**UNITED STATES DEPARTMENT OF COMMERCE**
**National Oceanic and Atmospheric Administration**
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2002/01194 (ST Services)
2002/01197 (Columbia Grain)
2002/01505 (McCall Oil)
2002/01196 (Chevron USA)

January 22, 2003

Mr. Lawrence Evans
U.S. Army Corps of Engineers, Portland District
ATTN: Mary Headley and Dan Gresham
P.O. Box 2946
Portland, OR 97208-2946

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation on Piling Replacement by McCall Oil & Chemical Corporation, Columbia Grain, Inc., ST Services and Chevron USA Inc., River Miles 1-7.8, Willamette River, Multnomah County, Oregon (Corps. Nos.2001-00270, 2002-00649, 2002-00614, 1997-00361).

Dear Mr. Evans:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of four piling replacement projects proposed by McCall Oil & Chemical Corporation, Columbia Grain, Inc., ST Services and Chevron USA Inc., respectively, at River Miles 1-7.8, Multnomah County, Oregon. NOAA Fisheries concludes in this Opinion that the proposed action is not likely to jeopardize the continued existence of Upper Willamette River (UWR) chinook (*Oncorhynchus tshawytscha*), Lower Columbia River (LCR) chinook salmon, UWR steelhead (*O. mykiss*) and LCR steelhead. As required by section 7 of the ESA, we include reasonable and prudent measures with non-discretionary terms and conditions that are necessary to minimize the potential for incidental take associated with this action.

This Opinion also serves as consultation on essential fish habitat (EFH) for chinook salmon (O. tshawytscha) and coho salmon (*O. kisutch*) and starry flounder (*Platyichthys stellatus*) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation Management Act (MSA) and its implementing regulations at 50 CFR Part 600.

Please direct any questions regarding this consultation to Christy Fellas of my staff in the Oregon Habitat Branch at 503.231.2307.

Sincerely,

For Michael R Crouse

D. Robert Lohn
Regional Administrator

Endangered Species Act - Section 7 Consultation
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

# BIOLOGICAL OPINION

Piling Replacements by McCall Oil & Chemical Corporation,
Columbia Grain, Inc., ST Services, and Chevron USA Inc.,
River Miles 1-7.8, Willamette River, Multnomah County, Oregon
(Corps. Nos. 2001-00270, 2002-00649, 2002-00614, 1997-00361)

Agency: U.S. Army Corps of Engineers

Consultation Conducted By: NOAA Fisheries, Northwest Region

Date Issued: January 22, 2003

Issued by: For Michael R Crouse

D. Robert Lohn
Regional Administrator

**Refer to:** **2002/01194 (ST Services), 2002/01197 (Columbia Grain), 2002/01505 (McCall Oil), 2002/01196 (Chevron USA)**

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# 1. ENDANGERED SPECIES ACT

## 1.1 Background

On October 2, 2002, the National Marine Fisheries Service (NOAA Fisheries) received a letter from the U.S. Army Corps of Engineers (COE) requesting informal consultation pursuant to the Endangered Species Act (ESA) for the issuance of a permit under section 10 of the Rivers and Harbors Act for piling replacement by McCall Oil & Chemical Corporation, Columbia Grain, Inc., ST Services and Chevron USA Inc. at River Miles (RM) 1-7.8, Willamette River, Multnomah County, Oregon. The COE determined the proposed action was not likely to adversely affect the following ESA listed species: Lower Columbia River (LCR) steelhead (*Oncorhynchus mykiss*), Upper Willamette River (UWR) steelhead, UWR chinook salmon (*O. tshawytscha*) and LCR chinook salmon.

This biological opinion (Opinion) considers the potential effects of the proposed action on LCR steelhead, UWR chinook salmon and LCR chinook salmon. Species' information references, listing dates and take prohibitions are listed in Table 1. The objective of this Opinion is to determine whether the proposed action is likely to jeopardize the continued existence of the ESA listed species for these species. This consultation is conducted pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR 402.

