juvenile fish species from predators. If LWD and/or natural beach complexity features need to be removed from the site for cleaning, that activity must be addressed under the EPA and/or US Coast Guard ESA consultation for the oil spill cleanup. Using these methods of installation including appropriate placement of the booms, anchors and anchor lines so that there is no scouring of the streambed, impacts associated to refugia and substrate will be insignificant and/or discountable.
8. **Disturbance:** The presence and operation of equipment (i.e., barge or helicopter) may have an effect on listed species. Construction activities could disrupt marine mammals, sea turtles, and murrelets nesting and foraging, causing animals to temporarily avoid the project area. However, construction activities would be short-term and potential impacts to listed species would be minimized by implementing timing restrictions (Appendix D and E) designed to avoid or minimize impacts.

10.2 Indirect effects

Effects that may accrue from the work that are later in time primarily consist of the beneficial effects of containment of substances that are extremely hazardous to all fish and wildlife, let alone threatened and endangered wildlife. The sorbent booms act to not only contain but also somewhat clean the sea surface microlayer, which can be beneficial to many species that utilize the surface.

10.3 Others

For all other pathways and indicators not specifically mentioned above, the activity will not alter the present environmental baseline.

10.4 Determination of Effect

Oil spill containment may affect certain threatened and endangered species, species proposed for listing as threatened or endangered, and designated or proposed critical habitat for those species. The determinations for each species assumes the following:

For all areas:

- Work is done within the approved work window.
- No work is done in or adjacent to vegetated shallows (except where such vegetation is limited to State-designated noxious weeds).
- No large woody debris is removed.
- No new piling is driven.
- Work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR Part 112.3 and any existing State contingency plan.
- The Regional Response Team (if one exists in the area) concurs with the proposed containment.
- Booms are anchored securely.
- Anchors are installed so that anchor and anchor lines do not drag.
- Booms will not ground out.
- Boom and anchor system will be placed so that neither boom, anchor, nor anchor line will result in streambed scour.
- For emergency response actions, the lead federal agency (EPA, US Coast Guard, or the Corps for State response actions) will coordinate with NMFS and USFWS under “emergency procedures.”
- All other actions that do not fit the terms of this informal programmatic consultation will be reviewed through individual informal or formal ESA consultation.

Brown Pelican (*Pelecanus occidentalis*)

The proposed activity “may affect, but is not likely to adversely affect” brown pelicans. In Washington, brown pelicans inhabit only coastal marine waters. The proposed activity could affect brown pelican because oil spill containment devices could be deployed in coastal marine waters. Any work near coastal marine waters and associated with the proposed activity may result in temporary displacement of brown pelicans during construction due to the associated noise and visual disturbance. Direct mortality or sub-lethal effects are unlikely. To minimize impacts, work would be limited in Pacific and Grays Harbor Counties by the work window specified in Appendix E.

Marbled Murrelet (*Brachyramphus marmoratus*)

The proposed activity “may affect, but is not likely to adversely affect” marbled murrelets and their critical habitat. The proposed activity may result in temporary displacement of marbled murrelets during construction due to the associated noise and visual disturbance. Direct mortality or sub-lethal effects are unlikely. The proposed activity will not alter or impact critical habitat because activity would occur offshore or at the shoreline, away from old growth habitat. In addition, work would be prohibited in or near critical habitat areas and during sensitive nesting or foraging periods as described in Appendix E.

Northern Spotted Owl (*Strix occidentalis*)

The proposed activity “may affect, but is not likely to adversely affect” the northern spotted owl and its critical habitat. The proposed activity may result in temporary displacement of spotted owls during construction due to the associated noise and visual disturbance. Direct mortality or sub-lethal effects are unlikely. The proposed activity will not alter or impact current spotted owl prey and habitat because activity would occur offshore or at the shoreline, away from old growth habitat. In addition, work would be prohibited in or near critical habitat areas and during sensitive nesting periods as described in Appendix E.

Short-Tailed Albatross (*Phoebastria albatrus*)

The proposed activity “may affect, but is not likely to adversely affect” short-tailed albatross. In Washington, short-tailed albatross inhabit only coastal and offshore marine waters. The proposed activity could affect short-tailed albatross because oil spill containment devices could be deployed in coastal marine waters. Any work near coastal marine waters or offshore marine waters may result in temporary displacement of short-tailed albatross during construction due to the associated noise and visual disturbance. Direct mortality or sub-lethal effects are unlikely.

