ENVIRONMENTAL ASSESSMENT

DWORSHAK DAM AND RESERVOIR
RESERVOIR NUTRIENT SUPPLEMENTATION PROJECT

Ahsaka, Idaho

Prepared by
Walla Walla District
Corps of Engineers

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1.0 INTRODUCTION

1.1 Background

This environmental assessment (EA) considers and describes the environmental effects of undertaking a nutrient supplementation (i.e. liquid fertilizer) pilot study at the Dworshak Dam (Figure 1) and Reservoir Project (Project). The Project is operated and maintained by the Walla Walla District, US Army Corps of Engineers (Corps). As required by the National Environmental Policy Act (NEPA) of 1969 and subsequent implementing regulations promulgated by the Council on Environmental Quality, this assessment is being prepared to determine whether the proposed action constitutes a " major Federal action significantly affecting the quality of the human environment…" and whether an environmental impact statement is required. The information contained in this EA is considered to be of sufficient depth to define the nature and scope of the impacts associated with the proposed nutrient supplementation activities.

Figure 1. Dworshak Dam

1.2 Authority

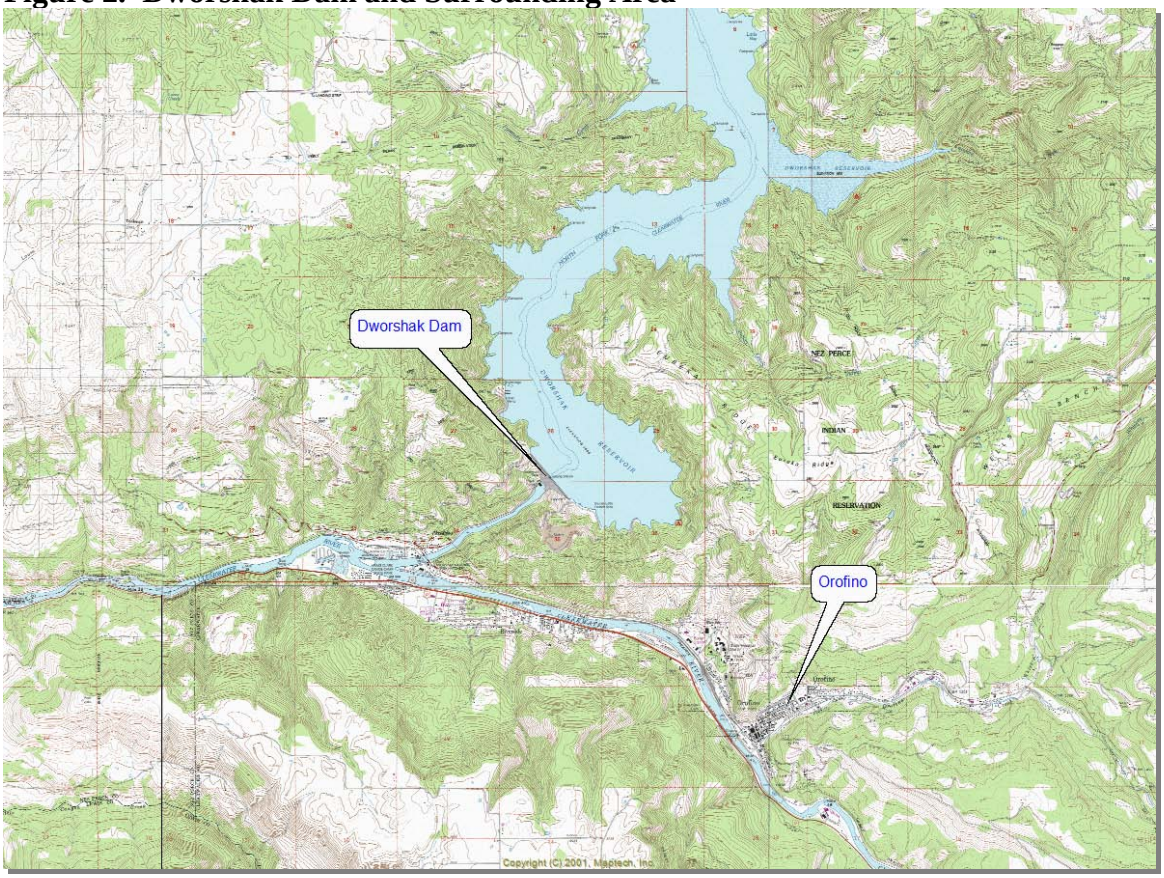
Dworshak Dam and Reservoir, formerly known as Bruces Eddy Dam and Reservoir, was authorized in Section 201 of the Flood Control Act of 1962. In August 1963 (Public Law 88-96), Congress changed the name of the project to Dworshak Dam and Reservoir in

honor of the late Senator Henry C. Dworshak of Idaho who was a supporter of the project. Construction of the dam began in 1966 and was completed in 1973. The primary purpose of the Project is flood protection. Navigation, power and recreation are also major purposes.

