



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:
OSB2000-0303-FEC

August 22, 2001

Mr. Fred Patron
Federal Highway Administration
The Equitable Center, Suite 100
530 Center St. NE
Salem, Oregon 97301

Re: Endangered Species Act, Section 7 Formal Consultation and Magnuson-Stevens Act
Essential Fish Habitat Consultation for the West Fork Williams Creek (East Fork Road)
Bridge Replacement Project, Josephine County, Oregon

Dear Mr. Patron:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of the proposed West Fork Williams Creek bridge replacement project in Josephine County, Oregon. In this Opinion, NMFS concluded that the proposed action is not likely to jeopardize the continued existence of ESA-listed Southern Oregon/Northern California Coho Salmon, or destroy or adversely modify designated critical habitats. As required by section 7 of the ESA, NMFS included reasonable and prudent measures with nondiscretionary terms and conditions that NMFS believes are necessary to minimize the impact of incidental take associated with this action.

This Opinion also serves as consultation on Essential Fish Habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR part 600.

If you have any questions regarding this consultation please contact Frank Bird (541-957-3383) or Molly Cary (503-231-6892) of my staff in the Oregon Habitat Branch.

Sincerely,

Donna Darm
Acting Regional Administrator



cc: Jim Collins - ODOT
Rose Owens – ODOT
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Endangered Species Act - Section 7
Consultation
and
Magnuson-Stevens Act
Essential Fish Habitat Consultation

BIOLOGICAL OPINION

West Fork Williams Creek (East Fork Road) Bridge
Bridge Replacement
Josephine County, Oregon

Agency: Federal Highway Administration, Oregon Department of Transportation, and
Josephine County

Consultation Conducted By: National Marine Fisheries Service
Northwest Region

Date: August 22, 2001

Refer to: OSB2000-0303-FEC

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1. ENDANGERED SPECIES ACT

1.1 Background

On December 7, 2000, the National Marine Fisheries Service (NMFS) received a Biological Assessment (BA) and request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 formal consultation for a bridge replacement over the west fork of Williams Creek in Josephine County, Oregon. The FHWA is contributing funding for the proposed replacement. The Oregon Department of Transportation (ODOT) is responsible for administering the funds to Josephine County. This biological opinion (Opinion) is based on the information presented in the BA and information developed from the consultation process.

The East Fork Road Bridge provides access to diverse public and private properties. This is the only serviceable route for more than 200 residents living south of the bridge. The timber support structures are deteriorating, resulting in posted weight restrictions that create a hardship for the local property owners and forest workers. The bridge is also considered substandard with respect to roadway geometry and safety appurtenances. The sufficiency rating is 37.3; ODOT typically recommends replacing bridges when they receive a rating of 50 or below. The average daily traffic for this roadway is estimated to be 821 vehicles, projected to increase to 1200 by 2013. Due to the bridge's design and condition, rehabilitation to current design standards is impractical and uneconomical.

Williams Creek is a tributary of the Applegate River, which flows in to the Rogue River downstream of Grants Pass. The East Fork Road Bridge (#420005) is about 24 miles south of Grants Pass, Oregon on East Fork Road, a county road connected to State Highway 238. Construction is scheduled for the summer and fall of 2002. All work below the 2-year flood elevation would be done during the Oregon Department of Fish and Wildlife (ODFW) preferred in-water work window of July 1 to September 15.

The FHWA/ODOT has determined that Southern Oregon/Northern California (SONC) coho salmon (*Oncorhynchus kisutch*) may occur within the project area and that the proposed action is likely to adversely affect SONC coho salmon. In Oregon streams south of Cape Blanco, including Williams Creek, the NMFS listed SONC coho salmon as threatened under the ESA on May 6, 1997 (62 FR 24588), and designated critical habitat for this species on May 5, 1999 (64 FR 24049). Interim protective regulations for SONC coho were issued under section 4(d) of the ESA on July 18, 1997 (62 FR 38479). This consultation is undertaken pursuant to section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

The objective of this Opinion is to determine whether replacing the existing bridge is likely to jeopardize the continued existence of the SONC coho salmon, or destroy or adversely modify its critical habitat.

