



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
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Refer to:  
OSB1999-0267

October 5, 1999

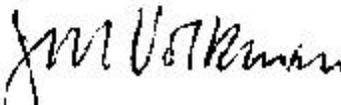
Ms. Karen Kochenbach  
U.S. Army Corps of Engineers, Portland District  
ATTN: Ms. Teena Monical  
P.O. Box 2946  
Portland, Oregon 97232

Re: Biological Opinion on Corps Permit 99-491, Bank Stabilization Along the Skipanon River near Warrenton, Oregon

Dear Ms. Kochenbach:

Enclosed is the National Marine Fisheries Service's (NMFS) biological opinion on the Willamette Industries Bank Stabilization Project (permit number 99-491) as described in the U.S. Army Corps of Engineer's request for formal consultation dated September 1, 1999. This opinion addresses 12 Evolutionary Significant Units of salmonids listed, or proposed for listing, under the Endangered Species Act and constitutes formal consultation and conferencing for these species. The NMFS has determined that the subject action, as proposed, is not likely to jeopardize the continued existence of these species.

Sincerely,

  
for William Stelle, Jr.  
Regional Administrator

Enclosure



Endangered Species Act - Section 7  
Consultation

Biological Opinion

Willamette Industries  
Bank Stabilization Project

Agency: Army Corps of Engineers, Portland District

Consultation Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: October 5, 1999

Refer to: OSB1999-0267

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## I. BACKGROUND

On September 2, 1999, the National Marine Fisheries Service (NMFS) received a request from Portland District Army Corps of Engineers (COE) for Endangered Species Act (ESA) section 7 formal consultation for issuance of a COE permit (Willamette Industries, # 99-491) for a bank stabilization project on the Skipanon River near Warrenton in Clatsop County, Oregon. In that letter, the COE determined that the species listed in Table 1, may occur within the project area. The COE also determined that these species may be adversely affected by the proposed project. The NMFS has prepared this Biological Opinion (BO) to address impacts to this species as a result of the proposed action.

The objective of this BO is to determine whether the action to reconstruct the bankline along the Skipanon River, is likely to jeopardize the continued existence of listed and proposed species or destroy or adversely modify critical habitat.

Table 1: Species considered in this Biological Opinion

Common Name	Scientific Name	Listing Status
Snake River sockeye salmon	<i>Oncorhynchus nerka</i>	Endangered
Snake River spring/summer chinook salmon	<i>O. tshawytscha</i>	Threatened
Snake River fall chinook salmon	<i>O. tshawytscha</i>	Threatened
Lower Columbia River steelhead	<i>O. mykiss</i>	Threatened
Upper Columbia River steelhead	<i>O. mykiss</i>	Endangered
Snake River steelhead	<i>O. mykiss</i>	Threatened
Upper Willamette River steelhead	<i>O. mykiss</i>	Threatened
Middle Columbia River steelhead	<i>O. mykiss</i>	Threatened
Columbia River chum salmon	<i>O. keta</i>	Threatened
Lower Columbia River chinook salmon	<i>O. tshawytscha</i>	Threatened
Upper Willamette River chinook salmon	<i>O. tshawytscha</i>	Threatened
Upper Columbia River spring run chinook salmon	<i>O. tshawytscha</i>	Endangered

## **II. PROPOSED ACTION**

The proposed action involves placement of 2,100 cubic yards (1,400 cubic yards below ordinary high water) of fill (including a riprap cap) along 550 feet of bankline of the Skipanon River. The bankline has been steadily eroding and has now exposed the foundation of an existing building. The applicant proposes the fill to protect the building and provide access for maintenance.

As a conservation measure, the applicant proposes to conduct work during the Oregon Department of Fish and Wildlife's (ODFW) in-water work period. In addition, the applicant has also indicated that willows will be planted in the riprap interstices to improve habitat for salmonids, the fill would be placed in an undulating pattern to diversify the bankline, and logs placed in the toe to further diversify the habitat.

