



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:
OSB2000-0319

February 23, 2001

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

Re: Endangered Species Act Formal Section 7 Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation for Main Street Left Turn Refuge Project, John Day, Grant County, Oregon

Dear Mr. Patron:

Enclosed is the biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act that addresses the Main Street Left Turn Refuge project in Grant 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. This Opinion includes reasonable and prudent measures with terms and conditions that NMFS believes 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). An EFH analysis is required for chinook salmon (*Oncorhynchus tshawytscha*).

Questions regarding this letter or attached Opinion 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 attachment)
Randy Floyd - ODOT (w/o attachment)
Julie Bunnell - ODOT
Ken Eddy - ODOT
Chuck Howe - ODOT
Art Martin - ODFW (w/o attachment)
Shaun Robertson, - Warm Springs Tribe
Alan Mauer, - USFWS

bcc: F/NWR - K. Cunningham
F/NWR4 - File copy, Pat Oman, R. Tweten (electronic), M. Liverman (electronic)
F/NWR4 - Web Page (electronic)
F/PR3 - Chief of Endangered Species

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cc Addresses:

ROSE OWENS
OREGON DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL SECTION
1158 CHEMEKETA NE
SALEM OREGON 97310


KEN EDDY
ODOT D-12 Project Team Leader
80788 Kik Rd.
Hermiston OR 97838


JULIE BUNNELL
OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING
200 TRANSPORTATION BUILDING
SALEM OREGON 97310


SHAUN ROBERTSON
JOHN DAY BASIN RESTORATION COORDINATOR
WARM SPRINGS TRIBE
PO Box 480
CANYON CITY OR 97820


RANDY FLOYD
OREGON DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL SECTION
1158 CHEMEKETA NE
SALEM OREGON 97310


CHUCK HOWE
OREGON DEPARTMENT OF TRANSPORTATION
3012 ISLAND AVE
LA GRANDE, OREGON 97850


ART MARTIN
OREGON DEPT OF FISH AND WILDLIFE
17330 SE EVELYN ST.
CLACKAMAS OR 97015


ALAN MAUER
USFWS - BEND FIELD OFFICE
20310 EMPIRE AVENUE SUITE A-100
BEND OREGON 97701


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

BIOLOGICAL OPINION

Main Street Left Turn Refuge, John Day
Grant County, Oregon

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: February 23, 2001

Refer to: OSB2000-0319

TABLE OF CONTENTS

1. BACKGROUND	1
2. PROPOSED ACTION	2
3. BIOLOGICAL INFORMATION AND CRITICAL HABITAT	3
4. EVALUATING PROPOSED ACTIONS	4
4.1. Biological Requirements	5
4.2. Environmental Baseline	7
5. ANALYSIS OF EFFECTS	8
5.1. Effects of Proposed Action	8
5.2. Effects on Critical Habitat	10
5.3. Cumulative Effects	11
6. CONCLUSION	11
7. REINITIATION OF CONSULTATION	11
8. INCIDENTAL TAKE STATEMENT	12
8.1. Amount or Extent of the Take	12
8.3. Reasonable and Prudent Measures	13
8.3. Terms and Conditions	13
9. ESSENTIAL FISH HABITAT	17
10. LITERATURE CITED	19

1. BACKGROUND

On December 28, 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 left turn refuge project on Main Street in the city of John Day, in Grant County, Oregon. The FHWA is funding the proposed repairs, and is the lead agency for the project. Oregon Department of Transportation (ODOT) has designed the project and will administer the construction contract. This biological opinion (Opinion) is based on the information presented in the BA and the result of the consultation process.

The FHWA/ODOT has determined that Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) may occur within the project area. MCR steelhead were listed as threatened 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). Protective regulations were issued for MCR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42423). The FWHA/ ODOT, using methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996), determined that the proposed action is likely to adversely affect MCR steelhead.

