



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:
OSB2000-0325

January 18, 2001

Mr. Fred P. Patron
Senior Transportation Planning Engineer
Federal Highway Administration, Oregon Division
530 Center Street NE
Salem, OR 97301

Re: Formal Section 7 Consultation and Essential Fish Habitat Consultation on McCormach Bridge Replacement, Umatilla 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 McCormach Bridge Replacement in Umatilla County, Oregon. The NMFS concludes in this Opinion that the proposed action is not likely to jeopardize the subject species or destroy or adversely modify critical habitat. NMFS has also included reasonable and prudent measures with non-discretionary terms and conditions that are necessary and appropriate to minimize the potential for incidental take associated with this project.

In addition, this document also serves as consultation on Essential Fish Habitat (EFH) under Public Law 104-267, the Sustainable Fisheries Act of 1996, as it amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Questions regarding this letter should be directed to Pat Oman of my staff in the Oregon State Branch Office at (503) 231-2313.

Sincerely,

Donna Darm
Acting Regional Administrator

cc: Rose Owens - ODOT (w/o BiOp)
Chuck Howe - ODOT
Melinda Trask - ODOT
Julie Bunnell - ODOT



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

BIOLOGICAL OPINION

McCormmach Bridge over Wildhorse Creek
McCormmach Road
Umatilla County, Oregon

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: January 18, 2001

Refer to: OSB2000-0325

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1. BACKGROUND

On October 18, 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 project on McCormmach Road off of Highway 8, near Pendleton in Umatilla County, Oregon. The FHWA is funding the proposed replacement, and is the lead agency for the project. Oregon Department of Transportation (ODOT) designed the project and will administer the construction contract. This Opinion is based on the information presented in the BA and the result of the consultation process, including a site visit on September 26, 2000 and interagency meetings in the fall of 2000.

The old McCormmach Bridge fell into Wildhorse Creek on August 4, 2000 when an overloaded gravel truck caused the bridge to fail. The old bridge had a load limit of 12 tons, and the truck was carrying approximately 16 tons of gravel. Truck and bridge remains were removed from the creek by the truck owner and by the Umatilla County Road Department.

Wildhorse Creek is a tributary of the Umatilla River, which flows into the Columbia River. McCormmach Bridge is approximately two miles northeast of Pendleton, Oregon, on McCormmach Road, which intersects with Adams Road, which in turn is connected to Highway 8, also known as the Oregon-Washington Highway. Work will begin in the spring (March 2001) and is expected to be completed by September 2001.

The FHWA/ODOT has determined that the Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) may occur within the project area. The MCR steelhead was listed under the ESA on March 25, 1999 (64 FR 14517). The proposed project is within MCR steelhead critical habitat, which was designated February 16, 2000 (65 FR 7764), and protective regulations were issued for MCR steelhead under Section 4(d) of the ESA on July 10, 2000 (65 FR 42423). The FHWA/ODOT determined that the proposed action is likely to adversely affect the MCR steelhead, using methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996).

The objective of this Opinion is to determine whether the action to replace McCormmach Bridge in Umatilla County is likely to jeopardize the continued existence of the Middle Columbia River (MCR) steelhead or destroy or adversely modify its critical habitat.

2. PROPOSED ACTION

The FHWA/ODOT proposes to replace McCormmach Bridge with a superstructure that will be the same length and width as the previous bridge structure, in the same horizontal roadway alignment. The bridge approaches will be raised about one foot to match the new bridge deck because the new bridge girders will be thicker than the girders on the old bridge. The proposed structure is a single span, precast, prestressed concrete slab bridge, with a length of 69.2 feet and a width of 24 feet. The bridge deck will have concrete drainage curbs which will extend 20 feet from the end of the bridge. The deck

of the precast concrete slabs will be left bare with no asphalt concrete utilized. Bridge approaches will match the existing gravel roadway so there will be no increase in impervious surfaces. At the base of the existing (old) bridge footings, a concrete cut-off wall will be constructed to protect the footings from scour; riprap will not be used. On the roadway side of the existing concrete abutment wall, a two feet deep trench will be dug to form the foundations of the abutment wall extensions.