## 1.2 Proposed Action

<u>Columbia Grain, Inc.</u>
The proposed project involves adding one falsework pile to the existing barge-dock to provide structural support for the needed repairs. The pile will be approximately 60 feet long, consisting of one 16-inch diameter pile with a ½ -inch thick wall. The piling will be installed with a vibratory hammer, then proofed with an impact hammer. All replacement material will be made of untreated wood, steel or concrete. In-water work is expected to take 1-2 days.

<u>ST Services</u>
The proposed project involves replacing existing falsework treated piles at the docking facility. The applicant proposes to remove and replace 4 piles during the 2003 in-water work period and 5 pile, as needed, in the 2003 and 2004 in-water work periods. A vibratory hammer will be used to remove the existing piles and a vibratory or impact hammer will be used to install the new pilings. All replacement piles will be made of untreated wood, steel or concrete. The anticipated duration of in-water work is 1-2 days.

<u>McCall Oil & Chemical Corporation</u>
The proposed project involves replacing 15 broken fender piles with new, untreated wood pilings. The full length old piles will be removed with a vibratory hammer. If the pile is heavily damaged, the pile will be cut at the break and the remaining stub will be removed with a vibratory hammer. All replacement piles will be installed with a vibratory hammer during the in-water work windows of July 1- October 31 and December 1- January 31.

Chevron USA Inc.
The proposed project involves replacement of 20 piles (bearing and fender) as needed for maintenance of the existing dock facility. All new piles will be made of untreated wood or steel. Existing piles to be removed are made of treated (bearing piles) or untreated (fender piles) wood. New piles will be installed during the in-water work window using a vibratory hammer.

### 1.3 Biological Information

The action area is defined by NOAA Fisheries regulations (50 CFR 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area is the Willamette River adjacent to the work area and downstream to the limit of visible turbidity. Essential habitat features for salmonids are: Substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions. The proposed action may affect the essential habitat features of water quality and substrate. References for further background on listing status and biological information can be found in Table 1.

The Willamette River within the action area serves as a migration area for all listed species under consideration in this Opinion. It may also serve as a feeding and rearing area for juvenile steelhead and chinook salmon. References for further background on listing status and biological information can be found in Table 1.

The LCR chinook salmon includes both fall-run and spring-run stocks. Adults migrating to the Clackamas River may be present in the lower Willamette River starting in August and continuing through November, with peak migration occurring in September and October. Juveniles in this ESU would be expected in the lower Willamette River starting in March, continuing through July, with the peak occurring in April, May, and June.

Adults from the UWR chinook salmon ESU migrate through the action area beginning in March, and complete their migration by the end of July, with the peak between late April and early June. It is also possible that some adults hold for periods of time within the Portland Harbor. Chinook smolts would typically pass through the action area from January through June, and from August through December. Juveniles would be expected in the lower Willamette River anytime from March through mid-December.

LCR steelhead move through the action area throughout the year. Peak movement is expected from late April through May. Juvenile steelhead migration peak in April and May. Most steelhead smolts move downriver through the action area in less than one day.

UWR steelhead adults could be expected in the action area from January through mid-May. Smolts would be present from March through mid-July, with peak migration occurring in May.

Based on this information, adult and juvenile chinook salmon would be expected to present in the lower Willamette River during the summer in-water work window (July 1 - October 31). UWR chinook salmon juveniles may be present during the winter in-water work window (December 1 through January 31). Adult UWR steelhead may be present in the action area during the winter in-water work period, and juvenile steelhead from both listed ESUs may be present during the beginning of the summer in-water work window.

**Table 1.** References for Additional Background on Listing Status, Biological Information, and Protective Regulations for the ESA-Listed Species Considered in this Opinion.

| Species / ESU | Status | Protective Regulations | Biological Information |
|---|---|---|---|
| **Chinook salmon (*O. tshawytscha*)** | | | |
| Lower Columbia River | Threatened 3/24/00; 64 FR 14308 | 7/10/00; 65 FR 42422 | Myers *et al.* 1998; Healey 1991 |
| Upper Willamette River | Threatened 3/24/00; 64 FR 14308 | 7/10/00; 65 FR 42422 | Myers *et al.* 1998; Healey 1991 |
| **Steelhead (*O. mykiss*)** | | | |
| Lower Columbia River | Threatened 3/19/98; 63 FR 13347 | 7/10/00; 65 FR 42422 | Busby *et al.* 1995; 1996 |
| Upper Willamette River | Threatened 3/25/99; 64 FR 14517 | 7/10/00; 65 FR 42422 | Busby et al. 1995; 1996 |