Western Snowy Plover (*Charadrius alexandrinus*)

The proposed activity “may affect, but is not likely to adversely affect” western snowy plover and its proposed critical habitat. Plovers inhabit only ocean beach areas in Pacific and Grays Harbor counties; southwest Washington is furthest known northern area for snowy plovers. Western snowy plover utilize open shoreline areas where little vegetation exists. The proposed activity could affect western snowy plover because oil spill containment devices could be deployed along the shoreline. Any work near the shoreline or along ocean beaches could result in temporary displacement of western snowy plover during construction due to the associated noise and visual disturbance. Direct mortality or sub-lethal effects are unlikely. To minimize impacts, work would be limited by the work window and distance to nesting areas specified in Appendix E.

Canada Lynx (*Lynx canadensis*)

The proposed activity would have “no effect” on Canada lynx. The proposed activity would occur in open water areas (e.g. lakes, rivers, and marine/estuarine waters) and would not occur near remote areas of the Selkirk Mountains or the Cascade Range where lynx occur. Because there would be no overlap of the proposed activity action area and Canada lynx or their habitat, the proposed activity would have no potential to affect Canada lynx.

Columbia White-Tailed Deer (*Odocoileus virginianus leucurus*)

The proposed activity “may affect, but is not likely to adversely affect” Columbia white-tailed deer. Any construction noise or activities along the lower Columbia River from River Mile (RM) 50 to RM 52 may result in temporary displacement of Columbia white-tailed deer due to the associated noise and visual disturbance. Direct mortality or sub-lethal effects are unlikely. To minimize impacts, work will be prohibited in or near sensitive habitat areas as specified in Appendix E.

Gray Wolf (*Canis lupis*)

The proposed activity would have “no effect” on gray wolves. The proposed activity would occur in open water areas (e.g. lakes, rivers, and marine/estuarine waters) and would not occur near remote areas of the Selkirk Mountains or the Cascade Range where gray wolves occur. Because there would be no overlap of the proposed activity action area and gray wolves or their habitat, the proposed activity would have no potential to affect gray wolves.

Grizzly Bear (*Ursus arctos horribilis*)

The proposed activity would have “no effect” on grizzly bears. The proposed activity would occur in open water areas (e.g. lakes, rivers, and marine/estuarine waters) and would not occur near remote areas of the Selkirk Mountains or the Cascade Range where grizzly bears occur. Because there would be no overlap of the proposed activity action area and grizzly bear or their habitat, the proposed activity would have no potential to affect grizzly bear.

Pygmy Rabbit (*Barchylagus idahoensis*)

The proposed activity “may affect, but is not likely to adversely affect” pygmy rabbits. Pygmy rabbits occur in the shrub steppe habitat of Douglas County, Washington. Activities could occur adjacent to habitats (e.g., along the Columbia River mainstem) that support the pygmy rabbit. Booms will be placed from the water when possible and if placed from the shoreline, the work corridor will be maximum width of 40 feet along the shoreline to prevent impacts to listed species and habitat. Construction/deployment has the potential to adversely affect pygmy rabbits via the increased activity along the shoreline that could result in temporary displacement or behavioral changes (i.e., hiding instead of feeding). To minimize impacts, construction will avoid areas near suitable habitat and known populations of pygmy rabbit.

Woodland Caribou (*Rangifer tarandus caribou*)

The proposed activity would have “no effect” on woodland caribou. The proposed activity would occur in open water areas (e.g. lakes, rivers, and marine/estuarine waters) and would not occur in or near the Selkirk Mountains where woodland caribou occur. Because there would be no overlap of the proposed activity action area and woodland caribou or their habitat, the proposed activity would have no potential to affect woodland caribou.

Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*)

The proposed activity “may affect, but is not likely to adversely affect” Oregon silverspot butterflies and their critical habitat. Oregon silverspot butterflies inhabit coastal salt spray marshes and open meadows. In Washington, Oregon silverspot butterflies may be extirpated. However, areas suitable for recolonization or reintroduction occur in southwest Washington. Activities near sand dune, salt-spray meadows or open field habitat in the Pacific coastal and Willapa Bay areas of Pacific County could impact the butterfly or their habitat. The early blue violet is a host species for the butterfly larvae, and no activity would be allowed where blue violet is detected by a plant survey conducted at the appropriate time of year. To minimize potential impacts work will be prohibited in or near sensitive habitat areas as specified in Appendix E.

