UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
BIN C15700
Seattle, WA 98115-0070

NMFS Tracking
No. 2003/00983

January 20, 2004

Patricia R. Smith
Environmental Protection Specialist
Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

Re: Biological Opinion and Essential Fish Habitat Consultation Blue Creek Restoration Project, Walla Walla County, Washington, WRIA 32

Dear Ms. Smith:

In accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. 1536, and the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996, 16 U.S.C. 1855, the attached document transmits NOAA's National Marine Fisheries Service (NOAA Fisheries) Biological Opinion (Opinion) and Essential Fish Habitat (EFH) consultation on the proposed Blue Creek Restoration Project, Walla Walla County, Washington.

The Bonneville Power Administration (BPA) has determined that the proposed action was likely to adversely affect the Middle Columbia River steelhead (*Oncorhynchus mykiss*) Evolutionarily Significant Unit (ESU). Formal consultation was initiated on August 4, 2003.

This Opinion reflects formal consultation and an analysis of effects covering listed steelhead in Blue Creek, Washington. The Opinion is based on information provided in the biological evaluation received by NOAA on August 4, 2003, subsequent information transmitted by telephone conversations, and email. A complete administrative record of this consultation is on file at the Washington State Habitat Branch Office.

NOAA Fisheries concludes that the implementation of the proposed project is not likely to jeopardize the continued existence of Middle Columbia River steelhead. Please note the incidental take statement, which includes reasonable and prudent measures and terms and conditions, was designed to minimize take.

The MSA consultation concluded that the proposed project may adversely impact designated Essential Fish Habitat (EFH) for chinook (*O. tshawytscha*) and coho (*O. kisutch*) salmon. Specific Reasonable and Prudent Measures of the ESA consultation, Terms and Conditions identified therein, would address the negative effects resulting from the proposed BPA actions. Therefore, NOAA Fisheries recommends that they be implemented as EFH conservation measures.

If you have any questions, please contact Dennis Carlson of the Washington State Habitat Branch Office at (360) 753-5828 or email at dennis.j.carlson@noaa.gov.

Sincerely,

for Michael R Course

D. Robert Lohn
Regional Administrator

Enclosure

Endangered Species Act - Section 7 Consultation
Biological Opinion

and

Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Blue Creek Restoration Project
Walla Walla County, Washington

Agency:	Bonneville Power Administration
Consultation Conducted By:	National Marine Fisheries Service
Date Issued:	January 20, 2004
Issued by:	for Michael R Crouse D. Robert Lohn Regional Administrator
NOAA Fisheries Tracking No.	2003/00983

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1.0 INTRODUCTION

This document transmits NOAA's National Marine Fisheries Service (NOAA Fisheries) biological opinion (Opinion) under the Endangered Species Act (ESA) and Essential Fish habitat (EFH) consultation under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). It is based on our review of a proposed project to conduct channel restoration through sinuosity enhancement, use of grade control structures, bank sloping and stabilization, large wood additions, and planting native vegetation on Blue Creek in Walla Walla County, Washington. Blue Creek is a tributary to the Walla Walla River, a tributary to the Columbia River. Blue Creek is in the geographic range of the Middle Columbia River (MCR) evolutionarily significant unit (ESU) for threatened steelhead (*Oncorhynchus mykiss*) and is EFH for chinook (*O. tshawytscha*) and coho (*O. kisutch*) salmon. An ESU is considered a distinct population segment appropriate for protection under the ESA.

1.1 Background Information and Consultation History

The Bonneville Power Administration (BPA) proposes to fund, in part, a project designed to restore anadromous fish spawning and juvenile rearing habitat in the Blue Creek watershed within the Walla Walla Basin, Walla Walla County, Washington. Other cooperators include the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Washington Department of Fish and Wildlife (WDFW), and local interest groups. The project restoration site is located at approximately river mile (RM) 2.2 on Blue Creek, a tributary to Mill Creek east of the City of Walla Walla, Washington. The BPA submitted a biological assessment (BA) to NOAA Fisheries on August 4, 2003, and consultation was initiated at that time.

Agriculture, domestic livestock grazing, and flood control activities have degraded riparian vegetation throughout much of the mid and lower elevation reaches of the Walla Walla River subbasin. For example, only about 37% of the Touchet River riparian zone is currently vegetated. Along the Oregon portion of the Walla Walla River, 70% of the existing riparian zone is in poor condition. Irrigation is the principal water use in the subbasin. Stream flows characteristically peak in April, dropping sharply in May as high elevation runoff subsides and low elevation irrigation diversions increase. Stream flows typically remain low through the summer and fall irrigation seasons and lead to unacceptable habitat conditions for anadromous salmonids in the mid-lower portions of the basin.

Residential encroachment in recent years has impacted much of the stream system both above and below the project area. The valley bottom within the project area is approximately 100 yards wide with timbered draws on the south side of the stream and grasslands to the north. The project site is comprised of two adjacent properties with separate owners, both of which have signed conservation easements. These 15-year easements were signed between the CTUIR and landowners in September 1997.

A flood in February 1996 scoured the stream and removed much of the vegetation from the riparian corridor. The landowners at that time extensively modified the stream channel with bulldozers and later placed large rock in an attempt to control flood waters. This work, and the flood, left the riparian corridor entirely devoid of vegetation and eliminated in-channel habitat diversity. Factors that continue to limit salmonid production in Blue Creek include high stream temperatures, unstable channel and banks, poor pool frequency, lack of large wood, and an absence of riparian cover.

Initial efforts in Blue Creek focused on the protection of eroding banks by restoring riparian vegetation. In the fall of 1997, three rock vortex weirs were constructed, two of which are still visible; the third is completely embedded in gravel. Three log V-weirs and one straight log weir were built at the same time. Additionally, several thousand willow and cottonwood cuttings were placed during excavation. The rock vortex weirs and riparian plantings were effective at reducing bank erosion. An objective of the proposed action is to improve pool frequency and add large wood to the system.