## **III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT**

Based on migratory timing, the NMFS expects that only a few adult or rearing juvenile steelhead would be present during the proposed in-water work period. All of the listed species could occur in the area after construction is completed. The proposed action would occur within designated and proposed critical habitat.

The action area is defined by NMFS 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 for this proposed action is the area within the Skipanon River (river mile 0.75) adjacent to, and including, the bankline of the owners property, which includes designated critical habitat for listed Snake River salmonids. This area serves as a migratory corridor for both adult and juvenile life stages of all listed species under consideration in this BO. Essential features of the adult and juvenile migratory corridor for the species are: (1) Substrate; (2) water quality; (3) water quantity; (4) water temperature; (5) water velocity; (6) cover/shelter; (7) food (juvenile only); (8) riparian vegetation; (9) space; and (10) safe passage conditions (50 CFR 226). The essential features this proposed project may affect are substrate and water quality (affected by construction activities) and water velocity, cover/shelter, and safe passage conditions (affected by structures placed in the river).

References for further background on listing status, biological information and critical habitat elements can be found in Table 2.

## **IV. EVALUATING 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). NMFS 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: (1) Defining the biological requirements of the listed species; and (2) evaluating the relevance of the environmental baseline to the species' current status. Subsequently, NMFS 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, NMFS 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 salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

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

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' 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 and proposed species under the existing environmental baseline.

## **A. Biological Requirements**

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS 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, NMFS 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 (Weitkamp et al. 1995, Myers et al. 1998).

The relevant biological requirements are those necessary for listed species to survive and recover to a naturally reproducing population level at which 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.

Table 2. References for additional background on listing status, biological information, and critical habitat elements for the listed and proposed species addressed in this biological and conference opinion.

Species	Listing Status		Critical habitat	Biological Information, Population Trends
	Proposed Rule	Final Rule		
Snake River Sockeye Salmon		November 20, 1991, 56 FR 58619	December 28, 1993, 58 FR 68543	Waples <i>et al.</i> 1991a; Burgner 1991; ODFW and WDFW 1998
Snake River Fall Chinook Salmon		April 22, 1992, 57 FR 34653	December 28, 1993, 58 FR 68543	Waples <i>et al.</i> 1991b; Healey 1991; ODFW and WDFW 1998
Snake River Spring/Summer Chinook Salmon		April 22, 1992, 57 FR 34653	December 28, 1993, 58 FR 68543	Matthews and Waples 1991; Healey 1991; ODFW and WDFW 1998
Upper Columbia River Steelhead		March 10, 1998, 62 FR 11798	February 5, 1999; 64 FR 5740 (PROPOSED RULE)	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Snake River Basin Steelhead		March 10, 1998, 62 FR 11798	February 5, 1999; 64 FR 5740 (PROPOSED RULE)	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Lower Columbia River Steelhead		March 19, 1998, 53 FR 13347	February 5, 1999; 64 FR 5740 (PROPOSED RULE)	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Upper Willamette River Steelhead	March 10, 1998, 63 FR 11798		February 5, 1999; 64 FR 5740 (PROPOSED RULE)	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Middle Columbia River Steelhead	March 10, 1998, 63 FR 11798		February 5, 1999; 64 FR 5740 (PROPOSED RULE)	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998

Table 2 (cont). References for additional background on listing status, biological information, and critical habitat elements for the listed and proposed species addressed in this biological and conference opinion.

