



**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:  
OSB2001-0241-FEC

April 3, 2002

Mr. Daniel T. Harkenrider  
Area Manager  
US Forest Service, Columbia River Gorge National Scenic Area  
902 Wasco Avenue, Suite 200  
Hood River, OR 97031

Re: Endangered Species Act Formal Section 7 Consultation and Magnuson-Stevens Act  
Essential Fish Habitat Consultation for Mosier Waterfront Park Project, Mosier, Wasco  
County, Oregon

Dear Mr. Harkenrider:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) that addresses the proposed Mosier Waterfront Park Project in the city of Mosier, Wasco County, Oregon. NMFS concludes in this Opinion that the proposed action is not likely to jeopardize Middle Columbia River steelhead (*Oncorhynchus mykiss*), Upper Columbia River steelhead, Snake River Basin steelhead, Snake River sockeye salmon (*O. nerka*), Upper Columbia River spring-run chinook salmon (*O. tshawytscha*), Snake River spring/summer-run chinook salmon, and Snake River fall chinook salmon or destroy, or adversely modify their critical habitat. This Opinion includes reasonable and prudent measures with 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) for chinook salmon 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 Opinion should be directed to Scott Hoefer of the Oregon Habitat Branch at 503.231.6938.

Sincerely,

A handwritten signature in black ink that reads "Russell M. Strach for".

D. Robert Lohn  
Regional Administrator



cc: Steve Pribyl (ODFW)  
Gay Jervey, Mosier Waterfront Park Steering Committee  
Brian Bainnson, Quatrefoil, Inc.

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

BIOLOGICAL OPINION

City of Mosier  
Mosier Waterfront Park Project  
Mosier Creek and Rock Creek Watersheds  
Middle Columbia-Hood Basin  
Wasco County, Oregon

Agency: U.S. Forest Service

Consultation  
Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: April 3, 2002

Issued by:   
D. Robert Lohn  
Regional Administrator

Refer to: OSB2001-0241-FEC

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## 1. ENDANGERED SPECIES ACT

### 1.1 Background

On September 24, 2001, the National Marine Fisheries Service (NMFS) received a letter dated September 21, 2001 from the U.S. Forest Service (USFS) requesting informal consultation regarding the potential effects of the Mosier Waterfront Park Project on Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) and their designated critical habitat. The USFS determined that the project was “not likely to adversely affect” MCR steelhead or their designated critical habitat. During an August 24, 2001 site visit with the Mosier Waterfront Park Project steering committee, a proposal to do additional work in the Columbia River not included in the biological assessment (BA) was discussed. It was agreed that the additional work would result in a “likely to adversely affect” (LAA) determination. The plan to do the additional work was not communicated to the USFS prior to their request to NMFS for informal consultation. Shortly after the request for informal consultation, the steering committee communicated to the USFS the plan to do additional work in the Columbia River and that consultation would need to be formal. On October 5, 2001, the USFS sent an e-mail message to NMFS requesting formal consultation.

The U.S. Congress appropriated \$500,000 in construction funding to the City of Mosier through the USFS, Columbia River Gorge National Scenic Area (CRGNSA) office, for the Mosier Waterfront Park Project. The project area is located at river mile 175 of the Columbia River, and is bounded on the north by the Bonneville Pool, on the east by the east shoreline of Mosier Creek, on the west by the west shores of Northwest and Southwest Lakes, and on the south by 1<sup>st</sup> Street/Highway 30/Hood River Road. Mosier Creek and Rock Creek are tributaries to the Columbia River.

The objective of this Opinion is to determine whether the actions associated with the Mosier Waterfront Park Project in Wasco County are likely to jeopardize the continued existence of the seven ESA-listed salmonids, shown in Table 1, or destroy or adversely modify their critical habitat. Table 1 also provides the references tied to the ESA listing action and critical habitat designation.

### 1.2 Proposed Action

The proposed action consists of work to be completed within and adjacent to Rock Creek, Mosier Creek, East Lake, and the Columbia River, therefore six more ESA listed salmonids in addition to MCR steelhead are addressed in this Opinion. The primary goal for the Mosier Waterfront Park Project is to increase recreational opportunities and enhance the recreational experience while protecting and restoring aquatic processes associated with wetlands and stream

and river channels. The project area has a history of disturbance, with the features of Interstate 84 (I-84), the Union Pacific railroad, and the Bonneville Pool dominating the landscape.