Information for this document came from the BA, the attached project plans, and telephone conversations with Patricia Smith of the BPA and Jed Volkman of the CTUIR.

1.2 Description of the Proposed Action

All work within the active channel will be completed between July 15 and September 30 of any year. Project work will be conducted as follows.

Site 1: Vortex Rock Weir.

Remove the existing V-log weir and construct a full-spanning boulder weir in an upstream U-shape with a semi-open face within the center one-third of the channel. Structure keys will extend 10 feet into the bank on both sides. This structure will dissipate stream energy and direct the thalweg toward the left bank. Approximately 50 cubic yards (cy) of large boulders will be required for rock weir construction.

Site 2: Keyed Log Jam.

Construct a log jam with members keyed into the upstream end of the gravel bar along the right bank to promote pointbar accretion of substrate materials. This work will utilize four conifer boles with rootwads.

Site 3: Meander Bend Construction.

Construct a single-thread channel by moving a central gravel to the right bank, creating a pointbar. Approximately 50 cy of channel substrates will be removed.

Site 4: Vortex Rock Weir.

Construct a full channel spanning boulder weir in an upstream U-shape with a semi-open face within the center one-third of the channel. Structure keys will extend ten feet into the bank on both sides. This structure will dissipate stream energy and turn the thalweg toward the right bank. Approximately 50 cy of large boulders will be required to construct the weir.

Site 5: Keyed Log Jam.

Install four rootwads with footer logs and contour the stream bank to a ratio of two to one slope to support riparian vegetation planting. This work will require approximately 20 cy of large boulders. Native vegetation will be planted to re-establish riparian habitat.

Project Monitoring, Maintenance, and Evaluation.

The CTUIR Fisheries staff will conduct site-specific effectiveness monitoring following project completion. There is an ongoing comprehensive monitoring program that documents the existing site restoration work and provides pre-project baseline information. Parameters monitored include water temperatures, channel morphology, vegetation recovery, and salmonid utilization.

The BPA has proposed the following conservation measures or Best Management Practices (BMPs) to minimize the impacts of the proposed project to listed salmonids.

- All work within the active stream channel will be conducted between July 15 and September 30 when instream flows are low, and after young-of-the-year steelhead have emerged from the gravels.

- A CTUIR fish habitat biologist and/or technician will be on site during project construction to monitor implementation. They will ensure that construction-related disturbances to soils and riparian vegetation, and stream channel excavation are minimized.

- All exposed or disturbed areas will be stabilized after exposure to prevent erosion. Any areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by use of native plant seeding.

- The project site will be isolated using block nets. Any fish present in the work area will be salvaged and moved to pool areas upstream from the project site.

- Construction equipment will be maintained in good working order, with no fluid leaks. All heavy construction equipment will be inspected daily to ensure there are no fluid leaks. All refueling, equipment storage, equipment maintenance, and staging, etc., will be conducted at least 150 feet from any stream, water body, or wetland.

- A 15-gallon capacity oil boom will be kept on site during the in-channel work. A spill prevention and remediation plan will be utilized as necessary.

1.3 Description of the Action Area

Under the ESA, the "action area" is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For the purposes of this consultation, the action area includes Blue Creek a quarter of a mile downstream from the work area and extending approximately 50 feet upstream from the structure. The action area is coped by the effects of the fire work sites, together. The action area also includes the adjacent riparian zone within the construction area and all areas affected by the project including any staging areas and roadways.

2.0 ENDANGERED SPECIES ACT - BIOLOGICAL OPINION

The objective of this Opinion is to determine whether the proposed project, when added to baseline conditions, and considering cumulative impacts, is likely to jeopardize the continued existence of the MCR steelhead ESU.

2.1 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA and 50 CFR. part 402 (the consultation regulations). NOAA Fisheries must determine whether the action is likely to jeopardize the listed species. This analysis involves the initial steps of (1) defining the biological requirements of the listed species, and (2) evaluating the relevance of the environmental baseline to the species' current status.

NOAA Fisheries then 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, NOAA Fisheries considers the estimated level of injury and mortality attributed 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 NOAA Fisheries finds that the action is likely to jeopardize, NOAA Fisheries must identify reasonable and prudent alternatives for the action.

2.1.1 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA Section 7(a)(2) to listed salmon is to define the species' biological requirements. Biological requirements are those conditions necessary for listed species to survive and recover to naturally reproducing population levels large enough to maintain genetic diversity and heterogeneity, with the ability to adapt to and survive environmental variation, and which are self-sustaining in the natural environment. At such a time protection under the ESA would no longer be unnecessary.

The biological requirements of MCR steelhead include adequate food, flowing water (quantity), high quality water (cool, free of pollutants, high dissolved oxygen concentrations, low sediment content), clean spawning substrate, and unimpeded migratory access to and from spawning and rearing areas (adapted from Spence *et al.* 1996). The specific biological requirements affected by the proposed action include water quality, food, and unimpeded migratory access by improving channel dynamics.

2.1.2 Status of Species

NOAA Fisheries 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, NOAA Fisheries starts with the determinations made in its original decision to list the species for protection under the ESA. In addition, the assessment will consider any new information or data that are relevant to the determination.

The listing status and biological information for NOAA Fisheries listed species that are the subject of this consultation are described below in Table 1.

Species (Biological Reference)	**Listing Status Reference**	**Critical Habitat Reference**
Steelhead from Washington, Idaho, Oregon and California, (Busby, *et al.* 1996).	The MCR ESU is listed as Threatened under the ESA by the NMFS, (64 Fed. Reg. 14517, March 25, 1999).	Not Designated[1]

Table 1. References to Federal Register Notices containing additional information concerning listing status, biological information, and Critical Habitat designations for listed and proposed species considered in this Opinion.