The FWHA/ODOT are proposing to replace a bridge that spans Canyon Creek in the city of John Day, in order to create a left turn refuge for easier access to Ford Street. The bridge is located on U.S. Highway 26, which in town is known as Main Street, at mile point 162.07. In the vicinity of the project, Highway 26 (a major east-west route) and Highway 395 (a major north-south route) run together. Because Highway 26/395 is a principal artery through town, with heavy traffic, drivers heading west on Main Street have difficulty turning south (left) onto Ford Road. In order to construct a left turn refuge, the bridge over Canyon Creek must be replaced with one that is wider and longer. This project will also ameliorate stormwater runoff from an adjacent parking lot, located to the southwest of the existing bridge.

This Opinion reflects the results of the consultation process. The consultation process involved a site visit by the NMFS biologist, ODOT staff, and ODFW biologist on September 26, 2000, and correspondence and communications to obtain additional information and clarify the BA.

The objective of this Opinion is to determine whether the actions to replace the bridge, construct a left turn refuge, and improve stormwater drainage along Main Street in John Day are likely to jeopardize the continued existence of MCR steelhead, or destroy or adversely modify the species' critical habitat.

2. PROPOSED ACTION

The proposed project will replace a functionally obsolete bridge with one that will allow westbound traffic to turn left safely from Highway 26/395 onto Ford Road in the city of John Day, Oregon. The left turn refuge/bridge replacement work will be done in three stages: 1) The eastbound (south) lane of the existing bridge will be removed and replaced, restricting traffic to one lane during the construction period; 2) the westbound (north) lane of the bridge will be replaced, and sidewalks and guardrails constructed, while traffic is re-routed over the eastbound lane; and 3) the rails and sidewalk for the eastbound (south) section of the new bridge will be built.

2.1. Project Details

The existing structure, built in 1940, is 42 feet long and has abutments that are 40 feet apart; the eastern abutment sits in the active flowing channel of Canyon Creek with the base of the abutment under water all year round. The design of the new bridge calls for placement of abutments out of the active flowing channel. This will necessitate a longer span, about 55 feet long. The new bridge will have a superstructure of 17 standard precast prestressed concrete slabs, with a width of 68 feet, which will accommodate a left turn refuge. The end bents (or support posts) of the new bridge will be 55 feet apart and consist of piles driven behind the existing abutments and spaced 8 feet apart. The piles will be driven prior to the in-water work period, within the two year floodplain but not within the active flowing channel of Canyon Creek. Each corner of the new bridge will have five foot long wingwalls running parallel to the end bents.

After the existing abutments of the bridge are removed, the area beneath the deck (the creek bank) will be graded to a 1:3 slope, and riprapped with 117 cubic yards of class 350 riprap. In order to anchor the riprap, a toe trench on each side of the stream will be dug. A geotextile fabric filter will be placed at the base of the riprap. A slab of concrete just upstream of the existing bridge will be removed, along with a 12-inch diameter water pipe that is buried in the creek bed. This work will be done within a dewatered isolation zone in order to limit sedimentation. After removal of the pipe, that area of the creek bed will be filled in with clean riprap.

The removal of the old bridge and construction of the new bridge will be done in three stages. In the first stage, the south sidewalk and a portion of the exterior girder will be removed and the new south bridge section will be constructed, except for the south sidewalk. Shoring will be required in the channel for construction of the new pile caps and wingwalls. The shoring will not extend all the way across the channel. In the second stage, traffic will be routed onto the new construction and the rest of the existing bridge will be removed and the new north bridge section will be constructed including the north sidewalk and rail. In the third stage, traffic will be routed to the north side of the new structure and the south side sidewalk and rail will be constructed.

As a result of the bridge replacement, the existing method of draining stormwater (holes in the bridge, called scuppers, that allow polluted water to drain off of the deck and directly into Canyon Creek) will be improved. The new bridge will drain stormwater to a sewer inlet that is a dropbox catch basin. Water flows into material (such as sandy rock) at the bottom of the catch basin. This will settle out contaminants and sediment. The water will then flow from a perched outlet through a pipe and into riprap surrounding a wingwall of the bridge, where some additional cleansing will occur before the water flows back into Canyon Creek.