Blue Whale (*Balaenoptera musculus*)

The proposed activity “may affect, but is not likely to adversely affect” whales. The blue whale occurs in marine areas where activities could occur. Any work in marine waters may result in temporary

disturbance of blue whales during construction due to the associated noise and visual disturbance. Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding.

Fin Whale (*Balaenoptera physalus*)

The proposed activity “may affect, but is not likely to adversely affect” fin whales. The fin whale occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of fin whales during construction due to the associated noise and visual disturbance. Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding.

Humpback Whale (*Megaptera novaeangliae*)

The proposed activity “may affect, but is not likely to adversely affect” humpback whales. The humpback whale occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of humpback whales during construction due to the associated noise and visual disturbance. Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding.

Sei Whale (*Balaenoptera borealis*)

The proposed activity “may affect, but is not likely to adversely affect” sei whales. The sei whale occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of sei whales during construction due to the associated noise and visual disturbance. Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding.

Sperm Whale (*Physeter macrocephalus*)

The proposed activity “may affect, but is not likely to adversely affect” sperm whales. The sperm whale occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of sperm whales during construction due to the associated noise and visual disturbance. Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding.

Killer Whale (*Orcinus orca*) and Critical Habitat

The proposed activity “may affect, but is not likely to adversely affect” killer whales or their critical habitat. The killer whale occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of killer whales during construction due to the associated noise and visual disturbance. Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding.

Steller Sea Lion (*Eumetopias jubatus*)

The proposed activity “may affect, but is not likely to adversely affect” steller sea lions and their critical habitat. In Washington, Steller sea lions inhabit pelagic areas of marine waters and occasionally move up the lower Columbia River to feed during the fall. Any work in marine waters or the lower Columbia River

may result in temporary disturbance of Steller sea lions during construction due to the associated noise and visual disturbance. Activities could result in confusion, disruption of social cohesion, separation, alteration of travel, and interference with feeding or breeding. Work will be prohibited near or in critical habitat.

Green Sea Turtle (*Chelonia mydas*)

The proposed activity “may affect, but is not likely to adversely affect” green sea turtles. The green sea turtle occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of green sea turtles during construction due to the associated noise and visual disturbance. Construction noise and activity could interfere with travel and foraging.

Leatherback Sea Turtle (*Dermochelys coriacea*)

The proposed activity “may affect, but is not likely to adversely affect” leatherback sea turtles. The leatherback sea turtle occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of leatherback sea turtles during construction due to the associated noise and visual disturbance. Construction noise and activity could interfere with travel and foraging.

Loggerhead Sea Turtle (*Caretta caretta*)

The proposed activity “may affect, but is not likely to adversely affect” loggerhead sea turtles. The loggerhead sea occurs in marine areas where activities could occur. Any work in marine waters may result in temporary disturbance of loggerhead sea turtles during construction due to the associated noise and visual disturbance. Construction noise and activity could interfere with travel and foraging.

Bradshaw’s Desert Parsley (*Lomatium bradshawii*)

The proposed activity “may affect, but is not likely to adversely affect” Bradshaw’s desert parsley. Bradshaw's desert parsley occurs in wet meadows. Populations of desert parsley have been identified near streams in Clark County, Washington, areas that could potentially be affected by the proposed activity. If proposed activity occurs in an area where the species occurs it could result in species or habitat disturbance. In or near potentially suitable habitat areas surveys to determine the presence of Bradshaw’s desert parsley can help avoid and minimize potential impacts.

Golden Paintbrush (*Castilleja levisecta*)

The proposed activity would have “no effect” on golden paintbrush. Golden paintbrush occurs in small populations in uplands in the Puget Trough, San Juan County, and Clark County. The species or habitat would not be affected by the proposed activity because the activity is unlikely to occur in or near suitable upland areas and work would be prohibited in or near sensitive areas as specified in Appendix E.

Kincaid’s Sulphur Lupine (*Lupinus sulphureus ssp. Kincaidii*)

The proposed activity would have “no effect” on Kincaid’s sulphur lupine. Kincaid's sulphur lupine occurs in upland prairie habitat in southwest Washington. The species would not be affected by the proposed activity because the activity is unlikely to occur in or near suitable upland prairie habitat and work would be prohibited in or near sensitive areas as specified in Appendix E.