Middle Columbia River steelhead have been negatively affected by a combination of habitat alteration and hatchery management practices. The four downstream, mainstem dams on

[1]Under development . On April 30, 2002, the U.S. District Court for the District of Columbia approved a NOAA Fisheries consent decree withdrawing a February 2000 Critical Habitat designation for this and 18 other ESUs.

the Columbia are perhaps the most significant source of habitat degradation for this ESU. The dams act as partial barriers to passage, kill out-migrating smolts in their turbines, raise temperatures throughout the river system, and have created lentic refugia for salmonid predators. In addition to dams, irrigation systems have had a major negative impact by diverting large quantities of water, stranding fish, and acting as barriers to passage. Other major habitat degradation has occurred through urbanization and livestock grazing practices (WDFW *et al.* 1993; Busby *et al.* 1996; NMFS 1996; 63 Fed. Reg. 11798, March 10, 1998).

Habitat alterations and differential availability impose an upper limit on the production of naturally spawning populations of salmon. The National Research Council Committee on Protection and Management of Pacific Northwest Anadromous Salmonids identified habitat problems as a primary cause of declines in wild salmon runs (NRCC 1996). Some of the habitat impacts identified were the fragmentation and loss of available spawning and rearing habitat, migration delays, degradation of water quality, removal of riparian vegetation, decline of habitat complexity, alteration of streamflows and streambank and channel morphology, alteration of ambient stream water temperatures, sedimentation, and loss of spawning gravel, pool habitat and large woody debris (NMFS 1998, NRCC 1996, Bishop and Morgan 1996).

Hatchery management practices are suspected to be a major factor in the decline of this ESU. The genetic contribution of non-indigenous, hatchery stocks may have reduced the fitness of the locally adapted native fish through hybridization and associated reductions in genetic variation or introduction of deleterious (non-adapted) genes. Hatchery fish can also directly displace natural spawning populations, compete for food resources, or engage in agonistic interactions (Campton and Johnston 1985; Waples 1991; Hilborn 1992; NMFS 1996; 63 Fed. Reg. 11798, March 10, 1998).

Middle Columbia River steelhead population sizes are substantially lower than historic levels, and at least two extinctions are known to have occurred in the ESU. In larger rivers (John Day, Deschutes, and Yakima), steelhead abundance has been severely reduced: it is estimated that the Yakima River had annual run sizes of 100,000 fish prior to the 1960's; more recently (early 1990's), natural escapement has been about 1,200 fish (WDFW *et al.* 1993). Across the entire ESU, the wild fish escapement has averaged 39,000 and total escapement 142,000 (includes hatchery fish). The large proportion of hatchery fish, concurrent with the decline of wild fish, is a major risk to the MCR ESU (WDFW *et al.* 1993; Busby *et al.* 1996; 63 Fed. Reg. 11798, March 10, 1998).

Adult summer steelhead enter the Columbia River in the spring and migrate through the summer and fall. Most of the PIT tagged summer steelhead in the Walla Walla River passed through the lower Columbia from mid-April to mid-June (Contor *et al*. 2003). They reach their natal waters in the late spring and eggs are deposited that usually hatch by July. Juveniles usually rear in the stream for two years before outmigrating. Juvenile steelhead utilize the higher quality headwaters and upper reaches of the Walla Walla River primarily during spring and early summer; however, during late fall, winter, and early spring, juvenile steelhead can be seen throughout the Walla Walla River subbasin. A large number of juvenile salmon and steelhead

move down from the headwaters in the fall when water temperatures in the mid and lower reaches become suitable for trout and salmon. Steelhead appear to have a diverse life-history and may migrate as age 1+ (as small as 80mm) or wait until they are 3+. Based on current information, the CTUIR estimate that about 80-90% of the steelhead smolts move into the Columbia after their second winter at age 2+ (Contor *et al*. 2003).

Previous surveys have been conducted within the Blue Creek project area that indicate habitat use by salmonids in the summer months. Table 2 below summarizes the number of each species counted during recent electrofishing surveys completed within the project area. Washington Department of Fish and Wildlife surveys in the lower 4.2 miles of Blue Creek have found no steelhead redds (Mendel *et al*. 2001).

Table 2

SPECIES	**Oct. 21, 1997**	**Sept. 21, 1998**	**Sept. 20, 1999**
Steelhead/RB Trout	28	65	68
Bull Trout	1	0	0

2.1.3 Environmental Baseline

The environmental baseline represents the current set of conditions to which the effects of the proposed action would be added. The term "environmental baseline" means "the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process" (50 CFR 402.02).

The proposed project is in the Walla Walla River watershed in Walla Walla County, Washington. The Walla Walla River is a tributary to the Columbia River and drains an area of approximately 1,758 square miles with the headwaters in the Blue Mountains and the Palouse Hills. Blue Creek is approximately is approximately 5 miles in length and is a tributary to Mill Creek, which in turn drains into the Walla Walla River. The project site is located at approximately RM 2.2 on Blue Creek.

Agricultural lands comprise 58% of the watershed, while forestland and rangeland cover 25% and 17% respectively (COE 1997). Agricultural activities have seriously degraded salmonid habitat in many areas of the watershed. Practices such as farming to the edge of streams, removing riparian vegetation, filling off-channel areas, diking and channelization, allowing livestock full access to streams, conversion of native perennial vegetation to annual crops, and irrigation have all played in habitat degradation (Bureau of Reclamation 2001; COE 1997; Mendel *et al* 2001).