The proposed contract let date for the project is April 26, 2001.

2.2. Summary of in-water work

The project requires in-water work to remove the old bridge abutments, to do shoring for the construction of the pile caps and wingwalls, to remove a concrete slab and water pipe located within the creek bed, and to place riprap beneath the new bridge. This construction will require excavation within the creek channel, bank disturbance, and removal of riparian vegetation. The areas within the active flowing channel where construction will take place will be isolated by use of a coffer dam or some other ODFW approved method. Once the area is isolated, all fish stranded within the area will be removed by ODFW personnel, either by electroshocking or seining. If electroshocking is used, the methods will conform to at least the minimum standards described by NMFS in their June, 2000 guidance on electroshocking (NMFS 2000). Fish removed will be relocated to another stretch of Canyon Creek where habitat and other conditions appear conducive to survival.

The ODOT Project Development Team (PDT) has estimated that all in-water construction and removal activities that need to take place during the three phases will take longer than the current specified six-week in-water work period of July 15 - August 31. The PDT estimates that the in-water work will require eight weeks. The local ODFW Fisheries Biologist has indicated to ODOT that a two-week extension to the in-water work period, until September 17, would pose no foreseeable hazards to fish in Canyon Creek (Tim Unterwegner, personal communication to Randy Floyd, 2000). ODOT is in the process of obtaining formal approval of an extension to the in-water work period.

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). Protective regulations were issued for MCR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42423). 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, although these fish came under ESA protection so recently that it is difficult to discern any meaningful trends in the data that have been gathered since listing and conservation measures went into effect.

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).

In addition, the Oregon Division of State Lands (ODSL) in cooperation with the Oregon Department of Fish and Wildlife (ODFW) has designated specific waterways in the mid Columbia River ESU as Essential Indigenous Anadromous Salmonid Habitat under Oregon Administrative Rules (OAR) 141-102-000. Canyon Creek and associated tributaries are within the Upper John Day part of the John Day River basin (HUC 17070201), which has been designated as essential indigenous anadromous salmonid habitat (<http://statelands.dsl.state.or.us/esshabitat.html>). Therefore, compliance with these policies and guidelines is also required by the state. Essential indigenous anadromous salmonid habitat, or essential habitat, means the habitat that is necessary to prevent the depletion of indigenous anadromous salmonid species during their life history stages of spawning and rearing. OAR 141-102-000 stipulates policies and standards which must be complied with in these designated areas. Filling or removal in essential habitat is presumed by ODSL to be detrimental to indigenous anadromous salmonids, and fill or removal will only be authorized if it can be shown that only acceptable adverse impacts to indigenous anadromous salmonids or their essential habitat will occur or the removal/fill will benefit populations of indigenous salmonids.

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 and 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 MCR steelhead under the existing environmental baseline. NMFS' Essential Fish Habitat (EFH) analysis considers the effects of proposed actions on EFH and associated species and their life history stages, including cumulative effects and the magnitude of such effects.

4.1. Biological Requirements

The first step in the methods the NMFS uses for applying the ESA section 7(a)(2) to listed salmon and 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 Middle Columbia River 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 time 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.

The Upper John Day populations of MCR steelhead are wild summer steelhead. Steelhead trout in the John Day basin co-occur with nonanadromous inland redband trout (*Oncorhynchus mykiss gairdneri*) and there is no certainty regarding the degree of reproductive isolation of these two groups (Busby et al., 1996). With the exception of some hatchery fingerlings released into the John Day River basin during the 1960s (Lindsay et al 1986), steelhead in the basin have not been supplemented by hatchery

fish. This wild run of fish is considered to be one of the healthiest of the entire MCR steelhead Evolutionarily Significant Unit (ESU). Recent adult returns to the John Day River basin have declined, from an estimated 17,100 in 1992 to 5,711 in 1997 (see Table 1). However, the persistence of very low levels of chinook salmon in the John Day provides some indication that recovery of these populations may be possible.