1.2 Proposed Action

The plan is to build a single-lane detour bridge to the west of the existing bridge, remove the existing bridge, construct a new two-lane bridge, then remove the detour bridge and its associated approaches. A driveway will also be moved to a safer location. Four existing concrete piers will be removed from the stream. Riprap will be added temporarily to protect the detour structure, then removed. Additionally, part of the existing riprap will also be removed, resulting in a net loss of riprap. Mitigation for the project includes riparian planting and contributing suitable conifers removed as part of the project for use elsewhere in the watershed for stream restoration projects. Conservation measures for potential project impacts are also included as part of the proposed action.

1.2.1 Construction of the New Bridge

The bridge was proposed for replacement in March 2001. At this time the contract let date is uncertain. The project will be under construction for less than a year, requiring only one in-water work period. The new bridge will be built in the same location as the existing bridge. The new bridge will be about 98-feet long, clear-spanning the 2-year floodplain, and supported at either end by steel pile driven above the 100-foot flood elevation. The new bridge will be about 10-feet wider than the existing bridge and have a minimum vertical clearance of 1-foot above the 100-year flood event. Runoff from the new bridge will be directed to an inlet and piped to a vegetated V-bottomed ditch. Wingwalls will be built on either end of the bridge. All riprap around the southern abutment would be removed; about half the original quantity would be replaced, all above the 2-year flood elevation. At the northern abutment most of the riprap above the 2-year flood elevation would be removed and not replaced. Riprap below the 2-year flood elevation on the north bank would remain in place.

1.2.2 Construction and Removal of the Detour Bridge

The proposed detour bridge is a single span structure supported on either end, above the 2-year floodplain, by steel piles. Bulkheads would be placed at the bridge ends to contain temporary approach fills. Approach roads would be built to access the detour bridge. Trees and other forms of vegetation would be removed to build the detour. Riprap would be placed only at the south abutment, above the 2-year flood elevation, and would be removed along with the bridge. No work associated with building or removing the detour bridge will occur below the 2-year flood elevation. No debris would be allowed to enter the stream.

1.2.3 Demolition of the Existing Bridge

The existing bridge has three spans supported by concrete piers. The superstructure of the existing bridge will be worked above the 2-year floodplain. The bridge has two bents, each consisting of two concrete piers. The contractor will attempt to remove the four concrete piers by pulling them over. Failing that, the bases will be isolated from the creek, dewatered and demolished using a hoe-hammer or similar piece of equipment to a minimum of 1-foot below the streambed. Containment will be in place to prohibit debris from entering the waterway. Any

holes left after removing the piers will be filled with clean river-run gravel/cobble similar to the surrounding substrate.

1.2.4 Staging

Portions of the work may be staged from the old roadway, above the 2-year floodplain.

1.2.5 Site Remediation

Disturbed areas will be seeded with a native seed mix to control erosion and reestablish vegetation. In addition, a mix of a minimum total of 40 red alder and Douglas-fir will be planted to help replace lost riparian vegetation.

1.3 Biological Information and Critical Habitat

NMFS described the population status of the SONC coho salmon ESU in its status review (Weitkamp et al. 1995) and in the SONC coho salmon final listing rule (62 FR 24588, May 6, 1997). The fish counts at Gold Ray Dam (on the mainstem Rogue River at river mile 126) provide the best quantitative source of information available on SONC coho salmon abundance in the upper Rogue River Subbasin, and may also provide an indication of population trends on this ESU as a whole. In the seven-year period from 1993 to 1999, counts of adult SONC coho salmon at Gold Ray Dam have ranged from 756 in 1993 to 4,566 in 1997.