Species	Listing Status		Critical habitat	Biological Information, Population Trends
	Proposed Rule	Final Rule		
Columbia River Chum Salmon	March 10, 1998, 63 FR 11774		Proposed March 10, 1998, 63 FR 11774	Johnson <i>et al.</i> 1997; Salo 1991; ODFW and WDFW 1998
Lower Columbia River Chinook Salmon	March 9, 1998, 63 FR 11482		Proposed March 9, 1998, 63 FR 11482	Myers <i>et al.</i> 1998; Healey 1991; ODFW and WDFW 1998
Upper Willamette River Chinook Salmon	March 9, 1998, 63 FR 11482		Proposed March 9, 1998, 63 FR 11482	Myers <i>et al.</i> 1998; Healey 1991; ODFW and WDFW 1998
Upper Columbia River Spring Run Chinook Salmon	March 9, 1998, 63 FR 11482		Proposed March 9, 1998, 63 FR 11482	Myers <i>et al.</i> 1998; Healey 1991; ODFW and WDFW 1998

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of the listed stocks, based upon their risk of extinction, has not significantly improved since the species were listed (see Table 2 for references).

## **B. Environmental Baseline**

The biological requirements of listed salmonids are currently not being met under the environmental baseline. Their status is such that there must be a significant improvement in the environmental conditions they experience over those currently available under the environmental baseline. Any further degradation of these conditions would have a significant impact due to the amount of risk they presently face under the environmental baseline.

The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream, based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this opinion lead to additional activities or affect ecological functions contributing to stream degradation. For the purposes of this opinion, the action area is defined as the area within the Skipanon River (river mile 0.75) adjacent to, and including, 550 feet of the bankline on the owners property. Other areas of the Skipanon River watershed are not expected to be directly or indirectly impacted.

## **V. ANALYSIS OF EFFECTS**

### **A. Effects of Proposed Actions**

The NMFS expects that the effects of the proposed project will slightly improve the habitat elements at this site over the long term (greater than one year). In the short term, temporary increases of sediment and turbidity are expected.

In the long term, the increased stability of the site will reduce sedimentation. There will be an increase in riparian habitat with placement of logs in the toe. Also, undulating the bankline and placement of willow shoots and other native vegetation within the interstices will improve existing habitat conditions in the action area. The potential net effect from of the proposed action, including mitigation, is expected to maintain, and slightly improve, properly functioning stream conditions within the action area.

Summary of Specific Effects:

1. In-water work within the Skipanon River could result in the disturbance of listed salmonids. Juvenile fish that may be rearing in the vicinity of the action area would most likely be displaced,

although the proposed timing constraints would generally preclude fish presence during the in-water work period. There is a low probability of direct mortality. In-water activities that could impact fish includes the placement of large riprap, logs and other fill material.

2. Approximately 550 linear feet of bankline (stream bank and associated vegetation) will be altered as a result of the placement of fill and riprap. To minimize the impact from this alteration, native willows will be planted within the riprap, the shaped bank will be undulated and logs will be placed in the toe of the fill.
3. Short term increases in turbidity and sedimentation resulting from construction will be offset by reduced long term erosion of soil in the scour area. The amount and duration of any increase in turbidity will be limited because of the short time frame to complete the project. Any increase in turbidity because of construction would be offset by the reduced erosion and input of sediment from the project area under existing conditions.

## **B. Effects on Critical Habitat**

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has been designated or proposed for the species under consideration in the BO. For the proposed action, NMFS expects that the effects will tend to maintain, or slightly improve, properly functioning conditions in the watershed under current baseline conditions over the long term. The existing channel edge provides poor habitat for juveniles in the summer because of the lack of cover, and the exposed building foundations. The commitment to provide increased native vegetation within the riprap interstices and diversifying the bankline will provide a net benefit to the listed species.

## **C. 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." For the purposes of this analysis, the action area is the Skipanon River at river mile 0.75 and 550 feet of the adjacent bankline that forms the boundary of the applicant's property. 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.

NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

## VI. CONCLUSION

NMFS has determined, based on the available information, that the proposed action is expected to maintain properly functioning stream conditions within the action area. Consequently, the proposed action covered in this BO is not likely to jeopardize the continued existence of listed salmonids or adversely modify proposed critical habitat. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS believes that the proposed action would cause a minor, short-term degradation of anadromous salmonid habitat due to sediment impacts and in-water construction. These effects will be balanced in the long-term through the habitat enhancement activities. Although direct mortality from this project could occur during the in-water work, it is not expected, and the level of mortality would be minimal and would not result in jeopardy.