Table 1. Estimated Spawning Escapement of Spring Chinook Salmon and Steelhead to the John Day Basin

Year	Spring Chinook	Summer Steelhead
1997	2,700	5,711
1996	3,300	5,658
1995	369	3,900
1994	2,400	9,300
1993	4,000	7,200
1992	3,100	17,100
1991	1,100	7,200
1990	2,200	12,000
1989	2,600	9,600
1988	3,000	36,400
1987	4,600	34,300
Mean	2,670	13,988

Source: Unterwegner and Gray (1995, 1996, 1997)

Canyon Creek in the vicinity of the project is primarily used by salmonids for juvenile rearing, and for upstream and downstream migratory purposes. Spawning habitat for chinook salmon is found upstream of the bridge site. No spawning occurs in the project vicinity during the low flow months, although some rearing and feeding activity by juvenile steelhead, chinook salmon, and redband trout may take place within the project area during the period of inwater construction.

Canyon Creek and its tributaries are designated as essential indigenous anadromous salmonid habitat by the ODSL (see discussion above, in section 3). NMFS concluded that the MCR steelhead are not presently in danger of extinction, but likely to become extinct in the foreseeable future (Busby et al. 1996). This is primarily due to the declining abundance of natural runs. The most significant problems for MCR steelhead in the Columbia River Basin are the mainstream Columbia dams that inhibit migration, and the many water diversions and withdrawals for agricultural purposes that affect water quality. The degradation of freshwater habitat throughout the region is the primary reason that MCR steelhead and other salmonids in the region are at risk.

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 Canyon Creek, upstream from the project 100 feet, and downstream to the extent that stream sediment levels are increased by the project, estimated to be approximately 200 feet. An additional location on the mainstem John Day River near Prairie City, where riparian enhancements carried out in cooperation with the Warm Springs Tribe will be done to offset effects to critical habitat in the project area, is also included as part of the action area.

StreamNet smolt density model data for Canyon Creek and its tributaries (StreamNet 1999) indicate that the lower reaches of Canyon Creek (up to Vance Creek), which encompass the project site, are rated as good spawning and rearing habitat for summer steelhead and spring chinook salmon (*Onchorhynchus tshawytscha*). Major habitat constraints identified in the lowest reach, which encompasses the project site, include pool to riffle ratio (lack of high quality pools), gravel quantity, channelization, and blocked passage. The upper reaches of Canyon Creek above Vance Creek are considered fair spawning and rearing habitat. The upper tributaries of Canyon Creek provide fair to good spawning and rearing habitat. Upstream of the project site, major habitat constraints for summer steelhead include pool to riffle ratio (lack of high quality pools), gravel quantity, channelization, instream cover poor, streambank degradation, insufficient riparian vegetation, sedimentation, and blocked passage.

Near the bridge and along Canyon Creek in the city of John Day the riparian vegetation is fairly well developed, with dwarf elm, willows, rose, reed canarygrass, wild clematis, and black cottonwood lining the banks and providing shade. At the bridge site, Canyon Creek is approximately 25 feet wide, with channel substrate of gravel and cobble. The lack of large woody debris throughout the course of Canyon Creek within the city, and the effects of pollutants from urban uses next to the stream, are additional factors that limit the natural production capacity of this tributary.

Currently, the mainstem of Canyon Creek from the mouth to its headwaters is listed under the Clean Water Act's Section 303(d), *List of Water Quality Limited Water Bodies*, as water quality limited for summer temperatures (ODEQ 1999). The project is located within this water-quality limited stretch of Canyon Creek.

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 steelhead are substantially below historic numbers. Population abundance trends show recent declines in the numbers of returning adults. Degraded freshwater habitat conditions, which include the effects of grazing, irrigation, water withdrawals, and residential use, have contributed to the decline.