1.3 Project Setting

Dworshak Dam is located at river mile 1.9 on the North Fork Clearwater River. The dam and lower portion of the reservoir are within the current boundaries of the Nez Perce Indian Reservation and the entire Project is located within Clearwater County. Orofino, Idaho is located 4 miles east of the dam (Figure 2). The reservoir itself is 54 miles long, one mile wide (maximum) and approximately 650 feet deep (maximum). The 2 major tributaries are Elk Creek and Little North Fork Clearwater River.

Figure 2. Dworshak Dam and Surrounding Area



1.4 Previous Work

In 2007, the Corps in conjunction with the Idaho Department of Fish and Game (IDFG) started a 5 year pilot study to assess the feasibility of increasing the biological productivity of Dworshak Reservoir by adding inorganic, liquid fertilizer. (The study was scheduled to end in 2011.) As part of the study, the Corps initially applied for a National Pollutant Discharge Elimination

System (NPDES) permit from the Environmental Protection Agency (EPA) for applying liquid fertilizer within Dworshak Reservoir. The EPA did not issue a permit because in 2007, it was working under the belief that beneficial actions such as nutrient supplementation did not require a NPDES permit. Subsequent to this however, circumstances changed and in July 2010, the EPA notified the Corps that the addition of fertilizer to Dworshak reservoir would require a NPDES permit. Upon receiving EPA's notice, the Corps and IDFG agreed to suspend the nutrient supplementation study and not resume the program until a NPDES permit was issued (Corps and IDFG, 2010). While the nutrient supplementation results to that time showed promise, they were inconclusive as to whether the program was feasible on a long term basis. Further, any accumulated benefits generated from the supplementation program were most likely lost when fertilizer application ceased in 2010. The Corps and IDFG therefore agreed to restart the pilot program for another 5 year period beginning in 2012. (NOTE: The Corps is aware of other possible nutrient supplementation approaches (e.g. fish carcasses and fish analogs) and briefly considered them. However, because the liquid fertilizer pilot study was suspended before completing the 5-year program, the decision was made to continue with the same study but for a full 5-year term. If liquid fertilizer is determined to be an ineffective supplement, other potential supplementation processes may be considered/used for a future nutrient application pilot study.)

2.0 PURPOSE AND NEED

The proposed action involves a pilot study to determine if the introduction of liquid fertilizer (nitrogen) into the reservoir is an effective means of increasing reservoir nutrients/biological productivity by increasing nitrogen levels in the reservoir and decreasing the growth of un-desirable blue-green phytoplankton/algae. In the years immediately following the completion of Dworshak Dam, nutrients were plentiful within the reservoir because of the decomposition of organic matter on the thousands of acres that were flooded. The result was a high biological productivity that produced a very successful fishery. However, this was a temporary situation and over time, Dworshak Reservoir has gone through an aging process. This included a decline in productivity resulting from a loss of both marine derived nutrients and an excess of nutrients being washed downstream or tied up in reservoir bottom sediments (Stockner and Brandt, 2006).

In 1972, kokanee salmon were introduced into the reservoir. Kokanee is a land-locked version of the sockeye salmon that has adapted to living in freshwater lakes and tributaries. This species feeds primarily on plankton but also eats insects, bottom organisms and larval fish. Spawning normally occurs along inlet streams of lakes or along lake shorelines. Both lake shoreline and inlet stream spawning kokanee were introduced into the reservoir. However, only inlet stream spawning kokanee survived. Since its introduction, kokanee has become the primary fishery at Dworshak Reservoir. Because plankton is the main food source for kokanee, the amount of nutrients available in the reservoir becomes a critical factor in sustaining and growing this fishery as well as others. The decline in reservoir nutrients/productivity produced a corresponding decline in both the number and size of kokanee. In addition to impacts to the fishery (i.e. primarily kokanee), current reservoir nutrient conditions have also impacted phytoplankton species. The lack of sufficient nitrogen levels in the reservoir, especially towards late summer

and fall, create conditions which promote the growth of inedible blue-green phytoplankton/algae . The blooms from two species of blue-green algae known to be present in the reservoir can present a public health risk (e.g. rash, illness) because of the anatoxin and Microsytin toxin they may produce.

3.0 PROPOSED ACTION AND ALTERNATIVES

This section describes the alternatives pertinent to the proposed action – i.e. nutrient supplementation at Dworshak Reservoir. However, because the action is a pilot study focused solely on assessing the effectiveness of liquid fertilizer as a nutrient supplement, only two alternatives are considered – the proposed action and no action.