Marsh Sandwort (*Arenaria paludicola*)

The proposed activity would have “no effect” on the marsh sandwort. Marsh sandwort may be extirpated in Washington, but marsh sandwort historically occurred in freshwater wetlands. Because it may be extirpated, there is an insignificant and discountable chance that activities would affect marsh sandwort habitat. In addition, surveys to determine the presence of marsh sandwort can help avoid and minimize potential impacts.

Nelson’s Checker-Mallow (*Sidalcea nelsoniana*)

The proposed activity “may affect, but is not likely to adversely affect” Nelson’s checker mallow. Nelson's checker-mallow occurs in meadows and along streams in southwest Washington and the Olympic peninsula, areas that could potentially be affected by proposed activity. If proposed activity occurs in an area where the species occurs it could result in species or habitat disturbance. In or near potentially suitable habitat areas, surveys to determine the presence of Nelson's checker-mallow can help avoid and minimize potential impacts. Work will be prohibited in or near sensitive areas as specified in Appendix E.

Showy Stickseed (*Hackelia venusta*)

The proposed activity would have “no effect” on showy stickseed. Showy stickseed occurs in open mountain sites composed of loose sand or talus slopes, away from areas where activities would typically occur (e.g. drainages and waterbodies). Therefore, the species would not be affected by the proposed activity because the activity is unlikely to occur in or near suitable habitat.

Spalding’s Silene (*Silene spaldingii*)

The proposed activity would have “no effect” on Spalding’s silene. Spalding's silene occurs in upland grasslands in eastern Washington, away from areas where activities would typically occur (e.g. drainages and waterbodies). Therefore, the species would not be affected by the proposed activity because the activity is unlikely to occur in or near upland grassland habitat. In addition, surveys to determine the presence of Spalding's silene can help avoid and minimize potential impacts.

Water Howellia (*Howellia aquatilis*)

The proposed activity “may affect, but is not likely to adversely affect” water howellia. Water howellia occurs in seasonal wetlands in the Puget lowlands and the Columbia basin, primarily in small, vernal ponds, although some ponds may retain water throughout the year. Although unlikely, the proposed activity could affect or occur in these ponds and wetlands, thereby potentially affecting the species and their habitat. If proposed activity occurs in an area where the species occurs it could result in species or habitat disturbance. In or near potentially suitable habitat areas surveys to determine the presence of water howellia can help avoid and minimize potential impacts. Work will be prohibited in or near sensitive areas as specified in Appendix E.

Wenatchee Mountain Checker-Mallow (*Sidalcea oregana var. calva*)

The proposed activity would have “no effect” on the Wenatchee mountain checker-mallow and its critical habitat. Wenatchee mountain checker-mallow occurs in wet meadows within a small region southeast of Leavenworth, Washington. Surveys to determine the presence of Wenatchee mountain checker-mallow

can help avoid and minimize potential impacts. Because it is unlikely that a project would occur near known plant populations and construction would be prohibited in or near sensitive areas (as specified in Appendix E), the species and habitat would be affected by the proposed activity.

Ute Ladies'-Tresses (*Spiranthes diluvialis*)

The proposed activity “may affect, but is not likely to adversely affect” Ute ladies’-tresses. Ute ladies’-tresses can occur in wet meadows associated with meandering wetland complexes, areas that could potentially be affected by the proposed activity. If proposed activity occurs in an area where the species occurs it could result in species or habitat disturbance. In or near potentially suitable habitat areas surveys to determine the presence of Ute ladies’-tresses can help avoid and minimize potential impacts. Work will be prohibited in sensitive areas as specified in Appendix E.

Pacific Salmon and Bull Trout

Adult and juvenile salmonids utilize habitats within the action area as migratory corridors and rearing habitat and may be affected by construction activities. The proposed activity may result in temporary increases in suspended sediment during construction; however, turbidity is expected to be short-term. Proposed activity will not occur in or near vegetated shallows where listed salmonids or forage fish may occur. The in-water work windows (see Appendix D) will minimize the chance that adult and juvenile salmonids are present during project construction, and forage fish spawning will be protected. In addition, oil spill containment provides an overall benefit to the environment by minimizing the area affected by the toxic material.