The major limiting factor throughout the Walla Walla subbasin appears to be water diversions and withdrawals, which contribute to low instream flows that may lead to fish kills. The WDFW estimates that less than 10% of surface water diversions in the Washington portion of the basin meet state or federal juvenile fish screening criteria (Kuttel 2001). Bireley (2001) reported that more than 75% of the diversions identified in the Cooperative Compliance Review Program (CCRP) are in streams used for salmonid spawning, rearing, and migration. The high incidence of noncompliant surface water diversions is a serious threat to Federally listed juvenile steelhead. Furthermore, it is likely that the diversions identified in the CCRP may represent only 50% to 60% of surface water diversions currently in use in the Washington portion of the basin.

The Blue Creek subbasin is dominated by agricultural and residential uses. The subbasin is characterized by seasonal low stream flows (exacerbated by surface water withdrawals), high water temperatures, heavily silted substrates, and stream reaches altered by diking and/or channelization.

After the flood event in 1996, the riparian corridor in the action area was entirely devoid of riparian vegetation and instream diversity was eliminated. The stream contained only riffle/boulder habitat; pool habitat was non-existent and large wood was absent. Factors limiting salmonid production include high stream temperatures, unstable channel and banks, poor pool frequency, lack of large wood, and an absence of riparian cover.

In the fall of 1997, three rock vortex weirs were constructed in the stream channel, two of which are still visible; the third is buried in gravel. Three log V-weirs and one straight log weir were built during the same time. Additionally, several thousand willow and cottonwood cuttings were planted. The rock vortex weirs and rootwad revetments have been effective at reducing bank erosion. Vegetation restoration efforts have been very effective in restoring riparian habitat.

The log weirs have provided exceptional instream pool habitat for fish; however, last year one of the structures failed when undermined by a headcut.

2.1.3.1 Factors Affecting the Species at the Population Scale

In previous Biological Opinions, NOAA Fisheries assessed life history, habitat and hydrology, hatchery influence, and population trends in analyzing the effects of underlying action on affected species at the population scale (see, for example, FCRPS, NMFS 2000). A thumbnail description of each of these factors for the MCR steelhead ESU is provided below.

Life History. Most fish in this ESU smolt at two years and spend one to two years in salt water before reentering freshwater, where they may remain up to a year before spawning (Howell *et al.* 1985). All steelhead upstream of The Dalles Dam are summer-run (Schreck *et al.* 1986, Reisenbichler *et al*. 1992, Chapman *et al.* 1994). The Klickitat River, however, produces both summer and winter steelhead, and age-2-ocean steelhead dominate the summer steelhead, whereas most other rivers in the region produce about equal numbers of both age-1- and 2-ocean fish. A nonanadromous form co-occurs with the anadromous form in this ESU; information

suggests that the two forms may not be isolated reproductively, except where barriers are involved.

Habitat and Hydrology. The reasons for the decline of steelhead in the Walla Walla watershed include:

- construction of four dams on the Columbia River downstream of the Walla Walla River,
- timber practices, degraded riparian and in-stream habitat from farming, livestock grazing, and urbanization,
- water diversions and irrigation withdrawals,
- poorly screened or unscreened irrigation diversions,
- low in-stream flows reducing rearing habitat and impeding fish passage, and
- high water temperatures.

Both legal and unauthorized water withdrawals for irrigation have significantly reduced water quantity in the Walla Walla River and its tributaries. The stream channel within the action area is characterized by a lack of off-channel habitat, few wetlands, and streamflow regimes with high winter-spring peaks and low summer flows and associated high temperatures. Narrow, incised channels, flat gradients, and low flows promote poor conditions including isolated pools and stagnant flows. Off channel habitats are nearly nonexistent along the reach because of severe channel incision (Kuttel 2001).

Agricultural land uses, urban and rural development, and roads have altered channel condition and dynamics in the basin (Kuttel 2001). The river banks in the action area are steep and unstable and support only isolated, narrow strips of riparian vegetation. Streambank conditions and floodplain connectivity in the action area are degraded by bank armoring, levees, channelization, and other flood control measures. Stream buffers are narrow, most woody vegetation is immature, and recruitment potential is poor.

Hatchery Trends and Risks. For the MCR steelhead ESU as a whole, NOAA Fisheries estimates that the median population growth rate (lamdba) over the base period[2] ranges from 0.97 to 0.95, decreasing as the effectiveness of hatchery fish spawning in the wild increases compared to that of fish of wild origin (McClure *et al.* 2003). NOAA Fisheries has also estimated the risk of absolute extinction for four of the spawning aggregations, using the same range of assumptions about the relative effectiveness of hatchery fish. At the low end, assuming that hatchery fish

[2]Estimates of median population growth rate, risk of extinction, and the likelihood of meeting recovery goals are based on population trends observed during a base period that varies between spawning aggregations. Population trends are projected under the assumption that all conditions will stay the same into the future.

spawning in the wild have not reproduced (i.e., hatchery effectiveness equals zero), the risk of absolute extinction within 100 years ranges from zero for the Yakima River summer run to 1.00 for the Umatilla River and Deschutes River summer runs (McClure *et al.* 2001). Assuming that the hatchery fish spawning in the wild have been as productive as wild-origin fish (hatchery effectiveness equals 100%), the risk of absolute extinction within 100 years ranges from zero for the Yakima River summer run to 1.00 for the Deschutes River summer run (McClure *et al*. 2001).

2.1.3.2 Factors Affecting the Species within the Action Area

Section 4(a)(1) of the ESA and NOAA Fisheries listing regulations (50 CFR 424) set forth procedures for listing species. The Secretary of Commerce must determine, through the regulatory process, if a species is endangered or threatened based upon any one or a combination of the following factors; (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors affecting its continued existence.

The proposed action includes activities that would have some level of effects with short-term impacts from category (1) in the above paragraph, and the potential for long-term impacts as described in categories (3) and (5). The characterization of these effects and a conclusion relating the effects to the continued existence of MCR steelhead is provided below, in section 2.1.4.