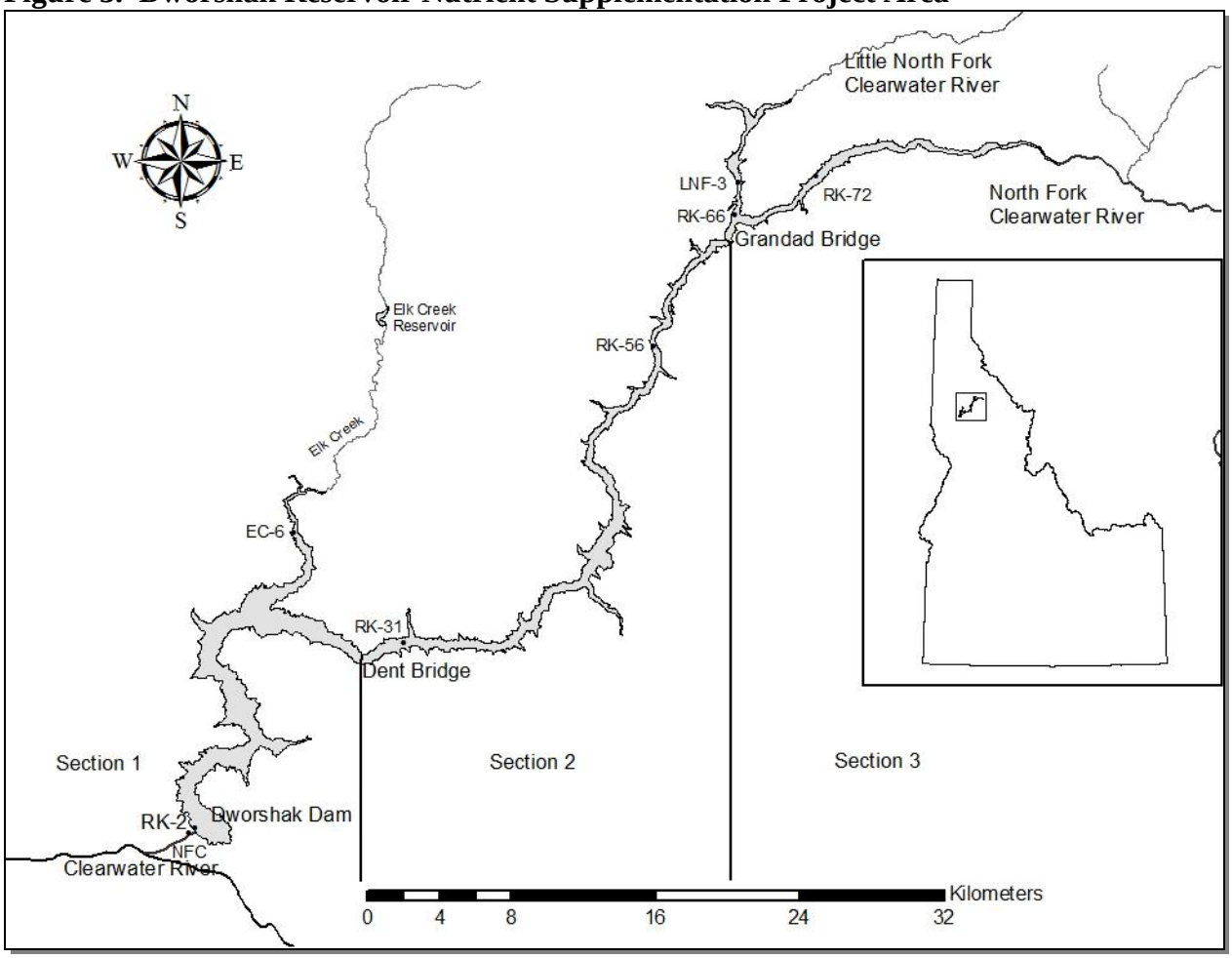
3.1 Proposed Action

The initial Dworshak Reservoir nutrient supplementation pilot study was suspended during the fourth year of a five year study. Based on the work done to that point, the Corps and IDFG did not believe sufficient information was available to assess the effectiveness of liquid fertilizer as a nutrient supplement. Additional data was still needed. The currently proposed action therefore, is a second 5-year pilot study to assess the benefits of adding inorganic liquid fertilizer to Dworshak Reservoir (Figure 3). The study would be used to help determine the feasibility of continuing this same action or a similar action in the future. Under the proposed action, addition of liquid fertilizer would most likely begin in May, 2012. Fertilizer would be added in prescribed quantities weekly through September, repeating the process in subsequent years through 2016. The objectives of the pilot study are to:

- provide a balanced nutrient loading for Dworshak Reservoir throughout the spring and summer;
- improve the carbon flow within the reservoir, which may result in a change in the phytoplankton community that promotes an increase in more beneficial phytoplankton (a forage base for kokanee, rainbow trout, and smallmouth bass fry) and a reduction in the amount of inedible blue-green algae;
- improve water quality by decreasing blue-green algae abundance, promote desirable phytoplankton and zooplankton, and improve late season water clarity, and
- improve the overall health and size structure of the kokanee population in the reservoir (Environmental Protection Agency (EPA), 2011).

Fertilizer would be delivered to the dam in a commercial tanker truck and offloaded into storage tanks. The storage tanks would be double contained and located in a secured area that is closed to the public. A distribution tank, loaded on a truck and containing a sufficient quantity of fertilizer for two applications (i.e. one application going up the reservoir and one application on the return trip), would be driven onto a barge that would be used for dispersing the fertilizer. At least two people would be present during both the loading of the truck/tank onto the barge and also when it is unloaded from the barge.