The Rogue River contains broadly distributed populations of migrating and rearing SONC coho salmon depending on the time of year. Adult SONC coho salmon enter the Rogue River from September through January, with peak entry occurring in October. Spawning occurs from October through December. River entry and spawning may extend through January, depending on flow and temperature regimes. Rearing of juvenile coho salmon occurs within the natal stream, from hatching in the spring following the year of spawning until smolt migration the following spring. Juvenile coho salmon migration generally occurs from March through June, with peak migration occurring in April and May. Juvenile migration patterns are strongly influenced by photoperiod, stream flows, water temperature, and the lunar phase. SONC coho are known to occur in both the East and West Forks of Williams Creek. It is likely adult coho would not be present in the system during construction; however, juvenile coho would be present, and could occur in the immediate project area.

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 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 and current status 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 salmonid'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' designated 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 element 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 destroy or adversely modify critical habitat it must identify any reasonable and prudent alternatives 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 juvenile and adult migration, spawning, and rearing of the SONC coho under the existing environmental baseline.

1.4.1 Biological Requirements

The first step NMFS takes when 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 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.

The relevant biological requirements are those necessary for SONC coho salmon to survive and recover to a naturally reproducing population level sufficient to make protection under the ESA unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance its capacity to adapt to 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 adult and juvenile migration, and spawning and rearing. Individual environmental factors include water quality, substrate, water temperature, cover/shelter, and riparian vegetation.

1.4.2 Environmental Baseline

The current range-wide status of the identified ESUs may be found in Nickelson et. al. (1992); and Weitkamp et. al. (1995). The identified action will occur within the range of the SONC coho salmon ESU. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area (project area) involved in the proposed action (50 CFR 404.02). The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydrologic functions and processes, stream channel modification, increase in sedimentation and turbidity, displacement of migrating coho salmon, injury or killing of coho salmon, and pollutant discharge into Williams Creek. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to aquatic and riparian habitat degradation.

For this consultation, the action area includes Williams Creek upstream for a distance of 100 feet and downstream 300 feet, and includes the adjacent riparian zone - defined as the area adjacent to a stream that provides the following functions: shade, sediment transport, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter.

Williams Creek is a tributary of the Applegate River, about seven miles downstream from the project site, that flows into the Rogue River just downstream from the city of Grants Pass. Land use in the action area is primarily rural residential, agricultural, and industrial, with federal timberlands on the surrounding hillsides. The project area is within the Klamath Mountains province (Franklin and Dyrness 1973). The Klamath Mountains province is characterized by grass/oak chaparral vegetation in the valley bottoms, with mixed coniferous forests in the surrounding mountains. Hot, dry summers and cold winters also are typical of the province.

Vegetation in the Williams Creek watershed includes valley bottom pasturelands, and coniferous forests composed of Douglas fir and ponderosa pine. The riparian corridor at the project site consists primarily of a narrow band (20 to 60 feet) of red alder from 10 to 26 inches diameter breast height. Understory vegetation in the riparian area is dominated by Himalayan blackberry, trailing blackberry, and climbing nightshade, with some horsetail, reed canary grass, and St. John's wort.

The mainstem of Williams Creek up to the forks is currently listed for temperature on the Oregon Department of Environment Quality (DEQ) 303(d) List of Water Quality Limited Water Bodies. No data are available for the West or East Forks.

Based on the best available information on the current status of SONC coho range-wide, the population status, trends, and genetics, and the poor environmental baseline conditions within the action area as described in the BA, NMFS concludes that the biological requirements of the identified ESU within the action area are not being met. Populations of SONC coho salmon are substantially below historic levels and long-term trends are decreasing. Degraded freshwater habitat conditions have also contributed to the decline, although current habitat restoration efforts are contributing to reversing these conditions.

Application of the NMFS Matrix of Pathways and Indicators (NMFS 1996), the action area shows that the following habitat indicators are either at risk or not properly functioning—water temperatures, turbidity/sediment, physical barriers, substrate, large woody debris; pool frequency and quality, off-channel habitat, refugia, streambank condition, floodplain connectivity, change in peak/base flows, drainage network increase, road density and location, riparian reserve, and disturbance history and riparian reserves. Actions that do not maintain or restore properly functioning aquatic habitat conditions have the potential to jeopardize the continued existence of SONC coho salmon.