The major factors affecting MCR steelhead within the action area include inadequate flows, inadequate passage, and riparian habitat. NOAA Fisheries uses the Matrix of Pathways and Indicators (MPI) to analyze and describe the effects of these factors on listed steelhead. As described above, the MPI relates the biological requirements of listed species to a suite of habitat variables. In the MPI analysis presented here, each factor is considered in terms of its effect on relevant pathways and associated indicators (*properly functioning, at risk, or not properly functioning*).

2.1.4 Effects of the Proposed Action

The proposed action is likely to adversely affect MCR steelhead. The segment of Blue Creek flowing through the action area provides rearing habitat for juvenile steelhead, and is a corridor for steelhead migration between the Walla Walla River and spawning habitat in the Blue Creek headwaters.

NOAA Fisheries' ESA implementing regulations define "effects of the action" as "the direct and indirect effects of an action on the species together with the effects of other activities that are interrelated or interdependent with that action, the will be added to the environmental baseline" (50 CFR 402.02).

2.1.4.1. Direct Effects

Direct effects are the immediate effects of the project on the species or its habitat. Direct effects result from the agency action and include the effects of interrelated and interdependent actions. Future Federal actions that are not a direct effect of the action under consideration (and not included in the environmental baseline or treated as indirect effects) are not evaluated (USFWS and NMFS 1998).

2.1.4.1.1 Water Quality. The construction of rock weirs, the installation of log jams and rootwads, and meander bend construction in the Blue Creek channel will mobilize sediments and temporarily increase downstream turbidity levels. Meander bend construction would entail moving (excavating) approximately 50 cy of channel substrates that form a central channel gravel bar and placing that material along the right stream bank to encourage development of a stable single thread channel. Around construction areas (within several hundred feet), the level of turbidity would likely exceed ambient levels by a substantial margin and potentially affect MCR steelhead within the entire action area.

Three specific activities will mobilize sediments: the construction of rock vortex weirs, the installation of a keyed log jam, and the construction of a meander bend. These activities will deliver short-term (hours to days) pulses of sediment downstream. However, the proposed action includes measures to decrease the likelihood and extent of any such effect on listed salmonids. These measures include timing restrictions and construction BMPs.

Quantifying turbidity levels, and their effect on fish species is complicated by several factors. First, turbidity from an activity will typically decrease as distance from the activity increases. How quickly turbidity levels attenuate depends on the quantity of material in suspension (*e.g.*, mass or volume), particle size, the amount and velocity of ambient water (dilution factor), and the physical/chemical properties of the sediments. Second, the impact of turbidity on fish is not only related to the turbidity levels, but also the particle size of the suspended sediments.

For salmonids, turbidity has been linked to a number of behavioral and physiological responses (*i.e.*, gill flaring, coughing, avoidance, increase in blood sugar levels) which indicate some level of stress (Bisson and Bilby 1982; Sigler *et al* 1984; Berg and Northcote 1985; Servizi and Martens 1992). The magnitude of these stress responses are generally higher when turbidity is increased and particle size decreased (Bisson and Bilby 1982; Servizi and Martens 1987; Gregory and Northcote 1993). Although turbidity may cause stress, Gregory and Northcote (1993) have shown that moderate levels of turbidity (35-150 nephelometric turbidity units [NTUs]) accelerate foraging rates among juvenile chinook salmon, likely because of reduced vulnerability to predators (camouflaging effect).

Increased turbidity will be short-lived and have low potential for exposing fish. The project includes measures to reduce or avoid turbidity impacts. Project work will occur when only free-swimming life stages of steelhead will be present. Accordingly, those fish that are present in the action area when the effects are manifest are likely to be able to avoid the area until the effects

dissipate.

Other Water Quality Issues

As with all construction activities that require the use of heavy equipment, accidental release of fuel, oil, and other contaminants may occur. Those contaminants could injure or kill aquatic organisms if spilled into a water body or the adjacent riparian zone. However, all equipment fueling and maintenance would occur in designated staging areas 150 feet or more from any water body or wetland, making it unlikely that a chemical spill large enough to result in take would occur.

2.1.4.1.2 Streambed and Bank Disturbance. Constructing vortex rock weirs, installing a log jam keyed into the bank, constructing a meander bend, and placing four rootwads in Blue Creek will disturb channel and bank substrates. Related construction work (site access and heavy equipment use) shall be conducted using a track-mounted excavator to minimize damage to existing vegetation, instream habitat, and the surrounding terrain. Effects from these activities on MCR steelhead are expected to be minor.

Project construction activities are limited in the time of the year they can occur. This limitation or "work window" is designed to reduce the exposure of vulnerable fish life histories to construction effects. The work window for this proposed action allows work when the MCR lifestages present in the action area should be free-swimming subyearling and yearling steelhead. These lifestages are less vulnerable to construction effects as they are capable of evacuating the area when work disturbance is initiated. In addition, BPA will ensure the implementation of numerous BMPs as outlined in the BA to minimize and reduce these effects to listed salmonids.

2.1.4.1.3 Removal of Fish. Block nets will be installed at the upstream terminus of the construction area. A crew will then drag a seine through the entire construction area, beginning at the upstream block net. A second block net will then be installed at the downstream terminus of the construction area. If listed fish are stranded between the block nets, they will be removed by hand or with dip nets, placed in buckets, and safely released outside of the construction area.

2.1.4.2 Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action. Indirect effects might include other Federal actions that have not undergone section 7 consultation but will result from the action under consideration. These actions must be reasonably certain to occur, or be a logical extension of the proposed action.

2.1.4.2.1 Macroinvertebrate Production. The construction of rock weirs, a meander bend, and the installation of a log jam and four rootwads will cause the temporary loss (burial and displacement) of macroinvertebrate habitat. Aquatic invertebrates provide an important source of prey for salmonids, and the loss of their habitat through burial or displacement may reduce

foraging opportunities for listed salmonids. Effects from the project work will be short-lived and macroinvertebrates tend to recolonize disturbed areas (Allan 1995). In the action area, recolonization rates are expected to be rapid because affected areas are small and construction activities will be short-lived.