The proposed activity “may affect, but is not likely to adversely affect”:

- Snake River sockeye and their critical habitat
- Snake River spring/summer chinook and their critical habitat
- Snake River fall chinook and their critical habitat
- Snake River steelhead and their critical habitat
- Columbia River chum
- Columbia River bull trout
- Lower Columbia River steelhead
- Lower Columbia River chinook
- Middle Columbia River steelhead
- Upper Columbia River steelhead
- Upper Columbia River spring chinook
- Upper Willamette River chinook
- Upper Willamette River steelhead
- Ozette Lake sockeye

- Hood Canal summer chum
- Puget Sound chinook
- Coastal/Puget Sound bull trout/dolly varden
- Puget Sound steelhead
- Lower Columbia River/SW Washington coho salmon

Table 6. Effect Determinations for Listed Terrestrial Animals and Insects

| Species Name <i>Scientific Name</i> | Status | Determination | Rational for Determination |
|--|---------------|--|--|
| Brown Pelican <i>Pelecanus occidentalis</i> | E | May affect, but not likely to adversely affect | Any work near coastal marine waters and associated with the proposed activity may result in temporary displacement during construction due to noise and visual disturbance. To minimize impacts work would be limited in Pacific and Grays Harbor Counties by a work window (Appendix E). |
| Marbled Murrelet <i>Brachyramphus marmoratus</i> | T | May affect, but not likely to adversely affect | The proposed activity may result in temporary displacement during construction due to noise and visual disturbance. Work will be prohibited in or near critical habitat areas and during sensitive nesting or foraging periods (Appendix E). |
| Northern Spotted Owl <i>Strix occidentalis</i> | T | May affect, but not likely to adversely affect | The proposed activity may result in temporary displacement during construction due to noise and visual disturbance. Work will be prohibited in or near critical habitat areas and during sensitive nesting or foraging periods (Appendix E). |
| Short-Tailed Albatross <i>Phoebastria albatrus</i> | E | May affect, but not likely to adversely affect | In Washington, short-tailed albatross inhabit only coastal and offshore marine waters where temporary displacement during construction due to noise and visual disturbance has the potential to affect short-tailed albatross. |
| Western Snowy Plover <i>Charadrius alexandrinus</i> | T | May affect, but not likely to adversely affect | Plovers inhabit only ocean beach areas in Pacific and Grays Harbor counties where temporary displacement during construction due to noise and visual disturbance has the potential to affect western snowy plover. Work will be prohibited in or near critical habitat and sensitive nesting areas (Appendix E). |
| Canada Lynx <i>Lynx canadensis Canadensis</i> | T | No effect | The proposed activity would not occur near remote areas of the Selkirk Mountains or the Cascade Range where lynx occur. |
| Columbia White-Tailed Deer <i>Odocoileus virginianus leucurus</i> | E | May affect, but not likely to adversely affect | Construction noise and activities along the lower Columbia River from River Mile (RM) 50 to RM 52 may temporarily displace Columbia white-tailed deer. Work will be prohibited in or near sensitive habitat areas as specified in Appendix E. |
| Gray Wolf <i>Canis lupis</i> | E | No effect | The proposed activity would not occur near remote areas of the Selkirk Mountains or the Cascade Range where grey wolves occur. |
| Grizzly Bear <i>Ursus arctos horribilis</i> | T | No effect | The proposed activity would not occur near remote areas of the Selkirk Mountains or the Cascade Range where grizzly bear occur |
| Pygmy Rabbit <i>Barchylagus idahoensis</i> | E | May affect, but not likely to adversely affect | Activities could occur adjacent to habitats (e.g., along the Columbia River mainstem) that support the pygmy rabbit. Temporary displacement during construction has the potential to affect pygmy rabbits. Construction will avoid areas near suitable habitat and known populations of pygmy rabbit |
| Woodland Caribou <i>Rangifer tarandus caribou</i> | E | No effect | The proposed activity would not occur in or near the Selkirk Mountains where woodland caribou occur. |

| Species Name <i>Scientific Name</i> | Status | Determination | Rational for Determination |
|---|---------------|--|--|
| Oregon Silverspot Butterfly <i>Speyeria zerene hippolyta</i> | T | May affect, but not likely to adversely affect | Activities near sand dune, salt-spray meadows or open field habitat in the Pacific coastal and Willapa Bay areas of Pacific County could impact the butterfly or their habitat. Work will be prohibited in or near sensitive habitat areas as specified in Appendix E. |