In order to restore habitat complexity in Rock Creek this project proposes adding logs, root wads, and boulders to the channel. A forested wetland to the east of Rock Creek was historically connected to Rock Creek, but became disconnected by the placement of bedload excavated from around the bridges after the 1996 flood. The wetland will be connected by excavating a channel to Rock Creek and placing a box culvert in the excavated channel where the trail from the parking lot to the Columbia River will be located. Bedload excavated from around the bridges after the 1996 flood was also placed along the west side of the channel. This bedload will be removed by an excavator and relocated out of the floodplain. The existing parking lot and access road adjacent to Rock Creek will be reconstructed. The road and parking lot will be surfaced using the same native gravel material currently on the surface. The parking lot will be designed so that it will hold up to 70 cars. Parking for 25 vehicles would be provided at the waste water treatment plant located near the Highway 30 bridge over Rock Creek. Traffic from the existing parking lot and access road will be kept out of Rock Creek using large boulders for traffic control. A bioswale will be constructed in the middle of the parking lot and the lot will be sloped away from Rock Creek and the forested wetland so that all of the runoff goes into the bioswale. Access to the Bonneville Pool, under I-84, will be limited to a gravel surfaced pedestrian use only trail. The access road and parking lot will be surfaced with native gravels.

Adjacent to Mosier Creek, a cantilevered walkway will be constructed and attached to the railroad bridge as part of a trail to provide pedestrian access to the Columbia River. Between Mosier Creek and East Lake the trail will consist of a boardwalk attached to 1½ inch diameter galvanized pins driven into the ground. This boardwalk will minimize impacts on Mosier Creek, East Lake, and the outlet from East Lake to Mosier Creek. The trail will lead to an overlook and interpretive area on the north side of I-84 for viewing the Mosier Creek delta. Equipment will enter Mosier Creek while the cantilevered walkway is being installed. Native trees and shrubs will be planted on gravel bars adjacent to Mosier Creek to enhance the existing riparian vegetation.

East Lake, created by the construction of I-84, lies between Mosier Creek and Rock Creek. The lake is connected to Mosier Creek by a small channel which dries up in the summer. The channel will be improved in order to provide better connectivity to Mosier Creek at low flows allowing juvenile salmonids to access the lake for winter rearing and to leave the lake as temperatures rise in the summer. The lake will be deepened to 10 feet in places using a suction dredge. The suction dredge will deliver the material to the west end and perimeter of the lake where it will be deposited to create emergent wetland habitat. No juvenile MCR steelhead will be present during dredging, since it will be done during the summer when there is no surface connection to Mosier Creek and temperatures in the lake are at lethal levels. The excavated material will be used as fill within the lake along the west end and perimeter of the lake to create emergent wetland habitat. A trail will be constructed along the south side of the lake which connects to the trail along Mosier Creek and the parking area adjacent to Rock Creek. Sections of the trail will need to be a raised wood boardwalk to minimize impact to wetland habitat.

Fishing docks will be constructed along the south side of the lake. The docks will consist of a fixed section at the normal high water mark with a length of 10 feet and a width of 8 feet, and a floating section with a length of 15 feet and a width of 8 feet. The pilings and brackets will be galvanized steel, and the structure will be constructed of cedar and recycled plastic lumber. No treated wood will be used. The decks will contain grating panels with a length of 2 feet and a width of 8 feet at 4-foot intervals to allow for light penetration. The pilings will be capped with bird excluder devices.

Two groins will be constructed out into the Columbia River, between Mosier Creek and Rock Creek, from the rock fill associated with I-84. The groins will be approximately 4 feet high, 3 feet wide, and 30 feet long and will consist of rocks and logs with limbs and/or rootwads attached for habitat complexity. The purpose of the groins will be to trap fine sediment carried along the shoreline from Mosier Creek. The trapped sediment will aid in establishing native wetland shrub and tree species along the rip-rap shoreline which will resemble and function similar to the natural habitat present prior to the construction of the highway prism.