2.1.4.2.2 Riparian and Fisheries Habitat. The implementation of this project will result in a short-term loss of riparian function caused by removing or degrading vegetation. The loss of vegetation may affect riparian habitat functions including shading and organic matter inputs to the stream. However, the loss of riparian function should be minimal because of the small footprint of the project. Furthermore, the use of a track mounted excavator to conduct the work will minimize soil disturbance and the loss of vegetation. No large trees will be removed. Therefore, future large wood recruitment is not expected to be significantly reduced by the proposed work. The riparian habitat and bank areas used to key the rock weirs, log jam, and four rootwads will be revegetated with native grass seed, planted willows, shrubs, and trees to stabilize soils and promote site recovery. The negative effects of these activities on MCR steelhead and aquatic habitat indicators will be limited by implementing construction methods and approaches included in the project design, BMPs, and by following the terms and conditions in section 2.2.3 of this opinion.

2.1.4.2.3 Fish Barriers. Project implementation is likely to improve rearing habitat conditions for juvenile MCR steelhead. Other benefits will likely include improved passage/migration habitat for adult and juvenile steelhead, and improved spawning habitat.

Project implementation will result in a temporary fish passage barrier as rock weir and meander bend construction, and log jam and rootwad installation occurs. This seasonal blockage is not expected to disrupt essential fish behaviors as neither adult nor juvenile steelhead tend to migrate during the proposed construction window. The migration barrier is intended to minimize effects to MCR steelhead by preventing fish from reentering the project area during construction. This project will not affect instream flow (quantity), however, the bank and channel work will provide fish improved access to upstream or downstream habitats. This should enable fish to migrate to reaches of the stream to avoid becoming stranded or isolated by receding seasonal flows.

2.1.4.3 Population Scale Effects

As detailed in section 2.1.3.1, NOAA Fisheries has estimated the median population growth rate (lambda) for MCR steelhead affected by the Blue Creek site restoration project. For the MCR ESU, life history diversity has been limited by the influence of hatchery fish, by physical barriers that prevent migration to historical spawning and/or rearing areas, and by water temperature barriers that influence the timing of emergence, juvenile growth rates, or the timing of upstream or downstream migration. In addition, hydropower development has profoundly altered the riverine environment and those habitats vital to the survival and recovery of the MCR ESU.

The construction of rock weirs and the meander bend, and the installation of a log jam and four rootwads will result in short-term effects on listed MCR steelhead. Conservation measures and

BMPs are expected to reduce the potential for harm to listed fish through increased turbidity, streambed and bank disturbance, and fish removal. Furthermore, the proposed action will improve juvenile rearing habitat, riparian habitat, fish migratory habitat, and may improve spawning habitat in the action area.

2.1.5 Cumulative Effects

Cumulative effects are defined as "those effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the action area of Federal action subject to consultation" (50 CFR 402.02). Future Federal actions that are unrelated to the proposed actions are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

In the action area for this project, agricultural activities are the main land use. Riparian buffers are not properly functioning, containing little woody vegetation. Although land use practices that would result in the take of endangered species are prohibited by section 9 of the ESA, such actions do occur. NOAA Fisheries cannot conclude with certainty that any particular riparian habitat will be modified to such an extent that take will occur. Riparian habitat is essential to salmonids in providing and maintaining various stream characteristics such as; channel stabilization and morphology, leaf litter, and shade. However, given the patterns of riparian development in the action area and rapid human population growth of Walla Walla County, it is reasonably certain that some riparian habitat will be impacted in the future by non-Federal activities. Conversely, many of the agricultural landowners in the watershed are participating in cooperative, voluntary programs to improve riparian conditions of their lands.

Blue Creek and other Walla Walla Basin tributaries are generally overappropriated. This condition is unlikely to worsen as the state of Washington continues to clarify water rights through the adjudication process. Furthermore, the state is engaged, through the Departments of Ecology and Fish and Wildlife, in programs to improve instream flows in places like Blue Creek.

2.1.6 Conclusion/Opinion

NOAA Fisheries has reviewed the direct, indirect, and cumulative effects of the proposed action on listed species and their habitat. NOAA Fisheries evaluated these effects in light of existing conditions in the action area and measures included in the action to minimize the effects. The proposed action is likely to cause short-term adverse effects on listed salmonids by modifying habitat during construction activities. These effects are unlikely to reduce salmonid distribution, reproduction, or numbers in any meaningful way. Consequently, the proposed action is not likely to jeopardize the continued existence of listed MCR steelhead.

2.1.7 Reinitiation of Consultation

This concludes formal consultation for the Blue Creek Site Restoration Project. 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 (50 CFR 402.16). To reinitiate consultation, BPA should contact the Habitat Conservation Division (Washington Branch Office) of NOAA Fisheries. Upon reinitiation, the protection provided by this incidental take statement, section 7(o)(2), becomes invalid.

2.2 Incidental Take Statement

The ESA at section 9 (16 U.S.C. 1538) prohibits take of endangered species. The prohibition of take extended to threatened anadromous salmonids by section 4(d) rule (50 CFR 223.203). Take is defined by statute as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532(19)). Harm is defined by regulation as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering" (50 CFR 222.102)). Harass is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which, but are not limited to, breeding, feeding, or sheltering" (50 CFR 17.3). Incidental take is defined as "takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant" (50 CFR 402.02). The ESA at section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a section 7(b)(4) incidental take statement (16 U.S.C. 1536).

An incidental take statement specifies the effects of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures (RPMs) that are necessary to minimize take and sets forth terms and conditions with which the action agency must comply to implement the reasonable and prudent measures.