1.5 Analysis of Effects

1.5.1 Effects of Proposed Action

The effects determination was made using a method for evaluating current aquatic conditions (the environmental baseline), and predicting effects of actions on them (NMFS 1996). The effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the project area.

The proposed action has the potential to adversely affect SONC coho salmon and critical habitat. Lethal and non-lethal impacts could occur during in-water work including killing or, more likely, displacing fish while working in the water. Removing the concrete piers by either pulling them out or demolishing them has the potential to harass, harm, wound or kill juvenile salmon at the site. By working during the low flow time of year, within the ODFW approved work window, the impact is decreased because less activity is occurring in the wetted channel. Isolating the work area and having an experienced fish biologist remove fish from the isolation area will also reduce the likelihood of take.

Direct impacts to habitat will occur as well. Access for the detour bridge, its construction and removal, and building the new bridge will result in removing riparian vegetation. The loss of vegetation may affect riparian habitat features such as shading, large woody material recruitment, and organic matter inputs to the creek. Although new vegetation will be planted, it may take up to 10 years before some riparian function is realized.

Removal of the concrete piers also has the potential to affect habitat by temporarily increasing sedimentation, which may contribute to embeddedness. Depending removal technique, stream substrate and banks could be damaged during removal of the piles.

Project activities will increase turbidity in the stream. This impact will be temporary and limited to the duration of the project. Low water clarity can decrease juvenile coho salmon foraging success. If coho are present, the increased turbidity will decrease feeding activity and likely displace fish from the project area. Project sediment containment measures and work area isolation are intended to minimize turbidity effects.

The NMFS expects the effects of the proposed action are likely to maintain or restore each of the habitat elements over the long term, greater than five years, based on the current condition of the

site. In the short term, a temporary increase in sediment production and turbidity, and disturbance of riparian habitats is expected. In the long term, a slow recovery process will occur as the plants mature and the channel stabilizes under the new bridge. The NMFS does not expect that these actions will diminish the value of the habitat for survival of SONC coho salmon.

1.5.2 Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features of designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for SONC coho consists of all waterways below naturally impassable barriers, including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, input of large woody debris or organic matter, and others.

Environmental baseline conditions within the action area were evaluated for the subject actions at the project site and watershed scales. The result of this evaluation is based on the process described in NMFS (1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species, and assesses the constituent elements of critical habitat. An assessment of the essential features of SONC coho salmon critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

The proposed actions will affect critical habitat. In the short term, a temporary increase of sediments and turbidity and disturbance of riparian and instream habitat is expected. In the long term, however, riparian function will be restored because planting native species, including native shrubs and trees, will provide shading of the creek and improved bank stability over time. Further, removal of the bridge pilings will help reestablish channel function at the bridge site. Consequently, NMFS does not expect that the net effect of this action will diminish the long-term value of the habitat for survival of SONC coho salmon.

1.5.3 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." The action area is defined as the streambed and riparian habitat of the Williams Creek bridge site and extends 100 feet upstream of the project site and 300 feet downstream. The project actions consist of removing the existing bridge structure and its foundation, and building a detour bridge and a new bridge. NMFS expects there will be future timber harvest on both federal and private lands within the watershed, although specific activities are not known at this time. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Associated road and commercial development, as well as maintenance and upgrading of the existing

infrastructure are likely foreseeable actions within the watershed. In addition, agricultural practices are expected to continue in the lower portions of the Williams Creek watershed.

1.6 Conclusion

NMFS has determined, based on the available information, that the proposed action is expected to maintain current stream habitat conditions within the action area. Consequently, the proposed action covered in the Opinion is not likely to jeopardize the continued existence of the SONC coho salmon or result in destruction or adverse modification of 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 compared with the environmental baseline, and cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse effects to salmonid habitats due to in-water work. Direct mortality from this project is possible but will be limited in duration to the in-water work time prescribed by ODFW.

1.7 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 the listed species in a way not previously considered; the action is modified in a way that causes an effect to the listed species that was not previously considered the action is modified in a way that causes an effect of the 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 reinitiate consultation, FHWA should contact the Habitat Conservation Division (Oregon Habitat Branch) of NMFS and reference OSB2000-0303.