### **1.3 Biological Information and Critical Habitat**

An action area is defined by ESA regulations (50 CFR 402) as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” The areas within critical habitat affected by the proposed action are Mosier Creek, Rock Creek, and the Columbia River in the vicinity of the project site. Mosier Creek and Rock Creek, in the project area, serve as migratory corridors and rearing areas for juvenile Middle Columbia River (MCR) steelhead, migratory corridors for adult MCR steelhead, and provide resting and foraging habitat for other outmigrating ESA listed juvenile salmonids found in Table 1. The Columbia River serves as a migratory corridor for both juvenile and adult life stages of all listed species under consideration in this Opinion. Essential habitat features for salmonids are: (1) Substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food (juvenile only), (8) riparian vegetation, (9) space, and (10) safe passage conditions (50 CFR 226). The proposed action may affect the essential habitat features of substrate, water quality, water velocity, cover/shelter, food, riparian vegetation and safe passage conditions for all of the species included in Table 1.

A list of all the listed species and their associated critical habitat information that are covered in this consultation is provided in Table 1. References for further background on biological information and population trends are also provided.

Table 1. References for additional background on listing status, critical habitat, protective regulations, and biological information for the listed species addressed in this Opinion.

Species	Listing Status	Critical habitat	Protective Regulations	Biological Information, Population Trends
Snake River sockeye salmon	November 20, 1991, 56 FR 58619 Endangered	December 28, 1993, 58 FR 68543	ESA prohibition on take applies from date of listing.	Waples <i>et al.</i> 1991a; Burgner 1991; ODFW and WDFW 1998
Upper Columbia River steelhead	August 18, 1997, 62 FR 43937 Endangered	February 16, 2000 65 FR 7764	ESA prohibition on take applies from date of listing.	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Snake River Basin steelhead	August 18, 1997, 62 FR 43937 Threatened	February 16, 2000 65 FR 7764	July 10, 2000 65 FR 42422 ESA prohibition on take added.	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Middle Columbia River steelhead	March 25, 1999, 64 FR 14517 Threatened	February 16, 2000 65 FR 7764	July 10, 2000 65 FR 42422 ESA prohibition on take added.	Busby <i>et al.</i> 1995; Busby <i>et al.</i> 1996; ODFW and WDFW 1998
Snake River Fall chinook salmon	April 22, 1992, 57 FR 14653 Threatened	December 28, 1993, 58 FR 68543	July 22, 1992 57 FR 14653 ESA prohibition on take added.	Waples <i>et al.</i> 1991b; Healey 1991; ODFW and WDFW 1998
Snake River spring/summer chinook salmon	April 22, 1992, 57 FR 14653 Threatened	December 28, 1993, 58 FR 68543 and October 25, 1999, 64 FR 57399	April 22, 1992 57 FR 14653 ESA prohibition on take added.	Matthews and Waples 1991; Healey 1991; ODFW and WDFW 1998
Upper Columbia River spring run chinook salmon	March 24, 1999, 64 FR 14308 Endangered	February 16, 2000 65 FR 7764	ESA prohibition on take applies from date of listing.	Myers <i>et al.</i> 1998; Healey 1991; ODFW and WDFW 1998

#### 1.4 Evaluating Proposed Action

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 and NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. NMFS identifies those effects of the action that impair the function of any

essential element of critical habitat. 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.

#### **1.4.1 Biological Requirements**

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed species 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 species 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.

Survival of listed salmonids in the wild depends on the proper functioning of certain ecosystem processes including habitat formation and maintenance. The restoration of improperly functioning habitat to a more properly functioning condition will likely lead to improved survival and recovery of species. In conducting analyses of habitat altering actions, NMFS defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and applies a "habitat" approach to its analysis (NMFS 1996). The current status of the listed species associated with this project, based on their risk of extinction, has not improved much since the species were listed.

#### **1.4.2 Environmental Baseline**

The current range-wide status of the listed salmonids covered in this consultation can be found in the references listed in Table 1 in the Biological Information, Population Trends column. 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. The action area for the proposed activities include the immediate portions of East Lake, Mosier Creek, Rock Creek, and the Columbia River containing the project, as well as a short distance downstream. The action area for Mosier Creek and Rock Creek consists of the area of each stream from the Highway 30 crossing downstream to its mouth, and the action area for the Columbia River is limited to that section of the River between Mosier Creek and Rock Creek.