Prior to construction activities, erosion control measures will be installed at the site. These will include supported silt fences, containment curtains, gravel check dams, water bars, gravel lined ditches, and a gravel lined sedimentation swale. Containment curtains will be installed on the stream-side of the abutments prior to drilling, saw cutting, forming, or placement of concrete as required for abutment modifications. On the north roadway approach, stormwater runoff will be diverted into a gravel lined ditch on the west side of the road by means of three temporary gravel water bars. Within the ditch, three temporary gravel check dams will be constructed to aid in the settlement of sediment; then the runoff in the west ditch will flow through a sediment barrier prior to percolating into a vegetated bank. On the east side of the north approach, a drainage swale will be constructed parallel to the top of the stream bank. This will allow storm runoff to percolate into the ditch substrate.

Repairs to the abutments, installation of the precast concrete slabs, roadway fill construction, and guardrail construction will take place in March and April 2001. No inwater work within the two year floodplain will be done during this phase of the construction. During July through September, an extension to one existing concrete wingwall in the northeast corner, and the concrete cut-off wall, will be constructed. This will be preceded by isolation of the work area and implementation of erosion control measures. All work within the two year floodplain will take place during the Oregon Department of Fish and Wildlife's specified in-water work period of July 1 to October 31.

The contractor will be required to use construction methods that ensure fish passage during the project and that isolate the excavation areas in order to reduce the risk of mortality to fish that might be present in the creek during the project. The area of the concrete cut-off wall will be de-watered and fish excluded from the area prior to construction, using methods approved by the Oregon Department of Fish and Wildlife. Fish passage will be maintained throughout the duration of the in-water work utilizing a method approved by ODFW. The de-watering system that isolates the construction area will also prevent sediment from entering the flowing channel downstream. Sediment control and erosion control devices will be in place prior to access into the channel.

3. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The MCR steelhead Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on March 25, 1999 (64 FR 14517). Biological information concerning the MCR steelhead is found in Busby et al. (1996). The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed. Within the Umatilla basin, returns of adult wild summer steelhead have declined from highs of 2,816 and 3,296 (in 1986 and 1987) to an average of 963 during 1995 - 1997. Hatchery steelhead, developed from wild Umatilla broodstock, were introduced to the Umatilla River basin in the late 1980s and an increasing percentage of the

summer steelhead are of hatchery origin: 17% of the total adult returns in 1990 vs. 62% in 1997 (Chilcote, 1998).

Critical habitat was designated for the MCR steelhead on February 16, 2000 (65 FR 7764). Critical habitat for MCR steelhead encompasses the major Columbia River tributaries known to support this ESU, including the Deschutes, John Day, Klickitat, Umatilla, Walla Walla, and Yakima Rivers, as well as the Columbia River and estuary. Critical habitat consists of all waterways below long-standing, naturally impassable barriers, which includes the project area. The adjacent riparian zone is also considered critical habitat. This zone is defined as the area that provides the following functions: shade, sediment, nutrient/chemical regulation, streambank stability, and input of large woody debris/organic matter. Protective regulations for MCR steelhead were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42423).

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 MCR steelhead under the existing environmental baseline.

4.1 Biological Requirements

The first step in the methods the NMFS uses for applying the ESA section 7(a)(2) to listed steelhead 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 MCR steelhead for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them 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, spawning and rearing.

Summer steelhead occur at the McCormach Bridge site all year. Wildhorse Creek serves as spawning, rearing, and migration habitat for steelhead. It is not known whether steelhead spawn in Wildhorse Creek since no spawning surveys in this stretch have been done; however, the habitat conditions and substrate would support spawning. Since the creek is expected to be flowing during project activities, it is likely that steelhead will be present. These fish are probably wild summer steelhead, since Wildhorse Creek has not been stocked with hatchery fish.

4.2 Environmental Baseline

The current range-wide status of the identified ESU may be found in Busby et al. (1995, 1996). The identified action will occur within the range of MCR steelhead. 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, stream 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. As such, the action area for the proposed activities include the immediate portions of the watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the streambed and riparian habitat of Wildhorse Creek, upstream from the project site 100 feet, and downstream 500 feet.