Table 7. Effect Determinations for Listed Marine Animals

| Species Name <i>Scientific Name</i> | Status | Determination | Rational for Determination |
|---|---------------|--|--|
| Blue Whale <i>Balaenoptera musculus</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. |
| Fin Whale <i>Balaenoptera physalus</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. |
| Humpback Whale <i>Megaptera novaeangliae</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. |
| Sei Whale <i>Balaenoptera borealis</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. |
| Sperm Whale <i>Physeter macrocephalus</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. |
| Killer Whale <i>Orcinus orca</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. |
| Steller Sea Lion <i>Eumetopias jubatus</i> | T | May affect, but not likely to adversely affect | Construction noise and activity could result in confusion, disruption of social cohesion, separation, alteration of travel, and interference with feeding or breeding. |
| Green Sea Turtle <i>Chelonia mydas</i> | T | May affect, but not likely to adversely affect | Construction noise and activity could interfere with travel and foraging |
| Leatherback Sea Turtle <i>Dermochelys coriacea</i> | E | May affect, but not likely to adversely affect | Construction noise and activity could interfere with travel and foraging |
| Loggerhead Sea Turtle <i>Caretta caretta</i> | T | May affect, but not likely to adversely affect | Construction noise and activity could interfere with travel and foraging |

Table 8. Effect Determinations for Listed and Proposed Plant Species

| Species Name <i>Scientific Name</i> | Status | Determination | Rational for Determination |
|--|---------------|--|---|
| Bradshaw's Desert Parsley <i>Lomatium bradshawii</i> | E | May affect, but not likely to adversely affect | Populations of desert parsley have been identified near streams, areas that could potentially be affected by construction activities. In or near potentially suitable habitat areas surveys to determine the presence of Bradshaw's desert parsley can help avoid and minimize potential impacts. |
| Golden Paintbrush <i>Castilleja levisecta</i> | T | No effect | Species or habitat would not be affected by the proposed activity because the activity would not occur in upland habitat and work would be prohibited in or near sensitive areas as specified in Appendix E. |
| Kincaid's Sulphur Lupine <i>Lupinus sulphureus ssp. Kincaidii</i> | T | No effect | Species or habitat would not be affected by the proposed activity because the activity would not occur in upland prairie habitat and work would be prohibited in or near sensitive areas as specified in Appendix E |
| Marsh Sandwort <i>Arenaria paludicola</i> | E | No effect | There is an insignificant and discountable chance that activities would affect marsh sandwort habitat since it may be extirpated and the activity would be limited to offshore areas or at the shoreline where plants are not expected to occur. |
| Nelson's Checker-Mallow <i>Sidalcea nelsoniana</i> | T | May affect, but not likely to adversely affect | Nelson's checker-mallow occurs in meadows and along streams, areas that could potentially be affected by the proposed activity. In or near potentially suitable habitat areas, surveys to determine the presence of Nelson's checker-mallow can help avoid and minimize potential impacts. Work will be prohibited in or near sensitive areas as specified in Appendix E. |
| Showy Stickseed <i>Hackelia venusta</i> | PE | No effect | Proposed activity would not occur in open mountain sites composed of loose sand or talus slopes. Activities would be limited to offshore areas or at the shoreline. |
| Spalding's Silene <i>Silene spaldingii</i> | PT | No effect | Species or habitat would not be affected by the proposed activity because the activity would not occur in upland grasslands. |
| Water Howellia <i>Howellia aquatilis</i> | T | May affect, but not likely to adversely affect | Proposed activity could affect or occur in ponds and wetlands that are habitat for water howellia, thereby potentially affecting the species and their habitat. In or near potentially suitable habitat areas surveys to determine the presence of water howellia can help avoid and minimize potential impacts. Work will be prohibited in or near sensitive areas as specified in Appendix E. |

| Species Name <i>Scientific Name</i> | Status | Determination | Rational for Determination |
|--|---------------|--|--|
| Wenatchee Mountain Checker-Mallow <i>Sidalcea oregana var. calva</i> | E | No effect | Species or habitat would not be affected by the proposed activity because construction would be limited to offshore areas or at the shoreline where plants are not expected to occur. Work would be prohibited in or near sensitive areas as specified in Appendix E. |
| Ute Ladies'-Tresses <i>Spiranthes diluvialis</i> | T | May affect, but not likely to adversely affect | Ute ladies'-tresses can occur in wet meadows associated with meandering wetland complexes, areas that could potentially be affected by proposed activity. In or near potentially suitable habitat areas surveys to determine the presence of Ute ladies'-tresses can help avoid and minimize potential impacts. Work will be prohibited in or near sensitive areas as specified in Appendix E. |