The project area has a history of disturbance, with the features of Interstate 84 (I-84), the Union Pacific railroad, and the Bonneville Pool dominating the landscape. The project area and vicinity has been significantly altered since the construction of the Bonneville Dam. Prior to dam

construction the Columbia River ran approximately ½ mile north of the current location of Mosier. The area consisted of floodplain containing large cottonwood stands and much of it was farmed for potatoes and other crops. The forested areas of the floodplain were logged prior to the filling of the Bonneville Pool because the floodplain would be under water once the pool was filled. This area is now under 3 to 6 feet of water providing a unique habitat type which may be important feeding and resting habitat for outmigrating smolts.

Past human activities have resulted in significant impacts to Rock Creek. In the 1950s, Oregon Department of Transportation (ODOT) started mining rock from the toe of a talus slope along Rock Creek approximately ½ mile upstream from Hood River Road, and mining intensified in the mid-1970s. The mining destabilized the slope which resulted in a direct source of angular rock that Rock Creek could transport downstream during high water events. During the flood of 1996 much of this angular rock was deposited in the last 500 feet of the channel when the stream dropped its bedload as it met the Bonneville Pool. ODOT then excavated this material from around the Highway 30 bridge and the railroad bridge to prevent structural damage to the bridges during future events. The result was a simplified channel with little habitat complexity which is used for motor vehicle access by recreationists to access the Columbia River. The toe of the talus slope was recently stabilized by ODOT, dramatically reducing the rock available for transport.

The mining of material for fill during the construction of I-84 resulted in the creation of three lakes. The rock fill associated with the highway has allowed minimal vegetative growth. East Lake, which is approximately 4 feet deep, is connected to Mosier Creek during full pool levels allowing listed juvenile salmonids to access the lake. During the summer when the pool level drops, juveniles are trapped in the lake and die due to high lethal temperatures.

Rock Creek and Mosier Creek are not included in the Department of Environmental Quality (DEQ) list for water-quality limited water bodies under section 303(d) of the Clean Water Act. The portion of the Columbia River associated with this project is listed in the DEQ 303(d) list as being water-quality limited for temperature and total dissolved gas.

## 1.5 Analysis of Effects

### 1.5.1 Effects of Proposed Action

NMFS expects that the effects of the proposed project will tend to maintain or improve habitat elements at this site over the long term (greater than two years). In the short term, temporary increases of sediment and turbidity, predator cover, disturbance of riparian habitat, and disturbance of juveniles present during implementation are expected.

In the long term, the project is intended to increase habitat complexity and improve riparian condition for approximately 500 feet of lower Rock Creek. Channel complexity will be restored by adding logs, root wads, and boulders, and planting native riparian vegetation. This will improve habitat by creating pools and providing cover, and planted vegetation will provide shade and overhead cover, and stabilize streambanks. The existing parking area will be improved to reduce its impact on aquatic habitat. It will be re-defined using large boulders to keep vehicles out of Rock Creek, and surfaced with native gravel to allow maximum infiltration of precipitation. The lot will be graded to drain water to a vegetated detention area which will filter storm water prior to it entering Rock Creek. A forested wetland to the east of Rock Creek will be reconnected to Rock Creek by constructing a channel through fill placed by ODOT during the 1996 flood. The wetland will be naturally recharged during high flows when the Bonneville Pool backs water up into the wetland. During high flows juvenile ESA listed salmonids will be able to use the wetland for foraging and resting during their outmigration. The outlet of the wetland will be constructed to be at the same elevation as the deepest part of the wetland so when high flows recede the surface waters will recede out of the wetland which will minimize the risk of juvenile listed salmonids becoming stranded. A box culvert will be placed in the excavated outlet channel to provide a foot path crossing over the channel. During the 1996 flood, fill was also placed along the west side of Rock Creek. The removal of this fill will allow vegetation to become established and will provide foraging and resting habitat for outmigrating smolts since this area is inundated by the Bonneville Pool for periods of time during the juvenile outmigration.