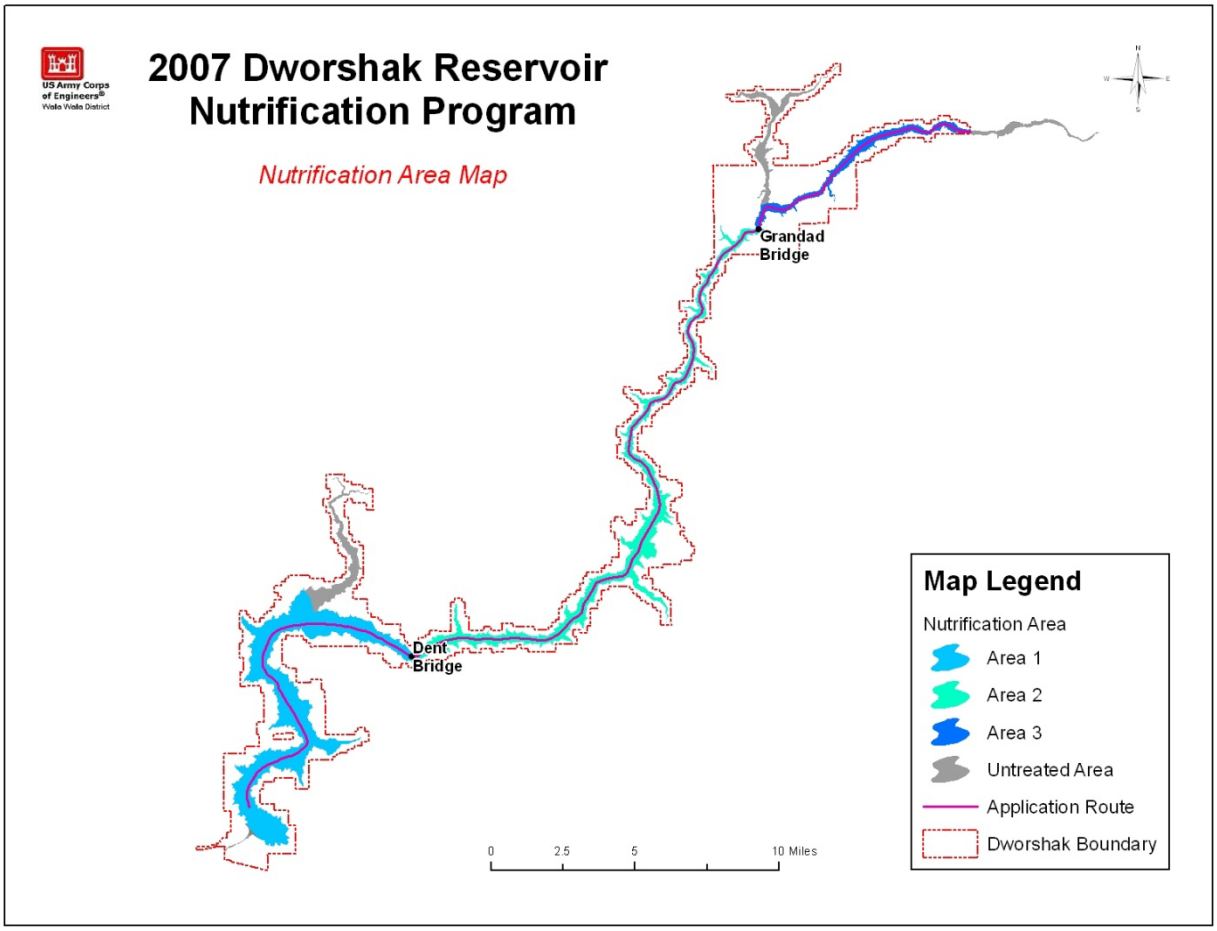
Figure 3. Dworshak Reservoir Nutrient Supplementation Project Area



Fertilizer would be applied once per week by the Corps. Under the conditions of the NPDES permit issued to the Corps, nutrient application would be allowed from April 1st through September 30th each year. However, the specific application start and end dates within the designated time frame would change from year to year and depend primarily on water temperature. Generally, application would start around the last week of April and end the last week of September. The first nutrient supplementation pilot study divided the reservoir into 3 application zones (Figure 4) which have been kept for the current nutrient supplementation study. Application rates would differ for each application zone (Corps, 2007).

The fertilizer would be applied to the reservoir via a self-propelled barge that would run at 6 mph in order to discharge up to 3,100 gallons of nitrate in application zones 1, 2, and 3. (The reservoir contains approximately 93 billion gallons of water at high pool (1600 msl) which equates to about 1 teaspoon of nitrogen fertilizer per 39,000 gallons of water.) A bulk fertilizer tank would be loaded onto the barge secured in a dump truck (Figure 5). The liquid fertilizer would be pumped from the tank through a spreader bar as the barge travels through the reservoir.

Figure 4. Dworshak Reservoir Nutrient Supplementation Application Zones



The volume of fertilizer released would be based on barge speed and controlled with commercial, computerized fertilizer application equipment, linked with a Global Positioning System (GPS). The fertilizer would be injected just below the water surface (epilimnion) and mixed by the barge's wake and prop wash. The application process would take one day per week. After the first day of application going up the reservoir, the barge would be moored near Grandad Bridge. The following week, the crew would return to the barge via boat, repeat the application process in reverse (i.e. going down the reservoir), unload the empty truck/tank and park the barge at the end of trip (EPA, 2011; Corps, 2007).