The action area is within the Wildhorse Creek watershed of the Umatilla River Basin. Wildhorse Creek originates on the western slope of the Blue Mountains many miles to the southeast of the project area, flowing through lands managed by the US Forest Service, the Umatilla tribe, and private owners. The confluence of Wildhorse Creek with the Umatilla River is located approximately four miles downstream of the bridge project site. The Umatilla River flows into the Columbia River approximately 40 miles downstream of this confluence.

Land use near the bridge is residential and agriculture. Wildhorse Creek in the vicinity of the project is characterized by riffles and shallow runs. The stream channel at the bridge site is approximately 13 feet wide, with a cobble substrate and some embeddedness caused by sedimentation. Along the north bank there is a well defined terrace. There is no large woody debris or fish cover near the site. Upstream of the project area about 14 miles there is a fish barrier in the City of Athena, which limits the range of steelhead in this watershed.

The ODFW defined in-water work period for Wildhorse Creek, including the project site, is between July 1 and October 31 (ODFW 2000). Adult steelhead may be present in the project area from October through June, and possibly into July. Juvenile steelhead rear in the winter and spring when adequate water of sufficient quality is flowing, conditions that are found at the McCormach Bridge site. Downstream migration generally occurs between April and June, peaking in mid-June; however, within the Umatilla basin there are also steelhead pre-smolts that begin migration in the fall. Thus it is likely that there will be steelhead present at all times during both phases of construction.

The entire length of Wildhorse Creek, from its mouth to its headwaters, is currently listed on the Oregon Department of Environmental Quality (DEQ) 303(d) List of Water Quality Limited Water Bodies. Wildhorse Creek is considered water quality limited year-round for toxics, sedimentation, temperature, bacteria, and flow modification (DEQ 1999).

Water quality and fish habitat have been impacted due to past and ongoing land use practices. Major fish habitat constraints are altered flow regimes, streambank degradation, high water temperatures, poor instream cover, and insufficient riparian vegetation. Approximately 40% of the acreage in the Umatilla basin is range land, 13% is forested, and about 40% is in crops. Throughout the Umatilla basin, the major cause of degraded water quality and altered flow regimes is the appropriation of water for irrigation.

Based on the best available information on the current status of MCR steelhead 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 currently being met. Numbers of MCR steelhead are substantially below historic numbers. Long-term trends are decreasing. Degraded freshwater habitat conditions have also contributed to the decline.

Use of the NMFS Matrix of Pathways and Indicators (NMFS 1996) identified the following habitat indicators as either at risk or not properly functioning within the action area: Water temperatures, turbidity/sediment, chemical contamination/nutrients, physical barriers, substrate, large woody debris, pool frequency and quality, off-channel habitat, refugia, streambank condition, floodplain connectivity, and disturbance history and regime. Actions that do not maintain or restore properly functioning aquatic habitat conditions have the potential to jeopardize the continued existence of MCR steelhead.

5. ANALYSIS OF EFFECTS

5.1 Effects of Proposed Action

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document, *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of proposed 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 cause the following impacts to threatened MCR steelhead or designated critical habitat:

1. In-water work may cause direct adverse impacts to any steelhead that may be present near the work site.

During the second phase of construction, when concrete cut-off walls will be built to protect the bridge footings, water in the active flowing channel may be diverted away from the work site. This has the potential of harming fish in the vicinity by changing juvenile rearing and migration behavior. Some of the fish that are removed from the work isolation area, either through electrofishing or seining, may die. Areas will be excavated below the ordinary high water mark in order to accomplish the cut-off wall construction; while these areas will be backfilled with native material, there will be some minor modification of instream habitat.

Other adverse impacts include sedimentation that may occur after cut-off wall construction in the event of precipitation causing some erosion of the work area. This may result in minor siltation of downstream spawning gravels and temporary displacement of rearing juvenile salmonids.

2. Riparian function will be impaired, causing indirect adverse impacts to steelhead.

The bridge replacement will result in minor loss of riparian function by the removal of herbaceous vegetation. This will result in a short-term (less than two years) loss of primary production and temporary bank instability. The vegetation is primarily non-native and this loss will be mitigated by seeding with native plant stock. No fertilizer will be used.

The effects of these activities on MCR steelhead and aquatic habitat factors will be limited by implementing construction methods and approaches are included in project design that are intended to avoid or minimize impacts. These include:

- All in-water work will be conducted during the ODFW in-water work period of July 1 to October 31. This will avoid impacts to migrating adult steelhead. Work done within the two year floodplain zone will avoid the active flowing channel, which will be diverted away from the construction zone.