The installation of the cantilevered walkway to the railroad bridge will require equipment to work in Mosier Creek. Although the work will be completed during the Oregon Department of Fish and Wildlife (ODFW) inwater work window (July 1 to September 30), it is possible that juvenile MCR steelhead will be rearing in the area, and therefore will be harassed by being forced to relocate upstream or downstream of the instream work. Also, the construction of the trail along Mosier Creek to the Columbia River will likely increase human use which increases the potential for the harassment of adults by hikers or fishermen, and if fishing pressure increases, the risk of capture and injury of juvenile ESA-listed salmonids increases. The removal of non-native invasive plants and replacement with native vegetation will result in restored riparian and floodplain function.

The east end of East Lake will be deepened from 4 feet to 10 feet, the channel connecting East Lake to Mosier Creek will be improved by increasing its depth, emergent wetlands will be

created on the west end with dredged material, two fishing docks will be constructed, and a trail connecting Rock Creek and Mosier Creek will be constructed along the south side of East Lake. As previously mentioned, juvenile MCR steelhead are the only ESA listed salmonids which rear within the project area, but other listed juvenile salmonids use the area for resting and foraging during their spring outmigration. Currently, as water recedes during the summer the lake becomes disconnected from Mosier Creek and temperatures in the lake reach levels lethal to salmonids by early summer so any juvenile MCR steelhead stranded in the lake die. This is not a concern with the other ESA-listed species because they are only in the area during their outmigration. The deepening of the lake should result in cooler temperatures later into the summer. Improving the connection between East Lake and Mosier Creek will allow juvenile MCR steelhead to move out of the lake as temperatures rise, reducing juvenile mortality. It will also allow juvenile MCR steelhead to use the lake as winter rearing habitat. Excavation to improve the connection to the lake will be done when it is dry to minimize turbidity in Mosier Creek. The effect of the dredging of the lake on MCR steelhead will be minimized because it will be done during the inwater work period when temperatures in the pond are at lethal levels and the pond is not connected to Mosier Creek by surface waters.

Predator species may utilize habitat created by over-water structures like that provided by the fishing docks to be placed in East Lake (Ward and Nigro 1992, Pflug and Pauley 1984). During the summer, bass prefer pilings, rock formations, areas beneath moored boats, and alongside docks (Bill Monroe, *The Oregonian*, May 21, 1997). Bevelhimer (1996), in studies on smallmouth bass, indicates that ambush cover and low light intensities create a predation advantage for predators and can also increase foraging efficiency. Prey species are better able to see predators under high light intensity, thus providing the prey species with an advantage (Hobson 1979). The effect of over-water structures is the creation of a light/dark interface that allows ambush predators to remain in a darkened area (barely visible to prey) and watch for prey to swim by against a bright background (high visibility). Prey species moving around the structure are unable to see predators in the dark area under the structure and are more susceptible to predation. The incorporation of grating into the dock allows for more light penetration and diffuses the light/dark interface. This will minimize the susceptibility of juvenile salmonids to piscivorous predation resulting from this project. In addition to piscivorous predation, in-water structures (tops of pilings) also provide perching platforms for avian predators such as double-crested cormorants (*Phalacrocorax auritis*), from which they can launch feeding forays or dry plumage. Placement of anti-perching devices on the top of the pilings would preclude their use by any potential avian predators. Increased angling following the construction of the trail and fishing piers will increase the risk of capture and injury of juvenile listed salmonids, but this impact is addressed in annual consultations with ODFW regarding fishing regulations.

The two rock and log groins to be constructed along the shoreline of the Columbia River between Mosier Creek and Rock Creek over the long term will trap sediment and provide a substrate for vegetation to grow. Prior to the construction of Bonneville Dam, the railroad, and I-84, this area contained extensive riparian vegetation. The newly established vegetation will function to provide cover for outmigrating juvenile salmonids, and to increase the production of insects and other food sources for juvenile salmonids. The rock groins may provide some

predator cover during the first few years after they are installed until fines are collected around them to the point that they are above the surface of the water or the water is too shallow to hold predators. Also, the area filled in by the rock groins will no longer be able to be used as habitat.