The weekly application rate for the liquid fertilizer (both nitrogen and phosphorus components) would vary based on the volume of the reservoir at the time of the application. Each week, the pool level would be checked and the appropriate amount of fertilizer for the calculated volume of water would be applied. As the season progresses, the quantity of applied fertilizer would increase because as the water warms, the plankton in the reservoir consume increased quantities of nutrients. An estimate of quantities of fertilizer which might be needed for each weekly treatment was calculated by using reservoir volumes from 2004. The estimates showed the volume of fertilizer

Figure 5. Dworshak Reservoir Liquid Fertilizer Application Barge

necessary per application ranging from about 1,100 to 2,260 gallons (Stockner and Brandt, 2006). These estimated quantities were also anticipated to be close to the amounts of fertilizer that would actually be used for each application. (NOTE: The actual application volumes are available in the 2007 – 2010 annual project reports.)

Water quality and biological monitoring would take place twice monthly for the first treatment season and once monthly during the remaining treatment seasons. Sampling would occur at eight locations, including one site on the North Fork Clearwater River below the dam. Currently established monitoring sites would be used for comparison with historic data.

Except for the weekly addition of fertilizer and the periodic monitoring, no operational actions would take place. The algae and plankton in the reservoir should utilize and bind the added nutrients within about 12 hours or less of the weekly treatment. These microorganisms would use the nutrients to grow and multiply, providing a base for the food chain.

3.2 Description of Alternatives.

The proposed nutrient supplementation pilot study is being conducted as a test to determine the feasibility of increasing nutrients in the reservoir. Because this is a test study focused on the effectiveness of using liquid fertilizer, alternative methods for increasing nutrients in the reservoir were not actively explored at this time. The results of the pilot study should help determine if the current approach or some other alternative method should be considered for long term implementation. Because of this situation, only the No Action alternative is being considered in addition to the Proposed Action.

- **Alternative 1 – No Action**

  Based on the NEPA Regulations developed by the Council on Environmental Quality (i.e. 1502.14), each EA or Environmental Impact Statement (EIS) must include an existing condition or "no action" alternative. The "no action" alternative serves as a baseline against which the effects of the proposed action and other identified alternatives are measured.

  For the proposed project, the no action alternative means no nutrient supplementation studies would be done. There would be no effort to assess the effectiveness of methods which could be used to help restore reservoir productivity. Current conditions would remain as they are – i.e. low reservoir nutrient levels and low productivity, including kokanee and other fisheries.

3.3 Preferred Alternative

Based on the fact that Alternative 1 (No Action) would not assist the Corps in determining if the introduction of liquid fertilizer (nitrogen) into the reservoir is an effective means of increasing reservoir nutrients/biological productivity, the proposed action also becomes the preferred alternative.

4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The current section identifies and assesses environmental components which are relevant to the proposed project – i.e. could be impacted by the proposed project or could impact the proposed project. Only those components identified as requiring further consideration are discussed in detail.

4.1 Biological/ESA

Preferred Alternative: For the first reservoir nutrient supplementation pilot study, the Corps prepared a biological assessment (BA) in 2006 in accordance with the Endangered Species Act (ESA) that addressed only the nutrient application program initiated in 2007. The Corps received concurrence from both the US Fish and Wildlife Service (USFWS)

Table 1. Relevant Environmental Project Components

Environmental Component	Further Consideration	Explanation
Biological/Endangered Species Act (ESA)	Yes	ESA species (i.e. bull trout, steelhead, Chinook salmon and Canada lynx) may occur within project area or potentially be impacted by the proposed action.
Cultural Resources	No	The proposed action is a Federal undertaking but does not involve ground disturbances or chemical effects to sediments. The current scope of activities does not have the potential to affect historic properties.
Water Quality	Yes	EPA clarified that a NPDES permit would be required for the proposed nutrient application program.
Recreation	No	The proposed project/nutrient application process would not interfere with current recreation activities (e.g. boating, swimming, fishing). If project goals are achieved, recreational experiences would be enhanced – i.e. better water quality and improved fisheries (e.g. greater numbers of fish and larger size).
Environmental Justice	No	Proposed action would have no negative impacts (e.g. economically) on any minority/ethnic group or social class. Potential reservoir improvements would be of benefit to all visitors/recreationists.
Noise	No	The project area is a 54-mile long Federal reservoir with minimal development along the shoreline (i.e. Dworshak State Park, boat launch areas and boat-in camping sites). Current noise levels are not excessive given the reservoir's large area and limited number of recreation sites. Boating is a major activity on the reservoir but does not create a high noise level because of the size of the reservoir. The proposed project (i.e. slow moving barge applying liquid fertilizer) would have a negligible impact on the overall noise level within the reservoir.