Table 9. Effect Determinations for Listed, Proposed, and Candidate Fish Species

| Species Name <i>Scientific Name</i> Evolutionary Significant Unit (ESU)/Distinct Population Segment (DPS) | Status | Determination | Rational for Determination |
|--|----------------------------|--|--|
| Bull Trout <i>Salvelinus confluentus</i> Coastal/Puget Sound DPS Columbia River DPS | T T | May affect, but not likely to adversely affect | Proposed activity occurs in areas where fish may occur and potential impacts from turbidity, contaminants, and noise associated with construction could affect fish. |
| Chinook Salmon <i>Oncorhynchus tshawytscha</i> Puget Sound ESU Snake River Fall Run ESU Snake River Spring/Summer-run ESU Lower Columbia River ESU Upper Columbia River Spring-run ESU Upper Willamette River ESU | T T T T E T | May affect, but not likely to adversely affect | Proposed activity occurs in areas where fish may occur and potential impacts from turbidity, contaminants, and noise associated with construction could affect fish. |
| Sockeye Salmon <i>Oncorhynchus nerka</i> Ozette Lake ESU Snake River ESU | T E | May affect, but not likely to adversely affect | Proposed activity occurs in areas where fish may occur and potential impacts from turbidity, contaminants, and noise associated with construction could affect fish. |
| Coho Salmon <i>Oncorhynchus kisutch</i> Puget Sound/Strait of Georgia ESU Lower Columbia River/SW WA ESU | C C | Will not jeopardize (“may affect, but not likely to adversely affect” if listed) | Proposed activity occurs in areas where fish may occur and potential impacts from turbidity, contaminants, and noise associated with construction could affect fish. |
| Chum Salmon <i>Oncorhynchus keta</i> Hood Canal Summer-run ESU Columbia River ESU | T T | May affect, but not likely to adversely affect | Proposed activity occurs in areas where fish may occur and potential impacts from turbidity, contaminants, and noise associated with construction could affect fish. |
| Steelhead Trout <i>Oncorhynchus mykiss</i> Upper Columbia River ESU Middle Columbia River ESU Lower Columbia River ESU Snake River Basin ESU Upper Willamette River ESU Puget Sound ESU | E T T T T T | May affect, but not likely to adversely affect | Proposed activity occurs in areas where fish may occur and potential impacts from turbidity, contaminants, and noise associated with construction could affect fish. |

11.0 Essential Fish Habitat

Overview

Public Law 104-297, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery Conservation and Management Act to establish new requirements for Essential Fish Habitat (EFH) descriptions in Federal fishery management plans and to require federal agencies to consult with NMFS on activities that may adversely affect EFH.

The Magnuson-Stevens Act requires all fishery management councils to amend their fishery management plans to describe and identify EFH for each managed fishery. The Pacific Fishery Management Council (1999) has issued such an amendment in the form of Amendment 14 to the Pacific Coast Salmon Plan, and this amendment covers EFH for all fisheries under NMFS jurisdiction that would potentially be affected by the proposed action. Specifically, these are the chinook, coho and pink salmon fisheries. EFH includes all streams, lakes, ponds, wetlands, and other currently viable water bodies and most of the habitat historically accessible to salmon. Activities occurring above impassable barriers that are likely to adversely affect EFH below impassable barriers are subject to the consultation provisions of the Magnuson-Stevens Act.

The Magnuson-Stevens Act requires consultation for all federal agency actions that may adversely affect EFH. EFH consultation with NMFS is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location. Under Section 305(b)(4) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. Wherever possible, NMFS utilizes existing interagency coordination processes to fulfill EFH consultations with federal agencies. For the proposed action, this goal is being met by incorporating EFH consultation to the Endangered Species Act Section 7 consultation, as represented by this biological evaluation.

Location

The location of the activity covered by this assessment has been described in detail earlier in this document (see Section 3).

Description of Proposed Activity

The activity covered by this assessment has been described earlier in this document (see Section 4).

Potential Adverse Effects of the Proposed Activity

Projects would occur in or along the edges of marine, estuarine, and freshwater waters. EFH for ground fish (Table 10), coastal pelagics (Table 11) and salmonids (Table 12) could be affected by proposed activity.

Ground Fish EFH

Effects to the environmental baseline that would impact groundfish species are discussed in detail in Section 10.

Coastal Pelagic EFH

Effects to the environmental baseline that would impact coastal pelagic species are discussed in detail in Section 10.

Salmon EFH

Effects to the environmental baseline that would impact pink, coho, or chinook salmon are discussed in detail in Section 10.