2. 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 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.

2.1 Amount or Extent of Take

The NMFS anticipates that construction of the new Williams Creek bridge, construction and removal of the detour bridge, and demolition of the old Williams Creek bridge have more than a negligible likelihood of resulting in incidental take of SONC coho salmon. This is due to increased sediment and turbidity levels (non-lethal), other instream and riparian habitat modifications (non-lethal), and from in-water work associated with concrete pier removal (non-lethal and lethal).

Effects of actions such as these are largely unquantifiable and are not expected to be measurable as long-term effects on population levels. Therefore, although NMFS expects some low level incidental take to occur due to this project, 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 these instances, NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological assessment, NMFS anticipates that an unquantifiable amount of incidental take is likely to occur from the proposed actions considered in this biological opinion. The extent of the take is limited to SONC coho salmon within the action area. Isolation of the in-water work area necessary for demolition of the old bridge piers may also result in incidental lethal take of up to 25 juvenile SONC coho salmon. In the biological opinion, NMFS determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Incidental take of SONC coho salmon attributable to these actions, including take of up to 25 juveniles during demolition of the old bridge supports, will be considered authorized if the proposed actions are carried out as described in sections 1.2 (proposed action), 2.2 (reasonable and prudent measures) and 2.3 (terms and conditions).

2.2 Reasonable and Prudent Measures

The measures described below are non-discretionary. They must be implemented so that they become binding conditions in order for the exemption in section 7(a)(2) to apply. The COE has the continuing duty to regulate the activities covered in this incidental take statement. If the COE fails to require the applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. The NMFS believes that activities carried out in a manner consistent with these reasonable and prudent measures, except those otherwise identified, will not necessitate further site-specific consultation. Activities which do not comply with all relevant reasonable and prudent measures will require further individual consultation.

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of listed fish resulting from implementation of this

Opinion. These reasonable and prudent measures would also minimize adverse effects to designated critical habitat.

1. Minimize the likelihood of incidental take from activities involving temporary access roads, use of heavy equipment, earthwork, site restoration, or that may otherwise involve in-water work or affect fish passage by avoiding or minimizing disturbance to riparian and aquatic systems.
2. Complete a comprehensive monitoring and reporting program to ensure this biological opinion is meeting its objective of 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, COE must comply with the following terms and conditions, which implement the reasonable and prudent measures described above for each category of activity. These terms and conditions are non-discretionary. Many of the terms and conditions are relevant to more than one category of activity (e.g. conditions to minimize turbidity increases are equally important in erosion control, stream and wetland restoration, maintenance dredging, road construction, etc.). Therefore, terms and conditions listed under one category of activity are also terms and conditions of any category in which they would also minimize impacts to salmonids.

1. To implement Reasonable and Prudent Measure #1 (construction) above, the FHWA shall ensure that:
 - a. Minimum area. Construction impacts will be confined to the minimum area necessary to complete the project.
 - b. In-water work. All work within the active channel of all anadromous fish-bearing streams, or in systems that could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be completed within the ODFW approved in-water work period.¹
 - c. Work period extensions. Extensions of the in-water work period, including those for work outside the wetted perimeter of the stream but below the ordinary high water mark must be approved by biologists from NMFS.
 - d. Isolation of in-water work area. During in-water work, ensure that the work area is well isolated from the active flowing stream within a cofferdam (made out of sandbags, sheet pilings, inflatable bags, etc.), or similar structure, to minimize the potential for sediment entrainment.

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).