## 1.4 Evaluating the Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR 402 (the consultation regulations). NOAA Fisheries must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of defining the biological requirements of the listed species, and evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NOAA Fisheries evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NOAA Fisheries must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed species' life stages that occur beyond the action area. If NOAA Fisheries finds that the action is likely to jeopardize, NOAA Fisheries must identify reasonable and prudent alternatives for the action.

NOAA Fisheries also evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' critical habitat. NOAA Fisheries must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. NOAA Fisheries identifies those effects of the action that impair the function of any essential element of critical habitat. NOAA Fisheries then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NOAA Fisheries concludes that the action will adversely modify critical habitat, it must identify any reasonable and prudent alternatives available.

For the proposed action, NOAA Fisheries' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NOAA Fisheries' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for migration, spawning, and rearing of the listed species under the existing environmental baseline.

### 1.4.1 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed salmonids is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess to the current status of the listed species, NOAA Fisheries starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for the listed species to survive and recover to a naturally-reproducing population level at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance its capacity to adapt to various environmental conditions, and allow it to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of the listed species, based upon their risk of extinction, has not significantly improved since the species were listed. The five-year average adult escapement of native, late-run winter steelhead within both ESUs has been declining since 1971 (Foster 2001). LCR chinook salmon in the Willamette River basin are represented by a single, small population of fall-run fish that spawn primarily in the lower mainstem Clackamas River. Long-term trends of this ESU are declining. Trends in the UWR chinook salmon populations are declining as well. The North Santiam population currently does not meet the critical viability threshold for abundance and productivity (King 2001).

### 1.4.2 Environmental Baseline

The Willamette River watershed covers a vast area (11,500 square miles) bordered on the east and west by the Cascades and the Pacific coast ranges. It drains from as far south as Cottage Grove and flows north to its confluence with the Columbia River. The Willamette River watershed is the largest river basin in Oregon. It is home to most of the state's population, its largest cities, and many major industries. The watershed also contains some of Oregon's most productive agricultural lands and supports important fishery resources (City of Portland 2001).

The uplands (Coast and Cascade Ranges) receive about 80% of the precipitation falling on the Willamette River basin, and store much of this water as snow. Ecosystem productivity in these upland streams is relatively low, with aquatic insects gleaning much of their diet from material that falls into running water. In larger, slower tributaries, more plant material is produced in the stream itself. The mainstem supports a highly productive algal community that blooms as temperatures rise in the summer. Insects and some vertebrates feed on these plants, and many vertebrates, including salmonids, feed on stream-dwelling insects. Much of the habitat for Willamette River salmonids has been degraded by various land use practices or eliminated by dams. Wild salmonid populations have declined precipitously over the last century in the Willamette River (WRI 1999).

Significant changes have occurred in the watershed since the arrival of Europeans in the 1800s. The watershed was mostly forested land prior to the arrival of white settlers. Now, about half the basin is still forested. One-third of the basin is used for agriculture, and about five percent is urbanized or is in residential use. The river receives direct inputs from treated municipal wastes and industrial effluents. Nonpoint source input from agricultural, silvicultural, residential, urban and industrial land uses are also significant, especially during rainfall runoff.

The Willamette River, from its mouth to Willamette Falls, is currently on the 1998 Oregon Department of Environmental Quality (ODEQ) 303(d) list as water quality limited for the following parameters: (1) Temperature (summer), (2) bacteria, (3) biological criteria (fish skeletal deformities), and (4) toxics (mercury in fish tissue). Results from ODEQ ambient monitoring data indicate that 68% of the values collected during the summer at RM 7, and 61% of the values at RM 13.2 exceed the temperature standard of 68°C. Sediment conditions in the Willamette River watershed range from excellent in some of the upper tributaries to poor in much of the mainstem of the river (Altman *et al.* 1997). In the lower Willamette River, average turbidity levels tend to be higher in fall and winter. Monthly average turbidity ranges from four NTUs to 149 NTUs.