### **1.5.2 Effects on Critical Habitat**

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has been designated for the indicated fish species (see Table 1). For the proposed action, NMFS expects that the effects will tend to maintain or restore properly functioning conditions in the watershed under current baseline conditions over the long term. The improved habitat complexity in Rock Creek will result in increased pools and cover for outmigrating ESA listed juvenile salmonids shown in Table 1. The newly created channel and access to the forested wetland will allow these juvenile salmonids to utilize the habitat for food and shelter during high water. The deepening of East Lake will provide areas in the lake with lower temperature allowing rearing MCR steelhead to use the lake for greater periods of time. Improving the connection to Mosier Creek will allow rearing MCR steelhead to access the lake in the fall and winter and to leave the lake when temperatures become too high. The fishing docks may provide habitat for predaceous fish, thereby inhibiting safe passage for juvenile salmonids. The proposed design configurations should minimize any impacts resulting from the project. In addition, the restored riparian vegetation from the groins constructed in the Columbia River and the riparian plantings will improve habitat quality and riparian function in the immediate area.

### **1.5.3 Cumulative Effects**

“Cumulative effects” are defined in 50 CFR 402.02 as those 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 for this consultation includes all of Rock Creek and Mosier Creek from their mouths to the 1<sup>st</sup> Street/Highway 30/Hood River Road bridge including the Columbia River shoreline between Rock Creek and Mosier Creek. The City of Mosier is currently considering installing a foot bridge across Mosier Creek sometime over the next couple of years. ODOT is considering a project to remove bedload from Rock Creek upstream of the Highway 30 bridge in the future. As the population grows in the Pacific Northwest, the demand for recreation will increase which will result in the potential for increased riparian impacts. These actions, uncertain in time, will be addressed under separate ESA reviews.

## **1.6 Conclusion**

NMFS has determined that, when the effects of the activities and actions associated with this project are added to the environmental baseline and the cumulative effects occurring in this area, it is not likely to jeopardize the continued existence of the listed species. Additionally, NMFS

concludes that the subject action would not cause adverse modification or destruction of critical habitat for the listed species. NMFS believes that the proposed action will cause some minor short-term increases in stream turbidity and sedimentation rates in Rock Creek, Mosier Creek, and the Columbia River. It is possible that some direct mortality of juvenile steelhead may result from the instream work. It is also possible that juvenile salmonids will fall prey to predatory fish finding cover in the rock and log groins in the Columbia River until the structures capture sufficient sediment to be largely out of the water. These short-term negative effects will be offset in the long term through habitat enhancement activities.

NMFS' conclusions are based on the following considerations: 1) All instream work will occur during the ODFW instream work window for Mosier Creek and Rock Creek (July 1 - September 30), and the Columbia River (November 15 - March 15); 2) all disturbed soils will be replanted with native vegetation; 3) the fact that the use of grating on the dock will not allow for increased effectiveness by predatory fish species; 4) predatory bird prevention devices will be placed on the top of each pile; 5) a comprehensive monitoring program will be conducted with annual reporting; and 6) a net increase in fish habitat will result from the project activities.

### **1.7 Conservation Recommendations**

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of proposed actions on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS has no additional conservation recommendations regarding the action addressed in this Opinion.

### **1.8 Reinitiation of Consultation**

Reinitiation of consultation is required if: 1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion, 2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered, or 3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

## **2. INCIDENTAL TAKE STATEMENT**

Section 4(d) and Section 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 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 (64 FR 60727; November 8, 1999). 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 threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

## **2.1 Amount or Extent of Take**

The NMFS anticipates that the proposed action covered by this Opinion is reasonably certain to result in incidental take of juvenile salmonids listed in Table 1. Some minimal level of incidental take is expected to result from direct mortality or injury to juvenile MCR steelhead during instream work, because they are the only species with the potential to be present during inwater work associated with the project. The temporary increase in stream turbidity associated with this work could result in temporarily reduced feeding efficiency for juvenile MCR steelhead, both within and downstream of the project area. Effects from turbidity are expected to be of short duration, because turbidity levels will quickly return to preconstruction levels once instream work is completed. Incidental take of juvenile salmonids listed in Table 1, in the form of capture by predatory fish associated with the groins is expected during the first few years after the project is completed. Because of the inherent biological characteristics of aquatic species such as listed salmonids, the likelihood of discovering take attributable to this action is very limited. Effects of actions such as those addressed in this Opinion are largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, although NMFS expects some incidental take to occur due to the action 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 of listed fish at any life stage associated with the proposed construction activities.