- Alteration and disturbance of stream banks and existing riparian vegetation will be minimized to the extent possible. No trees will be removed. When working within the two-year floodplain, bank protection material will be placed to maintain normal waterway configuration.
- ODOT will minimize the amount of erosion and consequently, sedimentation, during both phases of construction through the use of specific erosion control measures that will prevent the entry of silt into Wildhorse Creek.
- During excavation of the trench for the construction of cut-off walls, native materials will be stockpiled in an area outside of the two-year floodplain for later use in backfilling the trench.
- Riparian vegetation in the project vicinity will be replanted with native vegetation.

For the proposed action, the NMFS expects that the effects of the proposed project will tend to maintain each of the habitat elements over the long term. However, in the short term, a temporary increase in sediment entrainment and turbidity, and disturbance of riparian and instream habitat is expected. Fish may be temporarily displaced during work within the two year floodplain. The potential net effect from the proposed action, including proposed reseeding, is expected to be the maintenance of functional steelhead habitat conditions.

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 for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for MCR steelhead 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 results of this evaluation, based on the “matrix of pathways and indicators” (MPI) described in "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” (NMFS 1996), follow. 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 MCR steelhead 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 a native seed mix will provide shading of the creek

and improved bank stability. Consequently, NMFS does not expect that the net effect of this action will diminish the long-term value of the habitat for survival of MCR steelhead.

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 McCormach Bridge and extends 100 feet upstream of the project site and 500 feet downstream. The project actions consist of repairing the abutments, replacing the bridge deck, and repairing the roadway approaches. NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur within the action area. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Future FHWA/ODOT transportation projects are planned in the Umatilla River watershed. Each of these projects will be reviewed through separate section 7 consultations and are not considered cumulative effects.

6. CONCLUSION

NMFS has determined, based on the available information, that the proposed action is expected to maintain properly functioning stream habitat conditions within the action area over the long term. As such, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of MCR steelhead. 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 applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts, in-water construction, and habitat loss. These effects will be mitigated over the long-term through the implementation of vegetative reseeded. Direct harm to juvenile steelhead because of altered rearing and migration behavior may occur during the in-water work period of project activities.

7. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: 1) The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; 2) new information reveals effects of the action may affect listed species in a way not previously considered; 3) the action is modified in a way that causes an effect on listed species that was not previously considered; or, 4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To reinitiate consultation, ODOT must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

8. 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.

8.1 Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of MCR steelhead because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (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 steelhead habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, 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 biological assessment, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to within the area of project disturbance, extending 100 feet upstream and 500 feet downstream of the area of disturbance around the bridge work.

8.2 Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from construction activities at McCormmach Bridge, measures shall be taken to limit the duration and extent of in-water work, and to time such work when the impacts to MCR steelhead are minimized.

2. To minimize the amount and extent of incidental take from construction activities in or near the creek, effective erosion and pollution control measures shall be developed and implemented throughout the area of disturbance and for the life of the project. The measures shall minimize the movement of soils and sediment both into and within the river, and will stabilize bare soil over both the short term and long term.
3. To minimize the amount and extent of take from loss of instream habitat and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian and instream habitat, or where impacts are unavoidable, to replace or restore lost riparian and instream function.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures and plantings for site restoration shall be monitored and evaluated both during and following construction, and meet criteria as described below in the terms and conditions.

8.3 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, FHWA/ODOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. Implementation of the terms and conditions within this Opinion will further reduce the risk of impacts to fish and Wildhorse Creek habitat. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure # 1 (in-water work) above, the FHWA/ODOT shall ensure that:
 - a. Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. The FHWA/ODOT designs will ensure passage of fish as per ORS 498.268 and ORS 509.605 (Oregon's fish passage guidance). The worksites shall be isolated from the fish passage alternatives.
 - b. All work within the active channel of Wildhorse Creek will be completed within ODFW's in-water work period (July 1 to October 31). Staging plans for temporary waterway diversions will be submitted and approved by ODOT Environmental Staff prior to proceeding with associated in-water activities. Any additional extensions of the in-water work period will first be approved by, and coordinated with, NMFS and ODFW.
 - c. All in-water work will be done within a cofferdam (made out of sandbags, sheet pilings, inflatable bags, etc.), or similar structure, to minimize the potential for sediment entrainment. After the work isolation structure is in place, any fish trapped in the isolation pool will be removed prior to dewatering, using an ODFW-approved method.