In 1997, ODEQ and the Environmental Protection Agency (EPA) took sediment samples within the Portland Harbor. The results of the study indicated that sediments in the harbor, including within the project area, contain concentrations of metals, polychorinated biphenyls (PCBs), pesticides, herbicides, dioxins/furans, tributyltin (TBT), and polycyclic aromatic hydrocarbons (PAHs) above EPA contaminant guidelines. Cleanup of the contaminated sediments is presently being addressed under the Federal Superfund process. In addition, the skeletal deformities in

fish upstream of Willamette Falls suggests that there may also be chemical contamination upstream of the Portland Harbor area.

Basin health has been affected in terms of water and habitat quality and quantity. Many native species have been adversely affected due to the introduction of non-native species, loss of habitat and habitat degradation, and contaminated waters which impede species' development. Some streams and rivers in the basin have high temperatures and insufficient flows during summer months, which adversely impact aquatic species such as salmon and steelhead. Low flows also reduce the ability of the river to dilute contaminants, the presence of which may lead to dangers for both aquatic species and humans. Such contaminants are often found with great frequency in the basin as a result of erosion from agricultural, industrial, urban and forested lands. Increased population and development have further compounded these problems, resulting in the loss of much critical habitat and increased pollution (WRI 1999).

The proposed projects are within the Portland Harbor on the lower Willamette River between RM 1 and 7.8. The project areas and adjacent areas are comprised primarily of industrial facilities such as ports and commercial docks used for manufacturing and shipping of local products. The area has little or no riparian area with vegetation present. Much of the river bank in this area of the Willamette River is covered with riprap or other types of bank stabilization treatments.

## 1.5 Analysis of Effects

### 1.5.1 Effects of Proposed Action

Potential impacts to listed salmonids from the proposed action include both direct and indirect effects. Potential indirect effects include turbidity and decrease in available substrate from driving piles. Potential direct and indirect effects include possible mortality or harm from handling fish during work area isolation.

The effects of suspended sediment and turbidity on fish reported in the literature range from beneficial to detrimental. Elevated total suspended solids (TSS) conditions have been reported to enhance cover conditions, reduce piscivorous fish/bird predation rates, and improve survival. Elevated TSS conditions have also been reported to cause physiological stress, reduce growth, and adversely affect survival. Of key importance in considering the detrimental effects of TSS on fish are the frequency and the duration of the exposure, not just the TSS concentration.

Behavioral avoidance of turbid waters may be one of the most important effects of suspended sediments (DeVore *et al.* 1980, Birtwell *et al.* 1984, Scannell 1988). Salmonids have been observed to move laterally and downstream to avoid turbid plumes (Sigler *et al.* 1984, Lloyd 1987, Scannell 1988, Servizi and Martens 1991). Juvenile salmonids avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, unless the fish need to traverse these streams along migration routes (Lloyd *et al.* 1987).

Fish that remain in turbid, or elevated TSS, waters experience a reduction in predation from piscivorous fish and birds (Gregory and Levings 1998). In systems with intense predation pressure, this provides a beneficial tradeoff (*e.g.*, enhanced survival) to the cost of potential physical effects (*e.g.*, reduced growth). Turbidity levels of about 23 nephalometric turbidity units (NTU) have been found to minimize bird and fish predation risks (Gregory 1993). Exposure duration is a critical determinant of the occurrence and magnitude of physical or behavioral effects (Newcombe and MacDonald 1991). Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with flood events, and are adapted to such high pulse exposures. Adult and larger juvenile salmonids appear to be little affected by the high concentrations of suspended sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, research shows that chronic exposure can cause physiological stress responses that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987, Lloyd 1987, Servizi and Martens 1991).