## **2.2 Effect of Take**

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

## **2.3 Reasonable and Prudent Measures**

NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of listed salmonids resulting from the action covered in this Opinion. The CRGNSA shall:

1. Minimize the likelihood of incidental take from construction practices by timing the completion of all in-water work as necessary to avoid harming vulnerable salmon life stages, including spawning, migration, and rearing.
2. Minimize the likelihood of incidental take from the use of heavy equipment by following best management practices for heavy equipment use.
3. Minimize the likelihood of take and impacts to critical habitat resulting from riparian area disturbances including removal of vegetation and disturbance of soils and sediments.
4. Minimize the likelihood of incidental take from fishing docks by not enhancing aquatic predator habitat.
5. Minimize the likelihood of incidental take from angling by installing appropriate signs or making appropriate pamphlets available.
6. Complete a comprehensive monitoring and reporting program to ensure implementation of requirements found in this Opinion.

#### **2.4 Terms and Conditions**

To be exempt from the prohibitions of section 9 of the ESA, the CRGNSA must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. To implement Reasonable and Prudent Measure #1, the CRGNSA shall ensure that:
  - a. All work within the active channel that could potentially contribute sediment or toxicants to downstream fish-bearing systems will be completed within the ODFW approved in-water work period for the Columbia River (November 15 to March 15) and Mosier Creek and Rock Creek (July 1 to September 30).
  - b. Extensions of the in-water work period, including those for work outside the wetted perimeter of the stream but below the ordinary high water mark must be approved by biologists from NMFS.
  - c. Rocks and logs placed in Rock Creek are positioned carefully and lowered slowly into place to minimize the potential for direct mortality or injury to any listed juvenile salmonids which may be present in the project area.
  - d. Rocks or logs shall not inhibit the passage of adult or juvenile salmonids.
  - e. Logs incorporated in the groin structures will have limbs and/or rootwads attached to provide habitat complexity.

- f. Suction dredging in East Lake will occur after the surface connection between East Lake and Mosier Creek is dry.
  - g. The channel excavation associated with the forested wetland adjacent to Rock Creek and the channel connecting East Lake and Mosier Creek shall be conducted in the dry or outside of the actively flowing stream.
  - h. Breeching the connection between East Lake and the newly constructed channel to Mosier Creek shall be done after the channel has been completed.
2. To implement Reasonable and Prudent Measure #2, the CRGNSA shall ensure that heavy equipment use will be restricted as follows:
- a. The contractor will develop and implement a site-specific spill prevention, containment, and control plan (SPCCP), and is responsible for containment and removal of any toxicants released. The contractor will be monitored by the CRGNSA to ensure compliance with the SPCCP.
  - b. Any spill will be reported to Scott Hoefler at (503)231-6938, NMFS, 525 NE Oregon St., Portland, OR 97232.
    - i. In the event of a hazardous materials or petrochemical spill, immediate action shall be taken to recovery toxic materials from further impacting aquatic or riparian resources.
    - ii. In the event of a hazardous materials or petrochemical spill, a detailed description of the quantity, type, source, reason for the spill, and actions taken to recover materials will be documented.
  - c. All refueling of equipment will take place 150 feet from any waterbody and auxiliary fuel tanks will not be stored on bridges, roads or within the two-year floodplain.
  - d. All equipment that is used for instream work will be cleaned prior to operations below the bankfull elevation. External oil and grease will be removed, along with dirt and mud. No untreated wash and rinse water will be discharged into streams and rivers without adequate treatment.
  - e. Place vehicle staging, maintenance, refueling, and fuel storage areas a minimum of 150 feet horizontal distance from any stream.