The NMFS Matrix of Pathways and Indicators (NMFS 1996) was used to assess the current condition of various steelhead habitat parameters. Use of the Matrix identified the following habitat indicators as either at risk or not properly functioning within the action area: Water temperatures, turbidity/sediment, substrate, large woody debris, pool frequency and quality, off-channel habitat, refugia, streambank condition, floodplain connectivity, drainage network increase, road density and location, 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 juvenile steelhead that may be present near the work site.

The construction activity has the potential to directly harm steelhead due to handling or otherwise disturbing rearing juveniles. Inwater work to do shoring and place riprap may kill or displace juvenile salmonids. During construction, short-term increases in sediment and turbidity could reduce light penetration and inhibit primary production, abrade and clog fish gills, prevent feeding by sight feeders, stop migration, and cause any fish in the area to avoid the disturbed reaches of the creek. The effects of these activities on MCR steelhead will be minimized by limiting construction work to the ODFW-approved in-water work period.

2. Water quality, riparian function, and stream channel morphology may be altered, causing indirect adverse impacts to steelhead.

Increased sedimentation may result in minor siltation of downstream spawning gravels. There is a potential for changes in channel conditions and dynamics following the placement of riprap, and the existence of riprap along the embankment may alter fish rearing and migration behavior. The new bridge will have an increased surface area and larger areas of riprap than the existing bridge; this will result in a net loss of about 171 square yards of riparian habitat. There will also be a net increase in impervious surface, which will reduce the surface area where water can percolate through the ground prior to re-entering the creek. The effects of additional impervious surfaces will be offset by the construction of a catchment and settling basin that will improve the water quality of stormwater runoff.

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

- All in-water work will be conducted during the ODFW-approved in-water work period of July 15 to September 17. This will avoid impacts to migrating adult steelhead, and protect eggs and emerging fry.
- Alteration and disturbance of stream banks and existing riparian vegetation will be minimized to the extent possible. When working within the two-year floodplain, bank protection material will be placed to maintain normal waterway configuration.
- ODOT will minimize the amount of riprap used, and place only clean, non-erodible, upland angular rock of sufficient size to ensure long-term armoring. Within the two year floodplain, riprap will be placed in such a manner that the width of the active channel will not be constricted. Bridge design, and the removal of the old bridge abutments, will improve flows.
- Riparian habitat will be protected by flagging the areas to be cleared prior to construction. Areas outside of the flagged zone will not be impacted.
- Native vegetation will be maintained wherever possible. Shrubs and trees will be removed by clipping at ground level, and not grubbed out of the soil, except in those areas of construction where complete removal is necessary. Invasive exotic species will not be protected.
- Riparian vegetation will be replaced at a rate of 1.5:1. Disturbed riparian areas in the project vicinity will be replanted with native vegetation.
- Riparian enhancements to anadromous salmonid habitat on the mainstem John Day River will be carried out in cooperation with the Warm Springs Tribe, via an Memorandum of Understanding (MOU) between the tribe and ODOT.

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, greater than two years. However, in the short term, a temporary increase in sediment entrainment and turbidity, and disturbance of riparian and in-stream habitat is expected. Fish may be killed or temporarily displaced during the in-water work. However, the improved drainage from the new bridge and roadways, and construction of a catch basin to filter stormwater runoff, are expected to provide long-term benefits to fish and other aquatic species.