NOAA Fisheries anticipates that turbidity generated from pile driving will be limited in both space and time and confined to the area close to the operation. NOAA Fisheries does not expect direct lethal take to occur because of turbidity. The work area will be isolated with a curtain around the dock. NOAA Fisheries expects that some individual chinook salmon and steelhead (both adult and juvenile) may be harassed by turbidity plumes when the curtain is removed, but could easily avoid potential plumes. Indirect lethal take could occur if individual juvenile fish are forced (*i.e.*, out of the work area) into an area where they may be preyed upon.

Benthic invertebrates in shallow water habitats are key food sources for juvenile salmonids during their outmigration (McCabe *et al.* 1996). The proposed new piles will eliminate 377 square feet of substrate available to benthic aquatic organisms and therefore, eliminate a possible food source for juvenile salmonids in the project area. While quantifying the impact this has on salmon populations is difficult, NOAA Fisheries suspects that some impact on chinook and steelhead productivity may occur from suppression of benthic prey species. The project area has a high density of existing piles and not likely a significantly used habitat area for listed salmonids.

### 1.5.2 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. Therefore, these actions are not considered cumulative to the proposed action.

NOAA Fisheries is not aware of any specific future non-federal activities within the action area that would cause greater impacts to listed species than presently occurs. NOAA Fisheries assumes that future private and state actions will continue at similar intensities as in recent years.

## 1.6 Conclusion

NOAA Fisheries believes that the proposed action would cause a minor, short-term degradation of anadromous salmonid habitat due to increased turbidity and possible reduction in benthic prey species. However, NOAA Fisheries has determined, based on the available information, that the proposed action covered in this Opinion is not likely to jeopardize the continued existence of listed salmonids. NOAA Fisheries used the best available scientific and commercial data to apply its jeopardy analysis. Our determination is based on these findings: (1) Fish in the vicinity of the project area are expected to avoid the area while piles are being driven; (2) all work will be completed during the in-water work window and (3) total time required to complete the pile replacement is 1-3 days for each project. Thus, the effects of these actions are not expected to impair currently functioning habitats, or appreciably reduce the functioning of already impaired havitats, or retard the long-term progress of impaired habitats toward properly functioning condition.

## 1.7 Reinitiation of Consultation

This concludes formal consultation on these actions in accordance with 50 CFR 402.14(b)(1). Reinitiation of consultation is required: (1) If the amount or extent of incidental take is exceeded; (2) if the action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; (3) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (4) a new species is listed that may be affected by the action; or (5) new critical habitat rulemaking results in the designation of critical habitat that may be affected by the action (50 CFR 402.16).

# 2. INCIDENTAL TAKE STATEMENT

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. "Harass" is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. "Incidental take" is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement

An incidental take statement specifies the impact of any incidental taking of threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets

forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

## 2.1 Amount or Extent of the Take

NOAA Fisheries anticipates that the action covered by this Opinion is reasonably certain to result in incidental take resulting from turbidity, isolation of work area and decrease of substrate. Even though NOAA Fisheries expects some low level of non-lethal (turbidity) incidental take to occur due to the action covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate a specific amount of incidental take to the species itself. In instances such as these, NOAA Fisheries designates the expected amount of take as "unquantifiable". Based on the information provided by the COE and other available information, NOAA Fisheries anticipates that an unquantifiable amount of incidental take could occur as a result of the action covered by this Opinion.

The extent of the take is limited to turbidity and decrease of substrate resulting from pile driving by McCall Oil & Chemical Corporation, Columbia Grain, ST Services, and Chevron USA, Inc. in the Willamette River. The extent of the take includes the substrate and water column of the Willamette River, and downstream to the extent of visible short-term turbidity increases resulting from the project work. If the proposed project or project area changes, consultation will be reinitiated to evaluate the effect of changes in the project to listed species.

## 2.2 Reasonable and Prudent Measures

NOAA Fisheries believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of listed salmonid species resulting from the action covered by this Opinion. The COE shall include measures that will:

1. Minimize incidental take from general construction by excluding unauthorized permit actions and applying permit conditions that avoid or minimize adverse effects to riparian and aquatic systems.