- i. Fish screen. Any water intake structure authorized under this Opinion must have a fish screen installed, operated and maintained according to NMFS' fish screen criteria.²
- ii. Seine and release. Before and intermittently during pumping attempts will be made to seine and release fish from the work isolation area as is prudent to minimize risk of injury.
 - (1) Seining will be conducted by or under the supervision of a fishery biologist experienced in such efforts. All staff working with the seining operation must have the necessary knowledge, skills, and abilities to ensure the safe handling of all ESA-listed fish.
 - (2) ESA-listed fish must be handled with extreme care and kept in water to the maximum extent possible during seining and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary to prevent the added stress of an out-of-water transfer.
 - (3) Seined fish must be released as near as possible to capture sites.
 - (4) The transfer of any ESA-listed fish from the applicant to third-parties other than NMFS personnel requires written approval from the NMFS.
 - (5) The applicant must obtain any other Federal, state, and local permits and authorizations necessary for the conduct of the seining activities.
 - (6) The applicant must allow the NMFS or its designated representative to accompany field personnel during the seining activity, and allow such representative to inspect the applicant's seining records and facilities.
 - (7) A description of any seine and release effort will be included in a post project report with the following information: The name and address of the supervisory fish biologist; methods used to isolate the work area and minimize disturbances to ESA-listed species; stream conditions before and following placement and removal of barriers; the means of fish removal; the number of fish removed by species; the condition of all fish released, and any incidence of observed injury or mortality.
- iii. Water pumped from the work isolation area will be discharged into an upland area providing over ground flow before returning to the creek. Discharge will not occur in a way that causes erosion.
- e. Fish passage. Work will not inhibit passage of any adult or juvenile salmonid species throughout the construction period or after project completion.

² Nation Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996)(guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) (<http://www.nwr.noaa.gov/1hydroweb/ferc.htm>).

- f. Pollution and erosion control plan. A Pollution and Erosion Control Plan (PECP) will be developed for each authorized project to prevent point-source pollution related to construction operations. The PECP will contain the pertinent elements listed below and meet requirements of all applicable laws and regulations:
- i. Methods that will be used to prevent erosion and sedimentation associated with equipment and material storage sites, fueling operations and staging areas.
 - ii. Methods that will be used to confine, remove, and dispose of excess concrete, cement and other mortars or bonding agents, including washout facilities.
 - iii. A description of the hazardous products or materials that will be used, including inventory, storage, handling, and monitoring.
 - iv. 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.
 - v. Measures that will be taken to prevent construction debris from falling into any aquatic habitat. Any material that falls into a stream during construction operations will be removed so that it has a minimum impact on the streambed and water quality.
 - vi. Project actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and DEQ's provisions for maintenance of water quality standards. Toxic substances will not be introduced above natural background levels in waters of the State in amounts which may be harmful to aquatic life, and any turbidity caused by this project will not exceed DEQ water quality standards, as described in Oregon Administrative Rules Division 41.
- g. Preconstruction activities. Before significant alteration of the action area, the following actions will be accomplished.
- i. Boundaries of the clearing limits associated with site access and construction are flagged to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.
 - ii. The following erosion control materials are onsite.
 - (1) A supply of erosion control materials (e.g., silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.
 - (2) An oil absorbing, floating boom is available on-site during all phases of construction whenever surface water is present.
 - iii. All temporary erosion controls (e.g., straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all

- times during the contract, and will remain and be maintained until permanent erosion control measures are effective.
- h. Heavy Equipment. Heavy equipment use will be restricted as follows.
 - i. When heavy equipment is required, the applicant will use equipment having the least impact (e.g., minimally sized, rubber tired).
 - ii. Heavy equipment will be fueled, maintained and stored as follows.
 - (1) All equipment that is used for instream work will be cleaned before operations below the bankfull elevation. External oil and grease will be removed, along with dirt and mud. No untreated wash and rinse water will be discharged into streams and rivers without adequate treatment.
 - (2) Place vehicle staging, maintenance, refueling, and fuel storage areas at least 150 feet horizontal distance from any stream.
 - (3) All vehicles operated within 150 feet of any stream or water body will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation.
 - (4) When not in use, vehicles will be stored in the vehicle staging area.
 - i. Site preparation. Site preparation is completed in the following manner, including removal of stream materials, topsoil, surface vegetation and major root systems.
 - i. Any instream large wood or riparian vegetation moved or altered during construction will stay on site or be replaced with a functional equivalent.
 - ii. Tree removal will be mitigated for onsite by a 2:1 replanting ratio.
 - iii. Whenever the project area is to be revegetated or restored, native channel material, topsoil and native vegetation removed for the project should be stockpiled for redistribution on the project area.
 - j. Earthwork. Earthwork, including drilling, blasting, excavation, dredging, filling and compacting, is completed in the following manner:
 - i. Boulders, rock, woody materials and other natural construction materials used for the project must be obtained from outside the riparian area.
 - ii. During excavation, native streambed materials will be stockpiled above the bankfull elevation for later use.
 - iii. Material removed during excavation will only be placed in locations where it cannot enter streams or other water bodies.
 - iv. All exposed or disturbed areas will be stabilized to prevent erosion.
 - (1) Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by native seeding,³ mulching, and placement of erosion control blankets and mats, if applicable, quickly as reasonable after exposure, but within seven days.