The potential net effect from the proposed action, including proposed plantings, is expected to be the maintenance and restoration 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, which includes 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), are detailed above. 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 in-stream habitat is expected. In the long term, a net improvement of habitat will occur because riparian enhancements at a site on the mainstem John Day, done under an existing conservation easement, will restore function to currently degraded salmonid habitat. In addition, the bridge drainage improvements will reduce the input of toxicants coming off of the bridge and roads during precipitation. 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 Canyon Creek throughout the project area. The action area extends 100 feet upstream of the project site, and 200 feet downstream. The project actions consist of replacing the old bridge and constructing a new one with a left turn refuge, and are detailed in the project description section above. Increased use of the road is not anticipated as a result of these actions. 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. Other FHWA/ODOT transportation projects scheduled to be built in the Canyon Creek watershed include a bridge replacement in Canyon City, approximately 5 miles upstream of the Main Street John Day bridge replacement. This project will be reviewed through separate section 7 consultations and is not considered cumulative effects of this project.

6. CONCLUSION

NMFS has determined that the proposed action is not likely to jeopardize the continued existence of MCR steelhead or destroy or adversely modify critical habitat. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS 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. The potential net effect from the proposed action, including proposed plantings and habitat restoration, is expected to be the maintenance and restoration of functional steelhead habitat conditions. Direct mortality of rearing juvenile steelhead (if any are present) 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 a 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, increased levels of impermeable surfaces, and the loss of habitat (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on 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. 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 200 feet downstream of the project area.

8.2. Effects of the Take

In this Opinion, NMFS has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead or to destroy or adversely modify designated critical habitat for MCR steelhead when the reasonable and prudent measures are implemented.

8.3. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize 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 in-water construction activities at the Main Street John Day, 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. The areas of inwater work will be isolated from the active flowing channel, and fish within the isolated area removed and relocated.

2. To minimize the amount and extent of incidental take from construction activities in or near the creeks, effective erosion and pollution control measures shall be developed and implemented throughout the area of disturbance. 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 work isolation measures, “take” of fish, 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 will implement the reasonable and prudent measures described above. These terms and conditions should be incorporated into construction contracts and subcontracts to ensure that the work is carried out in the manner prescribed. Implementation of the terms and conditions within this Opinion will further reduce the risk of impacts to fish and Canyon Creek habitat. These terms and conditions are non-discretionary.

1. In-water work: To implement reasonable and prudent measure # 1, 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).
 - b. All work within the active channel of Canyon Creek, including bridge demolition, will be completed within the ODFW-approved in-water work period (July 15 to September 17). Any adjustments to the in-water work period will first be approved by, and coordinated with, NMFS and ODFW. An extension of the in-water work period beyond September 17 may require re-initiation of section 7 consultation.
 - c. 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 whenever possible.
 - d. During ODOT project design, ODOT will work to minimize the amount of riprap used. Where riprap is necessary, only clean, non-erodible, upland angular rock of sufficient size for long-term armoring will be employed. Unless completely infeasible, placement will be from above the bank line and not “end-dumped.”
 - e. The diversion or withdrawal of all water from the stream, if any, and used for construction or for riparian plantings will comply with all state and federal laws,

particularly those that require a temporary water right and screening of intakes. The FHWA/ODOT shall be responsible for informing all contractors of their obligations to comply with existing, applicable statutes.

- f. At least one week prior to the start of in-water work, the ODOT project inspector shall notify the ODOT Regional Environmental Coordinator (REC) of the expected date of construction. The ODOT REC shall then notify NMFS.
 - g. The ODFW biologist shall monitor the construction of work isolation facilities and ensure that fish trapped within the work area are removed using the least destructive technology that is feasible. Within six months of the completion of construction, the FHWA/ODOT shall provide a report to NMFS that contains all of the information for reporting take that is contained in the Oregon Department of Fish and Wildlife Scientific Taking Permit application and in the OPSW 2001 Supplemental Application Request (ODFW, 2001). In the project description section, the report shall describe the construction methods used to isolate and remove fish, and the length of time that the work isolation was in place, as well as the numbers and species of fish handled.
2. Erosion and pollution control: To ensure implementation of reasonable and prudent measure # 2, above, an Erosion Control Plan (ECP) will be prepared by ODOT or the contractor, and carried out 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. The following conditions must be met:
- a. Effective erosion control measures shall be in-place at all times during the contract. Construction within the five-year floodplain will not begin until all temporary erosion controls (e.g., straw bales, silt fences, or other methods) are in place within the riparian area. Erosion control structures will be maintained throughout the life of the contract.
 - i. Erosion control blankets or heavy duty matting (e.g., jute) may be used on steep unstable slopes in conjunction with seeding, or prior to seeding.
 - ii. Biobags, weed-free straw bales and loose straw may be used for temporary erosion control. Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work on exposed slopes.
 - b. All exposed areas will be replanted with native vegetation. Erosion control planting, and placement of erosion control blankets and mats (if applicable) will be completed on all areas of bare soil within seven days of exposure within 150 feet of waterways, wetlands or other sensitive areas, and in all areas during the wet season (after September 17). All other areas will be stabilized within 14 days of exposure. Efforts will be made to cover exposed areas as soon as possible after exposure.
 - c. All erosion control devices will be inspected throughout the construction period to ensure that they are working adequately. Erosion control devices will be inspected