- d. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration.
 - e. During excavation, native streambed materials will be stockpiled out of the two-year floodplain for later use in backfilling the trenches used to construct the cut-off walls.
 - f. Any water diversions or withdrawals done for the purpose of supplying water for construction or for riparian plantings will comply with all state and federal laws, particularly those that require a temporary water right and fish screening of intakes. The FHWA/ODOT shall be responsible for informing all contractors of their obligations to comply with existing, applicable statutes.
2. To implement reasonable and prudent measure # 2 (construction activities) above, the FHWA/ODOT shall ensure that all erosion and pollution control measures included in the October 18, 2000 BA are included as special provisions in the McCormach Bridge replacement contract. Based on prior project evaluations, the NMFS requires FHWA/ODOT to pay particular attention to preparation of an erosion control plan (ECP) as follows: An ECP will be prepared by ODOT or the contractor, and implemented by the Contractor. The ECP will outline how and to what specifications various erosion control devices will be installed to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures shall be sufficient to ensure compliance with applicable water quality standards and this Opinion. The ECP shall be maintained on site and shall be available for review upon request.
- a. Effective erosion control measures shall be in-place at all times during the contract. Construction within the project vicinity will not begin until all temporary erosion controls (e.g., sediment barriers and containment curtains) are in place. Erosion control structures will be maintained throughout the life of the contract.
 - i. Stormwater runoff on the north side will be diverted into a gravel lined sedimentation swale (on the east side of the road) and into a ditch (on the west side) into sediment barriers and supported silt fences prior to entering the riparian zone. This will filter any water entering the stream.
 - ii. When the erosion control features are at 2/3 capacity they will be cleaned and maintained. They will be inspected regularly during construction to ensure that they are functioning as intended, and daily during periods of precipitation. Any failure of erosion control measures will be corrected immediately to maintain sedimentation controls.
 - b. All exposed areas will be replanted with a native seed mix. Erosion control planting will be completed on all areas of bare soil within 14 days of completion of construction.

- c. All equipment that is used for instream work will be cleaned prior to entering the two-year floodplain. 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.
- d. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic habitat. Conservation of topsoil (removal, storage and reuse) will be employed.
- e. Measures 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 in a manner that has a minimum impact on the streambed and water quality.
- f. 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 shall 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 shall not exceed DEQ water quality standards, as described in Oregon Administrative Rules (OARs) Division 41.¹
- g. The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the ODOT Engineer to ensure compliance with this PCP. The PCP shall include the following:
 - i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, borrow pit operations, haul roads, equipment storage sites, fueling operations and staging areas.
 - ii. Methods for confining and removing and disposing of excess construction materials, and measures for equipment washout facilities.
 - iii. A spill containment and control plan that includes: notification procedures; specific containment and clean up measures which will be available on site;

¹ DEQ 2000. Oregon Administrative Rules. Oregon Department of Environmental Quality (DEQ), 2000. (www.arcweb.sos.state.or.us/rules/OARS_300/OAR_340/340_041.html).

- proposed methods for disposal of spilled materials; and employee training for spill containment.
- iv. Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: the types of materials, estimated quantity, storage methods, and disposal methods.
 - v. The person identified as the Erosion and Pollutant Control Manager (EPCM) shall also be responsible for the management of the contractor's PCP.
- h. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at least 164 feet away from the two-year floodplain of any waterbody. Overnight storage of wheeled vehicles must occur at least 164 feet away from the two-year floodplain of any waterbody. Overnight storage of non-wheeled vehicles is allowed within the two-year floodplain during the in-water work window; however, to minimize the risk of fuel reaching the water, refueling of these vehicles should not occur after 1:00 pm (so the vehicles do not have full tanks overnight).
- i. Hazmat booms will be installed in all aquatic systems where:
- i. Significant in-water work will occur, or where significant work occurs within the five-year floodplain of the system, or where sediment/toxicant spills are possible.
 - ii. The aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient).
- j. Hazmat booms will be maintained on-site in locations where there is potential for a toxic spill into aquatic systems. "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
- k. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.
3. To implement reasonable and prudent measure # 3 (riparian habitat protection) above, FHWA/ODOT shall ensure that:
- a. Alteration of native vegetation will be minimized. Where possible, native vegetation will be clipped by hand so that roots are left intact. This will reduce erosion while still allowing room to work. No protection will be made of invasive exotic species (e.g. Himalayan blackberry), although no chemical treatment of invasive species will be used.
 - b. Riparian vegetation removed will be replaced with a native seed mix. Replacement will occur within the project vicinity.