³ By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is found, shall be used.

- (2) All other areas will be stabilized quickly as reasonable, but within 14 days of exposure.
 - (3) Seeding outside the growing season will not be considered adequate for permanent stabilization.
 - v. All erosion control devices will be inspected during construction to ensure that they are working adequately.
 - (1) Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites.
 - (2) If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.
 - (3) Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.
 - vi. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.
 - vii. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 5 inches (12 cm). Catch basins will be maintained so that no more than 6 inches (15 cm) of sediment depth accumulates within traps or sumps.
 - viii. Sediment-laden water created by construction activity will be filtered before it leaves the right-of-way or enters a stream or other water body. Silt fences or other detention methods will be installed as close as reasonable to culvert outlets to reduce the sediment entering aquatic systems.
- k. Site restoration. Site restoration and cleanup, including protection of bare earth by seeding, planting, mulching and fertilizing, is done in the following manner.
 - i. All damaged areas will be restored to pre work conditions including restoration of original streambank lines, and contours.
 - ii. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at a finished grade with mulch, native herbaceous seeding, and native woody vegetation before October 1. On cut slopes steeper than 1:2, a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, a hydro-mulch will be applied at 1.5 times the normal rate.
 - iii. Disturbed areas will be planted with native vegetation specific to the project vicinity or the region of the state surrounding the action area, and will comprise a diverse assemblage of woody and herbaceous species.
 - iv. Plantings will be arranged randomly within the revegetation area.
 - v. All plantings will be completed before April 15.

- vi. No herbicide application will occur within 300 feet of any stream channel as part of this permitted action. Mechanical removal of undesired vegetation and root nodes is permitted.
 - vii. No surface application of fertilizer will be used within 50 feet of any stream channel as part of this permitted action.
 - viii. Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons.
 - ix. Plantings will achieve an 80 percent survival success after three years.
 - (1) If success standard has not been achieved after three years, the applicant will submit an alternative plan to the FHWA. The alternative plan will address temporal loss of function.
 - (2) Plant establishment monitoring will continue and plans will be submitted to the FHWA until site restoration success has been achieved.
2. To implement Reasonable and Prudent Measure #2 (monitoring) above, the FHWA shall ensure that:
- a. Within 30 days of completing the project, the applicant will submit a monitoring report to the FHWA describing the applicant's success meeting their permit conditions. This report will consist of the following information.
 - i. Project identification.
 - (1) Permit number;
 - (2) project name;
 - (3) project location by 5th field hydrological unit code (HUC) and latilong;
 - (4) starting and ending dates for work performed under the permit; and
 - (5) the FHWA contact person.
 - ii. Isolation of in-water work area. All projects involving isolation of in-water work areas must include a report of any seine and release activity including:
 - (1) The name and address of the supervisory fish biologist;
 - (2) methods used to isolate the work area and minimize disturbances to ESA-listed species;
 - (3) stream conditions before and following placement and removal of barriers;
 - (4) the means of fish removal;
 - (5) the number of fish removed by species;
 - (6) the location and condition of all fish released; and
 - (7) any incidence of observed injury or mortality.
 - iii. Pollution and erosion control. A summary of pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.
 - iv. Site restoration. Documentation of the following conditions:
 - (1) Finished grade slopes and elevations.