2.2.1 Amount or Extent of Take Anticipated

As stated in section 2.1.4, above, MCR steelhead may spawn and juveniles rear in the action area. Because MCR steelhead are likely to be present in the action area during part of the year they will likely encounter some of the effects of the proposed action. Therefore, incidental take of these listed fish is reasonably certain to occur. Take in the form of harm is likely to result during construction, site isolation, and any other habitat affecting activities.

Because fish presence is highly variable over time, NOAA Fisheries cannot estimate a specific amount of incidental take of listed fish, despite the use of the best scientific and commercial data available. In situations like this, NOAA Fisheries determines the amount of anticipated take to be "unquantifiable." As a surrogate for estimating the number of fish harmed by the proposed action, NOAA Fisheries has estimated the extent of habitat affected by those activities. The estimated extent of habitat affected from the construction activities (e.g., sediment mobilization,

stream channel alteration, and the short-term loss or disturbance of riparian habitat) is the thresholds for reinitiating consultation. Thus, exceeding these thresholds during the project would constitute new information not considered in this consultation and create a basis for reinitiation.

For harm resulting from water quality effects, take of fish resulting from turbidity increases are exempted within 100 feet downstream of the project area. Take resulting from riparian vegetation removal is exempted for and area not to exceed a 200-foot radius around each project site. Take from fish handling is limited to those fish that remain within the work area after the area has been isolated. This number is expected to be very low, as the timing of work is intended to ensure that fish will be at a life stage that they can voluntarily vacate the area.

2.2.2 Reasonable and Prudent Measures

The measures described below are non-discretionary. They must be implemented by the action agency, the applicant, or both, through the terms and conditions below, in order for the exemption in section 7(a)(2) to apply. The BPA has the continuing duty to regulate the activities covered in this incidental take statement. If the BPA fails to adhere to the terms and conditions of the incidental take statement through enforceable terms added to the document authorizing this action, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

NOAA Fisheries believes that the following RPMs, along with conservation measures described by the CTUIR, are necessary and appropriate to minimize the take of ESA-listed fish resulting from implementation of this Opinion.

1. The BPA will minimize the incidental take from in-water construction activities.

2. The BPA will minimize incidental take from changes in water quality.

3. The BPA will minimize the incidental take from effects on riparian and instream habitat.

4. The BPA will minimize the incidental take from fish handling practices.

2.2.3 Terms and Conditions

To comply with ESA section 7 and be exempt from the prohibitions of section 9 of the ESA, the BPA must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions largely reflect measures described as part of the proposed action in the BA and foregoing Opinion. NOAA Fisheries has included them here to ensure that the action agency is aware that they are non-discretionary.

1. To implement RPM No. 1 (in-water work), the BPA shall ensure that:

1.1 All work within the active channel of Blue Creek will be completed between July 15 and September 30, 2004.

1.2 Alteration or disturbance of streambanks and existing riparian vegetation will be minimized.

2. To implement RPM No. 2 (construction activities), the BPA shall ensure that all erosion and pollution control measures in the BA are included as special provisions in the Blue Creek restoration site contract.

2.1 Effective erosion control measures shall be in place at all times during the contract. Construction within the project vicinity will not begin until all temporary erosion controls (e.g.., sediment barriers and contaminant curtains) are in place.

2.2 All exposed areas will be replanted with a native seed mix. Erosion control planting will be completed on all areas of bare soil within 14 days of completion of construction.

2.3 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.

2.4 The contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The contractor will be monitored by the BPA to ensure compliance with this PCP. The PCP shall include the following:

2.4.1 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.

2.4.2 Methods for confining and removing and disposing of excess construction materials, and measures for equipment washout facilities.

2.4.3 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.

2.4.4 Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: Types of materials, estimated quantity, storage methods, and disposal methods.

2.4.5 The person identified as the Erosion and Pollutant Control Manager shall also be responsible for the management of the contractor's PCP.

2.5 Areas for fuel storage, refueling, and servicing of construction equipment and vehicles will be at least 150 feet from the stream channel and all machinery fueling and maintenance will occur within a contained area. Overnight storage of vehicles and equipment must also occur in designated staging areas.

2.6 Equipment refueling and storage areas will have hydrologic function restored (e.g., ripping or subsoiling) in areas where it has been degraded.

2.7 No surface application of nitrogen fertilizer will be used within 50 feet of any water body.

3. To implement RPM No. 3 (riparian habitat protection), the BPA shall ensure that:

3.1 Alteration of native vegetation will be minimized. Where native vegetation will be altered, measures will be taken to ensure 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.

3.2 Riparian vegetation removed will be replaced with a native seed mix, shrubs, and trees according to the re-vegetation plan in section 1.2.

3.3 The BPA shall forward riparian monitoring reports to NOAA Fisheries, Washington State Habitat Branch, ATTN: Dennis Carlson, 510 Desmond Drive SE, Suite 103, Lacey, WA 98503.

4. To implement RPM No. 4 (fish handling), the BPA shall ensure that:

4.1 After block nets are installed up- and downstream of the construction site, any fish that may be trapped within the work area will be captured under the supervision of a fishery biologist experienced in such efforts and all staff working with the netting or seining operation must have the necessary knowledge, skills, and abilities to ensure safe handling of all ESA-listed fish.

4.1.1 ESA-listed fish must be handled with extreme care and kept in water to the maximum extent possible during capture and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary to prevent the added stress of an out-of-water transfer.

4.1.2. ESA-listed fish will not be marked or anaesthetized.

4.1.3 Captured fish must be released in appropriate habitat, as near as possible to the capture site.
4.1.4 All take of listed salmonids during work area isolation must be documented and reported using the format attached in Appendix I. The BPA will ensure that NOAA Fisheries receives the monitoring report of take within one month beginning when the initial work area insolation activities commence until in-water construction activities cease. The reports will be sent to NOAA Fisheries, attention: Dennis Carlson, 510Desmond Drive SE, Suite 103, Lacey, WA 98503. All salmonid carcasses will be collected and delivered to NOAA Fisheries to be identified, at BPA's expense.