daily during the rainy season, weekly during the dry season, and monthly on inactive sites. Work crews will be mobilized to make immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional erosion controls will be installed as necessary.

- d. In the event that 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.
- e. Where feasible, sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters an aquatic resource area.
- f. A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.
- g. 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.
- h. Material removed during excavation shall only be placed in upland locations where it cannot enter sensitive aquatic habitat. Conservation of topsoil (removal, storage and reuse) will be employed.
- i. 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.
- j. 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. Any turbidity caused by this project shall not exceed 10% above background as measured 30 feet downstream of the project, per the NPDES permit.
- k. The Contractor will develop and implement 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, 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. This information will include 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.
- l. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located above the 10-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 pm (so the vehicles do not have full tanks overnight).
 - m. Hazmat booms will be installed in all aquatic systems where significant in-water work will occur, or where significant work occurs within the 5-year floodplain of the system, or where sediment/toxicant spills are possible, as long as the aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient).
 - n. 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) is mandatory when the vehicles have any potential to contribute toxic materials into aquatic systems. As an alternative, non-toxic lubricants (such as vegetable oil) can be used.
 - o. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.
3. Riparian habitat protection measures: to implement reasonable and prudent measure # 3, above, FHWA/ODOT shall ensure that:
 - a. Boundaries of the vegetation clearing limits will be flagged by the project inspector. Ground will not be disturbed beyond the flagged boundary.
 - b. 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.
 - c. Riparian understory and overstory vegetation will be replaced following the provisions described in the amended Biological Assessment. Woody vegetation will have a replacement rate of 1.5:1. Replacement will occur within the project vicinity. Materials will be salvaged from the construction zone or obtained using stock that originates in the region, such as white alder, willow, hazel, ash, Oregon white oak, mock orange, choke cherry, nutka rose, and an ODOT approved grass seed mixture.

4. Monitoring: To implement reasonable and prudent measure # 4, 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.
 - 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).
 - f. Within six months of the completion of construction, FHWA/ODOT shall report any “take” associated with the project, using the scientific taking permit form provided by ODFW (ODFW 2001). See also 8.3.1(g), above.

9. ESSENTIAL FISH HABITAT

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 consultation requirements of section 305(b) of the Magnuson-Stevens Act (16 U.S.C. 1855(b)) provide 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.

9.1. Identification of Essential Fish Habitat

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 (*Onchorhynchus tshawytscha*).

9.2. Proposed Action

The proposed action is detailed above in Section 2. The proposed action is the removal and replacement of a bridge, and construction of a left turn refuge. The action area includes the streambed and riparian habitat of Canyon Creek, upstream of the bridge replacement location 100 feet and downstream 200 feet, and a location on the John Day River near Prairie City where riparian enhancements will be carried out in cooperation with the Warm Springs Tribe.

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.

9.3. Effects of 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.

9.4. Conservation Recommendations

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.

9.5. Consultation Renewal

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.

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