2. Complete a comprehensive monitoring and reporting program to ensure implementation of these conservation measures are effective at minimizing the likelihood of take from permitted activities.

## 2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the COE must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary and, in relevant part, apply equally to proposed actions in all categories of activity.

1. To implement reasonable and prudent measure #1 (general conditions for construction, operation and maintenance), the COE shall ensure that:
   a. Timing of in-water work. Work within the active channel will be completed during the ODFW (2000) preferred in-water work period[1], as appropriate for the project area, unless otherwise approved in writing by NMFS.
   b. Pollution and Erosion Control Plan. A pollution and erosion control plan will be prepared and carried out to prevent pollution related to construction operations. The plan must be available for inspection on request by the COE or NOAA Fisheries.
      i. Plan Contents. The pollution and erosion control plan must contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
         (1) Practices to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas.
         (2) Practices to confine, remove and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.
         (3) A description of any hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.
         (4) A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.
         (5) Practices to prevent construction debris from dropping into any stream or water body, and to remove any material that does drop with a minimum disturbance to the streambed and water quality.
      ii. Inspection of erosion controls. During construction, all erosion controls must be inspected daily during the rainy season and weekly during the dry season to ensure they are working adequately.[2]
         (1) If inspection shows that the erosion controls are ineffective, work crews must be mobilized immediately to make repairs, install replacements, or install additional controls as necessary.
         (2) Sediment must be removed from erosion controls once it has reached 1/3 of the exposed height of the control.

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[1] Oregon Department of Fish and Wildlife, *Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, 12 pp (June 2000) (identifying work periods with the least impact on fish) (http://www.dfw.state.or.us/ODFWhtml/InfoCntrHbt/0600_inwtrguide.pdf)

[2] "Working adequately" means no turbidity plumes are evident during any part of the year.

c. Preconstruction activity. Before significant[3] alteration of the project area, the following actions must be completed:

i. Marking. Flag the boundaries of clearing limits associated with site access and construction to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.

ii. Emergency erosion controls. Ensure that the following materials for emergency erosion control are onsite.

(1) A supply of sediment control materials (*e.g.*, silt fence, straw bales[4]).

(2) An oil-absorbing floating boom whenever surface water is present.

iii. Temporary erosion controls. All temporary erosion controls must be in-place and appropriately installed downslope of project activity within the riparian area until site restoration is complete.

d. Heavy Equipment. Use of heavy equipment will be restricted as follows.

i. Vehicle staging. Vehicles must be fueled, operated, maintained and stored as follows:

(1) Vehicle staging, cleaning, maintenance, refueling, and fuel storage must take place in a vehicle staging area placed 150 feet or more from any stream, water body or wetland.

(2) All vehicles operated within 150 feet of any stream, water body or wetland must be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected must be repaired in the vehicle staging area before the vehicle resumes operation. Inspections must be documented in a record that is available for review on request by COE or NOAA Fisheries.

(3) All equipment operated instream must be cleaned before beginning operations below the bankfull elevation to remove all external oil, grease, dirt, and mud.

ii. Stationary power equipment. Stationary power equipment (*e.g.*, generators, cranes) operated within 150 feet of any stream, water body or wetland must be diapered to prevent leaks, unless otherwise approved in writing by NOAA Fisheries.

e. Pilings. Piling installation will be restricted as follows.

i. All pilings will be driven and/or removed with a vibratory hammer.

ii. All pilings will be made of untreated wood or steel. No treated wood pilings are authorized.

2. To implement reasonable and prudent measure #2 (monitoring), the COE shall:

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[3] "Significant" means an effect can be meaningfully measured, detected or evaluated.

[4] When available, certified weed-free straw or hay bales must be used to prevent introduction of noxious weeds.

a. Implementation monitoring. Ensure that each permittee submits a monitoring report to the COE within 120 days of project completion describing the permittee's success meeting his or her permit conditions. Each project level monitoring report will include the following information:

i. Project identification

(1) Permittee name, permit number, and project name.

(2) Category of activity.

(3) Project location, including any compensatory mitigation site(s), by 5th field HUC and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.

(4) COE contact person.