4. To implement reasonable and prudent measure # 4 (monitoring) above, FHWA/ODOT shall ensure that:
 - a. Erosion control measures as described above in 2(d) shall be monitored.
 - b. All significant riparian replant areas will be monitored to insure the following:
 - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
 - ii. Plantings are performing correctly and have an adequate success rate (success rate depends on the planting density, but the goal is to have a functional riparian vegetation community).
 - c. Failed plantings and structures will be replaced, if replacement would potentially succeed. If not, plantings at other appropriate locations will be done.
 - d. A plant establishment period (three year minimum) will be required for all riparian mitigation plantings. In extremely unstable or unproductive areas, ODOT may be released from the establishment period and develop a larger replanting area to compensate for this.
 - e. By December 31 of the year following the completion of construction, FHWA/ODOT shall submit to NMFS (Oregon Branch) a monitoring report with the results of the monitoring required in terms and conditions 4(a) to 4(c) above.

9. ESSENTIAL FISH HABITAT CONSULTATION

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for “Essential Fish Habitat” (EFH) descriptions in Federal fishery management plans and to require Federal agencies to consult with NMFS on activities that may adversely affect EFH. “Essential Fish Habitat” means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (Magnuson-Stevens Act §3). The Pacific Fisheries Management Council (PFMC) has designated EFH for federally-managed Pacific salmon fisheries (PFMC 1999). EFH includes those waters and substrate necessary to ensure the production needed to support a long-term sustainable fishery (i.e., properly functioning habitat conditions necessary for the long-term survival of the species through the full range of environmental variation).

The Magnuson-Stevens Act requires consultation for all actions that may adversely affect EFH, and it does not distinguish between actions in 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.

The proposed designated salmon fishery EFH includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above the impassable barriers identified by PFMC. Salmon EFH excludes areas upstream of longstanding naturally impassable barriers (i.e., natural waterfalls in existence for several hundred years). The proposed action area encompasses the Council-designated EFH for chinook salmon (*Oncorhynchus tshawytscha*).

The objective of this EFH consultation is to determine whether the proposed action may adversely affect EFH for chinook salmon. Another objective of this EFH consultation is to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse impacts to EFH resulting from the proposed action.

NMFS expects that the effects of this project on chinook salmon EFH are likely to be within the range of effects to listed MCR steelhead considered in the ESA portion of this consultation. Based on that analysis, NMFS finds that the proposed project is likely to adversely affect EFH for chinook salmon.

The FHWA/ODOT have provided for minimization of the potential effects to EFH in the proposed project design. The reasonable and prudent measures and the terms and conditions outline above in section 9 are applicable to chinook salmon EFH. Therefore NMFS recommends that they be adopted as EFH conservation measures. If the FHWA/ODOT adopt this recommendation, potential adverse effects to EFH will be minimized.

The FHWA/ODOT must reinitiate EFH consultation with NMFS if the action is substantially revised in a manner that may adversely affect EFH or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR Section 600.920[k]).

10. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

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.

Busby, P., T. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California.

Chilcote, Mark. 1998. Conservation Status of Steelhead in Oregon. Oregon Department of Fish and Wildlife Information Report No. 98-3.

DEQ 1999. DEQ's 1998 303d List of Water Quality Limited Streams & Oregon's Criteria Used for Listing Waterbodies. Oregon Department of Environmental Quality (DEQ), Portland, Or 1999. (www.deq.state.or.us/wq/303dlist/303dpage.htm).

NMFS 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

ODFW 2000. Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources. Oregon Department of Fish and Wildlife Habitat Conservation Division, Portland, Oregon.

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.