3.0 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

3.1 Background

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal fisheries management plan. Pursuant to the MSA:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (section 305(b)(2));

- NOAA Fisheries must provide conservation recommendations for any Federal or State action that would adversely affect EFH (section 305(b)(4)(A));

- Federal agencies must provide a detailed response in writing to NOAA Fisheries within 30 days after receiving EFH conservation recommendations. The response must 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 NOAA Fisheries EFH conservation recommendations, the Federal agency must explain its reasons for not following the recommendations (section 305(b)(4)(B)).

Essential Fish Habitat means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA section 3). For the purpose of interpreting this definition of EFH: 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

600.10). Adverse effect means any impact which reduces quality and/or quantity of EFH, and may include direct (*e.g.*, contamination or physical disruption), indirect (*e.g.*, loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810).

Essential Fish Habitat consultation with NOAA Fisheries is required regarding any Federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream and upslope activities.

The objectives of this EFH consultation are to determine whether the proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH.

3.2 Identification of Essential Fish Habitat

Pursuant to the MSA the Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Federally-managed Pacific salmon: chinook; 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 1999), 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, in part, on this information.

3.3 Proposed Actions

The proposed action and action area are detailed above in section 1.2 and 1.3 of this document. The action area includes habitats that have been designated as EFH for various life-history stages of chinook and coho salmon.

3.4 Effects of Proposed Action

As described in detail in section 2.1.4 of this document, the proposed action may result in short- and adverse effects to a variety of habitat parameters.

1. The proposed action will result in a temporary risk of contamination of waters through the accidental spill or leakage of petroleum products from heavy equipment.

2. The proposed action will result in a short-term degradation of water quality (turbidity) because of instream construction activities.

3. Temporary loss of aquatic insects (a prey base for listed fish) due to the physical loss of existing habitat at the structure placement sites and sedimentation of downstream habitat.

3.5 Conclusion

NOAA Fisheries concludes that the proposed action will adversely affect designated EFH for chinook and coho salmon.

3.6 Essential Fish Habitat Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations to Federal agencies regarding actions which may adversely affect EFH. While NOAA Fisheries understands that the conservation measures described in the BA will be implemented by the BPA, it does not believe that these measures are sufficient to address the adverse impacts to EFH described above. To minimize the adverse effects to designated EFH for Pacific salmon (contamination of waters, suspended sediment, and habitat alteration), NOAA Fisheries recommends that the BPA ensure that:

1. All work within the active channel of Blue Creek will be completed between July 15 and September 30, 2004.

2. Alteration or disturbance of streambanks will be minimized.

3. All erosion and pollution control measures in the BA are included as special provisions in the Blue Creek restoration site contract.

   3.1 Effective erosion control measures shall be in place at all times during the contract. Construction within the project vicinity will not begin until all temporary erosion controls (e.g.., sediment barriers and contaminant curtains) are in place.

   3.2 All exposed areas will be replanted with a native seed mix. Erosion control planting will be completed on a ll areas of bare soil within 14 days of completion of construction.

   3.3 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.

   3.4 The contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or PCP, and is responsible for containment and removal of any toxicants released. The contractor will be monitored by the BPA to ensure compliance with this PCP. The PCP shall include the following:

      3.4.1 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.

3.4.2 Methods for confining and removing and disposing of excess construction materials, and measures for equipment washout facilities.

3.4.3 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.

3.4.4 Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: Types of materials, estimated quantity, storage methods, and disposal methods.

3.4.5 The person identified as the Erosion and Pollutant Control Manager shall also be responsible for the management of the contractor's PCP.

4. Areas for fuel storage, refueling, and servicing of construction equipment and vehicles will be at least 150 feet from the stream channel and all machinery fueling and maintenance will occur within a contained area. Overnight storage of vehicles and equipment must also occur in designated staging areas.

5. Equipment refueling and storage areas will have hydrologic function restored (e.g., ripping or subsoiling) in areas where it has been degraded.

6. No surface application of nitrogen fertilizer will be used within 50 feet of any water body.

7. Alteration of native vegetation will be minimized. Where native vegetation will be altered, measures will be taken to ensure 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.

8. Riparian vegetation removed will be replaced with a native seed mix, shrubs, and trees according to the re-vegetation plan in section 1.2.

3.7 Statutory Response Requirement

Pursuant to the MSA (section 305(b)(4)(B)) and 50 CFR 600.920(k), Federal agencies are required to provide a detailed written response to NOAA Fisheries' EFH conservation recommendations within 30 days of receipt of these recommendations. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of

the activity on EFH. In the case of a response that is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

3.8 Supplemental Consultation

The NOAA Fisheries must reinitiate EFH consultation if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920(l)).

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APPENDIX 1

In-Water Construction Monitoring Report
Blue Creek Restoration Project (HCD/NWR/2003/00983)

Start Date: _____
End Date: _____ Water temperature :_____

Waterway: Blue Creek, Walla Walla County

Construction Activities:

_____
_____
_____
_____
_____

Number of fish observed: _____
Number of salmonid juveniles observed (what kind?): _____
Number of salmonid adults observed (what kind?):_____
_____
What were fish observed doing prior to construction?_____
_____
_____

What did the fish do during and after construction? _____
_____
_____
_____

Number of fish stranded as a result of this activity: _____

How long were the fish stranded before they were captured and released to flowing water?

_____
_____
_____

Number of fish that were killed during this activity: _____

Send report to:
Attention: Dennis Carlson
National Marine Fisheries Service, Washington State Habitat Branch, 510 Desmond Dr. SE, Suite 103, Lacey, WA 98503