EFH Conservation Measures

Conservation measures designed to protect listed species and those proposed as threatened or endangered will also help avoid and minimize impacts of the proposed activities on salmonid and groundfish EFH (see Appendix D, E, F, and G).

Conclusion

In accordance with EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act, the Corps has determined that the proposed activity would not adversely impact EFH utilized by Pacific salmon and groundfish. It has been determined that the proposed action will not adversely affect EFH for federally managed fisheries in Washington waters.

Table 10. Ground Fish Species with Designated EFH and the Life History Stages that May Occur in the Action Area (PFMC, 1998a).

| GROUND FISH SPECIES | Adults | Spawning/ Mating | Large Juvenile | Small Juvenile | Larvae | Eggs/ Parturition |
|----------------------------|---------------|-----------------------------|---------------------------|---------------------------|---------------|------------------------------|
| Leopard Shark | X | X | N/A | X | N/A | X |
| Soupin Shark | X | X | N/A | X | N/A | X |
| Spiny Dogfish | X | | X | X | N/A | X |
| California Skate | X | X | N/A | X | N/A | X |
| Ratfish | X | X | N/A | X | N/A | |
| Lingcod | X | X | X | X | X | X |
| Cabezon | X | X | X | X | X | X |
| Kelp Greenling | X | X | X | X | X | X |
| Pacific Cod | X | X | N/A | X | X | X |
| Pacific Whiting (Hake) | X | X | N/A | X | X | X |
| Sablefish | | | | X | | |
| Jack Mackerel | X | | N/A | | X | |
| Black Rockfish | X | | | X | | |
| Bocaccio | | | | X | X | |
| Brown Rockfish | X | X | N/A | X | | X |
| Calico Rockfish | X | | N/A | X | | |
| California Scorpionfish | | | | | | X |
| Copper Rockfish | X | | X | X | | X |
| Kelp Rockfish | | | | X | | |
| Quillback Rockfish | X | | X | X | X | X |
| English Sole | X | X | N/A | X | X | X |
| Pacific Sanddab | | | N/A | X | X | X |
| Rex Sole | X | | N/A | | | |
| Starry Flounder | X | X | N/A | X | X | X |

N/A - Not Applicable. Either the species does not have a particular life stage in its life history, or when EFH of juveniles is not identified separately for small juvenile and large juvenile stages. For many species, habitats occupied by juveniles differ substantially, depending on the size (or age) of the fish. Frequently, small juveniles are pelagic and large juveniles live on or near the bottom; these life stages are identified separately in the table when sufficient information is available to do so. When juvenile habitats do not differ so substantially or when information is insufficient to identify differences, EFH is identified only for the juvenile stage (small and large juveniles combined), and N/A is listed in the column for the large juvenile stage in the table (PFMC, 1998a).

Table 11. Coastal Pelagic Species with Designated EFH and the Life History Stages that May Occur in the Action Area (PFMC, 1998a).

| COASTAL PELAGIC SPECIES | Adults | Spawning/ Mating | Large Juvenile | Small Juvenile | Larvae | Eggs/ Parturition |
|--------------------------------|---------------|-----------------------------|-----------------------|-----------------------|---------------|------------------------------|
| Northern Anchovy | X | | X | | X | X |
| Pacific Sardine | X | | X | | X | X |
| Pacific Mackerel | X | | X | | X | X |
| Jack Mackerel | X | | | | | |
| Market Squid | X | N/A | | N/A | N/A | N/A |

N/A - Not Applicable. Either the species does not have a particular life stage in its life history, or when EFH of juveniles is not identified separately for small juvenile and large juvenile stages. For many species, habitats occupied by juveniles differ substantially, depending on the size (or age) of the fish. Frequently, small juveniles are pelagic and large juveniles live on or near the bottom; these life stages are identified separately in the table when sufficient information is available to do so. When juvenile habitats do not differ so substantially or when information is insufficient to identify differences, EFH is identified only for the juvenile stage (small and large juveniles combined), and N/A is listed in the column for the large juvenile stage in the table (PFMC, 1998a).

Table 12. Salmonid Species with Designated EFH and the Life History Stages that May Occur in the Action Area (PFMC, 1998a).

| PACIFIC SALMON | Egg | Larvae | Young Juvenile | Juvenile | Adult | Spawning |
|-----------------------|------------|---------------|-----------------------|-----------------|--------------|-----------------|
| Chinook salmon | X | X | X | X | X | X |
| Coho salmon | X | X | X | X | X | X |
| Pink salmon | X | X | X | X | X | X |