Table 1. Relevant Environmental Project Components (continued)

Environmental Component	Further Consideration	Explanation
Climate Change	No	The Council on Environmental Quality (CEQ) in draft NEPA guidance for documenting effects of climate change and Greenhouse Gas (GHG) emissions uses 25,000 metric tons of CO_2-equivalent GHG emissions produced annually by a proposed action as a baseline indicator for doing quantitative and qualitative assessments. No information could be located on how to calculate GHG emissions produced by a barge. However, it is not anticipated that the total GHG emissions produced by the seasonal operation of a single barge for the nutrient application program would come close to meeting the 25,000 metric ton GHG emission threshold.
Air Quality	No	The project area meets Idaho State's ambient air quality standards and is in "attainment". Reservoir air quality would be negligibly impacted by the proposed nutrient application process – i.e. dispersal of liquid fertilizer from a single barge**.**
Cumulative Effects	No	No listed environmental component would be impacted at a significant level by the proposed project. Other planned Dworshak undertakings (i.e. Ahsahka Stewardship Project and Canyon Creek Low Water Parking Area and Road Development) were also reviewed. The scope of these activities would not cumulatively result in significant impacts to any of this project's identified environmental components. Lastly, no known past, current and/or foreseeable future actions beyond those reviewed for the proposed nutrient supplementation study were identified which would result in cumulative impacts at a significant level.

and National Marine Fisheries Service (NMFS) on its "not likely to adversely affect" determinations for fish and wildlife species listed under the ESA and their designated critical habitats. The Corps also received concurrence from NMFS on its determination that the nutrient supplementation project would not adversely affect Essential Fish Habitat.

For the proposed 2012-2016 nutrient supplementation pilot study, a BA was again prepared. However, unlike the initial pilot study BA, the current BA not only addressed the execution of the Corps' nutrient supplementation project at Dworshak Reservoir but also the issuance of the NPDES permit to the Corps by EPA. The additional coverage of the NPDES permit was needed because of EPA's determination in 2010 that such a permit was required for the Corps' nutrient application program. The Federal action for ESA consultation was the issuance of EPA's NPDES permit and the subsequent implementation of the pilot study by the Corps. The NPDES permit must first be issued before the nutrient application can occur. For this reason, the EPA became the lead agency for doing consultation with the USFWS and NMFS.

The following text is taken from the 2011 Dworshak Reservoir NPDES Permit Issuance BA.

> The proposed action is for the issuance of a NPDES permit by the EPA for the Corps' Nutrient Supplementation Project. The issuance of the permit will allow the Corps to implement their project in cooperation with IDFG. The intent of the project is to enhance the microscopic biota of the reservoir in order to improve the ecosystem of the whole reservoir. The expected results are the reduction of undesirable blue-green algae and an increase in desirable zooplankton and green algae. The increase of the latter should help increase the macro-invertebrate population of the reservoir. This will hopefully lead to an increase in the kokanee population and/or an increase in the size of individual kokanee. Bull trout, which prey on kokanee, would subsequently benefit from this project. Indirect effects may include increases in populations of other fish and macro-invertebrates or other aquatic vertebrates" (EPA, 2011).
>
> The Corps would implement best management practices for the proposed project to alleviate/minimize any potential effects which might likely adversely affect ESA-listed species or their designated/proposed critical habitats. In addition, tributaries of Dworshak Reservoir which provide critical habitat for bull trout would not be affected by this project. Downstream effects from nutrient supplementation on water quality and Snake River fall Chinook and steelhead should be negligible and most likely immeasurable.

Table 2. Endangered Species Effect Determinations

Species	Effect Determination
Threatened	
1. Snake River Fall Chinook	May Affect, Not Likely to Adversely Affect
2. Snake River Basin Steelhead	May Affect, Not Likely to Adversely Affect
3. Columbia Basin Bull Trout	May Affect, Not Likely to Adversely Affect
4. Canada Lynx	No effect
5. Gray Wolf	Delisted

Species	ESA Designation	Species Determination	Critical Habitat Determination
1. SR Fall Chinook	Threatened	NLAA	NLAA
2. SR Basin Steelhead	Threatened	NLAA	NLAA
3. Columbia Basin Bull Trout	Threatened	NLAA	NLAA
4. Canada Lynx	Threatened	No effect	No effect
5. Gray Wolf	Not Listed	Delisted	

In addition to the determinations listed in Table 2, the EPA also made a determination of "no adverse effects" for Essential Fish Habitat. The National Marine Fisheries Service and US Fish and Wildlife Service concurred with all EPA effect determinations on June 6, 2011 and June 7, 2011 respectively (Appendix A).

No Action Alternative: Under this alternative, it is anticipated that reservoir productivity would continue to decline or at best, reach a state of equilibrium but at a level of productivity lower than when the reservoir was initially formed. Reduced productivity would impact reservoir fisheries, including kokanee.

4.2 Water Quality

Preferred Alternative: The Corps inquired about the need for an EPA NPDES permit prior to the start of the 2007 nutrient supplementation pilot study. EPA's position at the time was that such a permit was not required because the Corps' proposed action was a beneficial use. Subsequent to this, EPA's position changed and it notified the Corps of the need for a NPDES permit. As a result, the Corps and IDFG agreed to suspend the initial nutrient application pilot study.