- (2) Log and rock structure elevations, orientation, and anchoring, if any.
 - (3) Planting composition and density.
 - (4) A plan to inspect and, if necessary, replace failed plantings and structures for five years.
- v. A narrative assessment of the project's effects on natural stream function.
- vi. Photographic documentation of environmental conditions at the project site before, during and after project completion.
 - (1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.
 - (2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
 - (3) Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.
- b. If a dead, injured, or sick endangered or threatened species specimen is found, initial notification must be made to the National Marine Fishery Service Law Enforcement Office, Vancouver Field Office, 600 Maritime, Suite 130, Vancouver, Washington 98661; phone: 360/418-4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. With the care of sick or injured endangered and threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

3. ESSENTIAL FISH HABITAT

3.1 Background

The objective of the Essential Fish Habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the propose action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Steven Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH

descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (Magnuson-Stevens Act section 3). For the purposes of interpreting the definition of essential fish habitat: 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; and "spawning, breeding, feeding or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the Magnuson-Stevens Act (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall, within 30 days after receiving conservation recommendations from NMFS, provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall 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 the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The Magnuson-Stevens Act requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of Essential Fish Habitat

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). 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), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Action

The proposed actions are detailed above in Section 1.2. The action area includes West Fork Williams Creek upstream for a distance of 100 feet and downstream 300 feet. This area has been designated as EFH for various life stages of chinook and coho salmon.

3.5 Effect of the Proposed Action

As described in detail in Section 1.5, the proposed activities may result in detrimental short-term adverse effects to a variety of habitat parameters. The Williams Creek bridge replacement project is not likely to adversely affect the distribution and abundance of adult or juvenile coho salmon or chinook salmon. The proposed action will result in short-term impacts to salmonid habitat through increases in sedimentation and turbidity, and alteration of instream habitats at the project site. Information submitted by the FHWA/ODOT in the BA is sufficient for NMFS to conclude that the effects of the proposed actions are likely to adversely affect EFH. NMFS also believes that the project design features proposed as an integral part of the actions would avoid, minimize, or otherwise offset potential adverse impacts to designated EFH, as long as terms and conditions as described in the ESA section above are incorporated into the project.

3.6 Conclusion

NMFS believes that the proposed action may adversely affect the EFH for chinook salmon and coho salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The project design criteria (listed as terms and conditions in this Opinion) the FWHA/ODOT proposed, are intended to minimize the potential adverse effects to EFH. These measures adequately address the potential impacts described in this Opinion (Section 1.5), and no additional conservation recommendations are provided.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a written response to NMFS after receiving EFH conservation recommendations within 30 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NMFS, the agency must explain its reasons for not following the recommendation.

3.9 Consultation Renewal

The FHWA must reinitiate EFH consultation with NMFS if either action is substantially revised or new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

- Casillas, E., L. Crockett, Y. deReynier, J. Glock, M. Helvey, B. Meyer, C. Schmitt, M. Yoklavich, A. Bailey, B. Chao, B. Johnson and T. Pepperell. 1988. Essential Fish Habitat West Coast Groundfish Appendix. National Marine Fisheries Service. Seattle, Washington. 778 p
- Franklin, J.F. and C.T. and Dyress. 1973. Natural Vegetation of Oregon and Washington. Oregon State University Press. Corvallis, Ore.
- NMFS (National Marine Fisheries Service). 1996. Making ESA determinations of effect for individual or grouped actions at the watershed scale. National Marine Fisheries Service, Portland, Oregon.
- Nickelson, T.E., J. D. Rodgers, D. L. Johnson and M. F. Solazzi. 1992. Seasonal changes in habitat use by juvenile coho salmon (*Oncorhynchus kisutch*) in Oregon coastal streams. *Can. J. Fish. Aquat. Sci.* 49:783-789.
- PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon. Portland, Oregon.
- Weitkamp, L.A., T. C. Wainwright, G. J. Bryant, G. B. Milner, D. J. Teel, R. G. Kope, and R. S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-24,258.