(5) Starting and ending dates for work completed.

ii. Narrative assessment. A narrative assessment of the project's effects on natural stream function.

iii. Photo documentation. Photo of habitat conditions at the project and any compensation site(s), before, during, and after project completion.[5]

(1) Include general views and close-ups showing details of the project and project area, including pre and post construction.

(2) Label each photo with date, time, project name, photographer's name, and a comment about the subject.

b. NOTICE. If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at 360.418.4246. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

## 3. MAGNUSON-STEVENS ACT

### 3.1 Background

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a Federal fisheries management plan. Pursuant to the MSA:

[5] Relevant habitat conditions may include characteristics of channels, eroding and stable streambanks in the project area, riparian vegetation, water quality, flows at base, bankfull and over-bankfull stages, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (§305(b)(2)).
- NOAA Fisheries must provide conservation recommendations for any Federal or s tate action that would adversely affect EFH (§305(b)(4)(A)).
- Federal agencies must provide a detailed response in writing to NOAA Fisheries within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NOAA Fisheries EFH conservation recommendations, the Federal agency must explain its reasons for not following the recommendations (§305(b)(4)(B)).

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting this definition of EFH: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR 600.10). Adverse effect means any impact which reduces quality and/or quantity of EFH, and may include direct (*e.g.*, contamination or physical disruption), indirect (*e.g.*, loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810).

EFH consultation with NOAA Fisheries is required regarding any Federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream and upslope activities.

The objectives of this EFH consultation are to determine whether the proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH.

## 3.2 Identification of EFH

Pursuant to the MSA the Pacific Fisheries Management Council (PFMC) has designated EFH for Federally-managed fisheries within the waters of Washington, Oregon, and California. Designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and the upriver extent of saltwater intrusion in river mouths along the coasts of Washington, Oregon and California, seaward to the boundary of the U.S. exclusive economic zone (370.4 km) (PFMC 1998a, 1998b). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC 1999), and longstanding,

naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years) (PFMC 1999). In estuarine and marine areas, designated salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (370.4 km) offshore of Washington, Oregon, and California north of Point Conception to the Canadian border (PFMC 1999).

Detailed descriptions and identifications of EFH are contained in the fishery management plans for groundfish (PFMC 1998a), coastal pelagic species (PFMC 1998b), and Pacific salmon (PFMC 1999). Casillas *et al.* (1998) provides additional detail on the groundfish EFH habitat complexes. Assessment of the potential adverse effects to these species' EFH from the proposed action is based, in part, on these descriptions and on information provided by the COE.

## 3.3 Proposed Actions

The proposed action and action area are detailed above in sections 1.2 and 1.3 of this Opinion. The action area includes habitats that have been designated as EFH for various life-history stages of Starry flounder (*Platichthys stellatus*) and chinook and coho salmon.

## 3.4 Effects of Proposed Action

As described in detail in section 1.5 of this Opinion, the proposed action may result in short-term adverse effects to a variety of habitat parameters. These adverse effects are decreased water quality (turbidity), and loss of substrate.

## 3.5 Conclusion

NOAA Fisheries concludes that the proposed action will adversely affect the EFH for Starry flounder (*Platichthys stellatus*) and chinook and coho salmon.

## 3.6 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations to Federal agencies regarding actions which may adversely affect EFH. While NOAA Fisheries understands that the conservation measures described in the BA will be implemented by the COE, it does not believe that these measures are sufficient to address the adverse impacts to EFH described above. However, the terms and conditions outlined in section 2.3 are generally applicable to the designated EFH species in section 3.3, and address these adverse effects. Consequently, NOAA Fisheries recommends that they be implemented as EFH conservation measures.

## 3.7 Statutory Response Requirement

Pursuant to the MSA (§305(b)(4)(B)) and 50 CFR 600.920(j), Federal agencies are required to provide a detailed written response to NOAA Fisheries' EFH conservation recommendations

within 30 days of receipt of these recommendations. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. In the case of a response that is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

### 3.8 Supplemental Consultation

The COE must reinitiate EFH consultation with NOAA Fisheries if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920(k)).

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