For the proposed 2012-2016 nutrient application pilot study, the Corps applied to EPA for a NPDES permit. The permit (Number ID-0028444) was issued to the Corps on September 6, 2011 and it authorizes the discharge of liquid 32-0-0 urea-ammonium nitrate fertilizer (effluent) into Dworshak Reservoir from a barge fitted with a delivery tank, from April 1 through September 30th each year. The permit became effective on October 15, 2011 and expires at midnight, September 30, 2016. The permit identifies

required effluent limitations and requires submission of Discharge Monitoring Reports (includes general monitoring, recording and reporting requirements), Quality Assurance Plan, Best Management Practices (BMP) Plan and annual Progress Report and Data Summary (EPA, September, 2011).

Prior to issuing its NPDES permit to the Corps, the EPA applied to the Idaho Department of Environmental Quality (DEQ) for Section 401 water quality certification. Under the provisions of the Clean Water Act and Idaho statutes, the Idaho DEQ has authority to review NPDES permits and issue water quality certification decisions. Based on its review of EPA's submitted NPDES permit and associated project information, the Idaho DEQ issued a Section 401 Water Quality Certification on July 26, 2011 for the proposed project. The document stated that if the permittee complied with the terms and conditions of the permit along with the conditions set forth in the water quality certification, then there was reasonable assurance that the proposed discharge (i.e. nutrient supplementation) would comply with the applicable sections of the Clean Water Act, Idaho Water Quality Standards and other appropriate water quality requirements of Idaho State law The Idaho DEQ concluded that the pilot study should not result in a lowering of water quality in the Dworshak Reservoir (Idaho DEQ, July, 2011).

NOTE: In August, 2010, TerraGraphics Environmental Engineering, Inc. (project consultant) submitted a summary of the Dworshak Nutrient Enhancement Project to the Corps. The report notes the following with regard to the nutrient supplementation process.

- Some increases observed in the productivity of both phytoplankton and zooplankton.
- Kokanee are slightly larger and heavier for a given weight when compared to pre-application fish.
- The nutrient enhancement program is not the principle cause of Dworshak Reservoir's blue-green algae blooms. (The blooms can sometimes produce toxins.) The data collected and current understanding of aquatic systems indicates that the most likely impact of the project has been to improve the pelagic (near the surface) community and to help suppress the blue-green blooms that have occurred.
- Based on collected information, it is logical to assume that infectious haematopoietic necrosis (IHN) outbreaks at the Dworshak National Fish Hatchery are due to factors other than the addition of trace amounts of nitrogen to the reservoir itself.
- At this time, there is no evidence and no valid scientific hypothesis that could result in adverse changes in the water quality of the North Fork Clearwater (NFC) River as a result of the project (TerraGraphics, 2010).

Along similar lines, EPA states within its NPDES permit that it has no evidence to show that nutrient supplementation is the principle cause of the blue-green algae blooms which develop in the reservoir or has caused adverse changes in the water quality of the NFC or the public drinking water that is drawn from the NFC River (EPA, September 2011).

No Action Alternative: Under this alternative, it is anticipated that water quality within the reservoir would continue to decline and be reflected in such things as continued growth of blue-green phytoplankton/algae and loss of biological productivity.

5.0 ENVIRONMENTAL REVIEW REQUIREMENTS.

5.1 Federal Requirements

5.1.1 National Historic Preservation Act, As Amended

A cultural resources assessment was made of the proposed project activities. The Corps made a determination of "No Potential to Affect Historic Properties". No further action was required.

5.1.2 Clean Air Act, As Amended

Pursuant to Section 309 of the Act, this environmental assessment would be provided to the Environmental Protection Agency (EPA) for review and comment. Operation of a barge and other equipment for liquid fertilizer application would cause only a minor, temporary increase in air emissions. The project area would still meet attainment standards.

5.1.3 Clean Water Act

The project involves the discharge of an effluent into waters of the US. Both a NPDES permit (from EPA) and a 401 water quality certification (from Idaho DEQ) were obtained.

5.1.4 Endangered Species Act of 1973, As Amended

The Corps prepared a biological assessment (BA) that addressed both the Corps' reservoir nutrient application process and EPA's NPDES permit process. The Corps submitted the BA to EPA, which served as the lead agency for ESA compliance on the Dworshak Nutrient Supplementation Project. EPA then sent the BA to the NMFS and the USFWS for review. Both the USFWS and NMFS concurred with EPA's "may affect, not likely to adversely affect" determination for each of the identified ESA species and identified critical habitat; NMFS concurred with EPA's "no adverse effects" determination for EFH.

5.1.5 Fish and Wildlife Coordination Act

A Coordination Act Report is not required.

5.1.6 National Environmental Policy Act (NEPA)

This environmental assessment was prepared and is being circulated to agencies and the public for review and comment pursuant to requirements of the NEPA. Full compliance with NEPA would be achieved when the Finding of No Significant Impact (FONSI), if one is determined to be appropriate, is signed.

5.1.7 Northwest Electric Power Planning and Conservation Act

The project would not conflict with the requirements of the Act.

5.1.8 Executive Order 11988, Flood Plain Management, May 24, 1977

The project area is not located within the 100-year flood plain.