## VII. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, the COE must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

## VIII. REFERENCES

- Burgner, R.L. 1991. Life history of sockeye salmon (*Oncorhynchus nerka*). Pages 1-117 *In:* Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.
- Busby, P., S. Grabowski, R. Iwamoto, C. Mahnken, G. Matthews, M. Schiewe, T. Wainwright, R. Waples, J. Williams, C. Wingert, and R. Reisenbichler. 1995. Review of the status of steelhead (*Oncorhynchus mykiss*) from Washington, Idaho, Oregon, and California under the U.S. Endangered Species Act. 102 p. plus 3 appendices.
- Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27, 261p.

- Healey, M.C. 1991. Life history of chinook salmon (*Oncorhynchus tshawytscha*). Pages 311-393 *In:* Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.
- Johnson, O.W., W.S. Grant, R.G. Cope, K. Neely, F.W. Waknitz, and R.S. Waples. 1997. Status review of chum salmon from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-32, 280 p.
- Matthews, G.M. and R.S. Waples. 1991. Status review for Snake River spring and summer chinook salmon. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-F/NWC-200, 75 p.
- Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Lierheimer, T.C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R.S. Waples. 1998. Status review of chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-35, 443 p.
- ODFW and WDFW. 1998. Status Report Columbia River Fish Runs and Fisheries, 1938-1997. 299 pp.
- Salo, E.O. 1991. Life history of chum salmon (*Oncorhynchus keta*). Pages 231-309 *In:* Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.
- Waples, R.S., O.W. Johnson, and R.P. Jones, Jr. 1991a. Status review for Snake River sockeye salmon. U.S. Dept. Commer., NOAA Tech. Memo. NMFS F/NWC-195. 23 p.

## **IX. INCIDENTAL TAKE STATEMENT**

Sections 4 (d) and 9 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 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 endangered or 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.

#### **A. Amount or Extent of the Take**

The NMFS anticipates that the action covered by this BO has more than a negligible likelihood of resulting in incidental take of listed salmonids because of the potential for disturbance to juvenile salmonids from short term increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this BO, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this BO. The extent of the take is limited to the project area.

#### **B. Reasonable and Prudent Measures**

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of the above species.

1. To minimize the amount and extent of incidental take from construction activities, measures shall be taken to: limit the duration of in-water work, and to time such work to occur when listed fish are absent; and implement effective pollution control measures to minimize the movement of soils and sediment both into, and within, the stream channel.
2. To minimize the amount and extent of take from loss of habitat, and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian habitat, or where impacts are unavoidable, to replace lost riparian habitat function.
3. To ensure effectiveness of implementation of the reasonable and prudent measures, all plantings shall be monitored and meet criteria as described below in the terms and conditions.

#### **C. Terms and Conditions**

In order 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.

- 1a. All work below the ordinary high water line will be completed within ODFW's in-water work period. Any extensions of the in-water work period will first be approved by and coordinated with ODFW and NMFS.
- 1b. Only clean, non-erodible, upland angular rock of sufficient size for long-term bank armoring will be employed.
- 1c. All equipment that is used for instream work will be cleaned prior to entering the job site. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment. Areas for fuel storage and servicing of construction equipment and vehicles will be located at least 150 feet away from any water body.
- 2a. Willow cuttings shall be placed on 2' centers, within the interstices of the riprap
- 2b. The top of the bank shall be planted with native vegetation, where possible.
- 3a. The applicant shall monitor the success of plantings within, and adjacent to, the riprap. The applicant will supply a monitoring report to the COE that shall include photos of the plantings in the project area. The monitoring should be done one year following construction, and again at year 3 and year 5.
- 3b. Failed plantings will be replaced yearly, for a period of 5 years.