- f. All vehicles operated within 150 feet of any stream or water body will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation.
  - g. When not in use, vehicles will be stored in the vehicle staging area.
  - h. An oil boom sufficient to address on site fuel quantities will be kept on site during all instream work.
  - i. Excavators will have properly guarded belly pan for pioneering type of work in rough terrain.
  - j. Measures will be taken to prevent construction debris from the bridge work from falling into the stream. Construction materials that fall into the stream during construction operations shall be promptly removed, where feasible, in a manner that has a minimum impact on the streambed and water quality.
3. To implement Reasonable and Prudent Measure #3, the CRGNSA shall ensure that:
- a. Construction activities will be conducted in a way which minimizes disturbance of riparian vegetation. In all areas that require removal of riparian vegetation, reseeded or replanting of native vegetation will occur.
  - b. Any riparian vegetation that is removed will be used to the extent practicable in revegetation efforts.
  - c. Erosion control fabric will be used in conjunction with seeding to reduce sedimentation releases.
  - d. The planted and seeded areas will be watered during the first summer to optimize plant survival.
  - e. If seeding or planting in any of the riparian areas fail, additional revegetation efforts will be made to ensure the establishment of a healthy riparian plant community and reduce sediment loads to the stream.
  - f. Bedload adjacent to Rock Creek to be removed and bedload to be removed from the channel connecting the forested wetland to Rock Creek shall be placed in locations where it cannot enter sensitive aquatic habitat.
  - g. 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.

- h. Manual weed control and plant irrigation will occur during the summer after the major restoration efforts have been completed (2003).
4. To implement Reasonable and Prudent Measure #4, the CRGNSA shall ensure that:
- a. Flotation shall be entirely contained and enclosed to permanently prevent the breakup or loss of flotation material.
  - b. Float materials contacting the water will be white in color or translucent.
  - c. Docks will be constructed of cedar and recycled plastic lumber. No treated wood will be used.
  - d. Fishing dock structures wider than 6 feet shall include grating or translucent panels such that light under the structure is at least 60% of ambient open water light.
  - e. Docks must be cleaned or maintained to ensure light penetration.
  - f. Pilings will be galvanized steel pipe.
  - g. All pilings will be capped with bird excluder devices.
5. To implement Reasonable and Prudent Measure #5, the CRGNSA shall ensure that:
- a. Signs or pamphlets educating anglers on identifying and safely releasing juvenile MCR steelhead will be posted or available at or near the fishing piers on East Lake.
6. To implement Reasonable and Prudent Measure #6, the CRGNSA shall ensure that:
- a. Within 1 year of completing the project, the CRGNSA will submit a monitoring report to NMFS describing the CRGNSA's success in meeting these terms and conditions. This report will consist of the following information:
    - i. Project name.
    - ii. Starting and ending dates of work completed for this project.
    - iii. The name and address of the construction supervisor.

- iv. A narrative assessment of the project's effects on natural stream function.
  - v. Photographic documentation of environmental conditions at the project site before, during and after project completion.
  - vi. A summary of maintenance activities carried out by the Mosier Waterfront Steering Committee and contractors.
- b. If a dead, injured, or sick endangered or threatened species specimen is located, initial notification must be made to the National Marine Fishery Service Law Enforcement Office, located at Vancouver Field Office, 600 Maritime, Suite 130, Vancouver, Washington 98661, or call 360.418.4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered and threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.
- c. Monitoring reports will be submitted to:

National Marine Fisheries Service  
Oregon Habitat Branch  
Attn: OSB-2001-0241  
525 NE Oregon Street, Suite 500  
Portland, Oregon 97232-2778

### **3. MAGNUSON-STEVENSON ACT**

#### **3.1 Background**

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

#### **3.2 Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle (50 CFR 600.110).

Section 305(b) of the MSA [6 USC 1855(b)] requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.
- NMFS shall provide conservation recommendations for any Federal or State Activity that may adversely affect EFH.
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reason for not following the recommendations.

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

### **3.3 Identification of EFH**

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

### **3.4 Proposed Action**

The proposed action is detailed above in Section 1.2 of the ESA portion of this Opinion. The action area includes Rock Creek, Mosier Creek, and the Columbia River between Rock Creek and Mosier Creek and adjacent riparian areas. This area has been designated as EFH for various life stages of chinook salmon.

### **3.5 Effects of Proposed Action**

As described in detail in the ESA portion of this consultation, the proposed activities may result in detrimental, short-term, adverse effects to a variety of habitat parameters.

### **3.6 Conclusion**

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

### **3.7 EFH Conservation Recommendations**

Pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. In addition to conservation measures proposed for the project by the CRGNSA, all of the Reasonable and Prudent Measures and the Terms and Conditions contained in Section 2.4 of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NMFS incorporates each of those measures here as EFH conservation recommendations.

### **3.8 Statutory Response Requirement**

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

### **3.9 Consultation Renewal**

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

#### 4. LITERATURE CITED

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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