5.1.9 Executive Order 11990, Protection of Wetlands, May 24, 1977

No wetlands would be impacted by the proposed action.

6.0 COORDINATION.

This EA is being distributed for public and agency review and comment and is also available through the Walla Walla District Corps of Engineers website at www.nww.usace.army.mil. The distribution list includes the following:

Individual	**Organization**
Christine Reichgott	Environmental Protection Agency
Vera Sonneck	Nez Perce Tribe
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Andy Dux	Idaho Department of Fish and Game
Sean Wilson	Idaho Department of Fish and Game
Dave Statler	Nez Perce Tribe
Jenifer Harris	Nez Perce Tribe
Clayton Steele	Idaho Department of Environmental Quality
John Cardwell	Idaho Department of Environmental Quality
	Idaho State Historic Preservation Office
Robert Rose	US Army Corps of Engineers, North Pacific Division
Jim Yost	Northwest Planning and Conservation Council
Mike Crapo	US Senator, Idaho State
James Risch	US Senator, Idaho State
Raul Labrador	US Representative, Idaho State

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APPENDIX A

ENDANGERED SPECIES ACT COORDINATION

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 NMFS Numbers:
2006/05137; 2011/02141 (EPA); 2011/02142 (COE)

June 2, 2011

6
2011

Michael J. Lidgard
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Lt. Col. David A. Caldwell
U.S. Army Corps of Engineers
Walla Walla District Office
201 N. Third Avenue
Walla Walla, Washington 99362

RE: Endangered Species Act section 7 Informal Consultation for the issuance of an NPDES permit and project implementation for the Dworshak Reservoir Nutrient Enhancement Pilot Project (One Project), Permit # ID-0028444, HUC 17060308, North Fork Clearwater River; Clearwater County, Idaho

Dear Mr. Lidgard and Lt. Col. Caldwell:

This letter responds to the U.S. Environmental Protection Agency's (EPA) May 25, 2011, letter requesting Endangered Species Act (ESA) consultation and Magnuson-Stevens Fishery Conservation and Management Act (MSA) on the issuance of a National Pollutant Discharge Elimination System (NPDES) permit and project implementation for the Dworshak Reservoir Nutrient Enhancement Pilot Project. With the letter, the EPA attached a biological assessment (BA) and a fact sheet outlining the basis for the permit conditions. These documents explain the potential impacts of the pilot study enhancement project on Snake River Basin steelhead, Snake River fall Chinook salmon, designated critical habitat, and essential fish habitat (EFH) under National Marine Fisheries Service (NMFS) review. In their BA, the EPA made a "not likely to adversely affect" (NLAA) determination for the ESA-listed species and critical habitat. The project has been reviewed by NMFS, as provided under section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402, and section 305(b)(2) of the MSA and its implementing regulations, 50 CFR Part 600.

This consultation covers the EPA for issuance of the NPDES permit and the U.S. Army Corps of Engineers (COE) for project implementation for this program for a 5-year period beginning with the date of the issuance of the permit. The enhancement project was also the subject of a 2006

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consultation (2006/05137) with the COE in which NMFS concurred with an NLAA determination for ESA-listed Snake River Basin steelhead and fall Chinook salmon. According to the 2006 COE's BA, the purpose of the Dworshak nutrient enhancement program was to conduct a study on the feasibility of increasing the biological productivity of Dworshak Reservoir by adding inorganic, liquid fertilizer, with the underlying action to improve the kokanee fishery of Dworshak Reservoir. The COE attached a report titled *Dworshak Reservoir: Rationale for Nutrient Supplementation for Fisheries Enhancement* compiled by TerraGraphics Environmental Engineering that outlined the implementation procedures and protective guidelines, along with a monitoring program designed to determine the effectiveness of the nutrient enhancement program. The COE applied both ammonium polyphosphate and urea-ammonium nitrate fertilizers to Dworshak Reservoir in 2007, but changed the application in 2008 through 2010 to urea-ammonium nitrate only when monitoring showed that additional phosphorous in the reservoir was not necessary.

Endangered Species Act

Snake River fall Chinook salmon and Snake River Basin steelhead are likely to occur within the action area. The action is within designated critical habitat in the North Fork Clearwater River (North Fork) below Dworshak Dam for both Snake River fall Chinook salmon and steelhead. Although spring/summer Chinook salmon are found within the Clearwater River drainage, they are not listed under the ESA. Therefore, pursuant to NMFS' ESA responsibilities and authorities, NMFS evaluated the effects of the project on ESA-listed species and their designated critical habitat (see Table 1).

Table 1. Federal Register notices for final rules that list threatened and endangered species, designate critical habitats, or apply protective regulations to listed species considered in this consultation.

Species	Listing Status	Critical Habitat	Protective Regulations
Chinook salmon (*Oncorhynchus tshawytscha*)			
Snake River fall-run	T 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	6/28/05; 70 FR 37160
Steelhead (*O. mykiss*)			
Snake River Basin	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160

Note: Listing status: 'T' means listed as threatened under the ESA.

The EPA proposes to issue an NPDES permit to the COE for a nutrient supplementation pilot project in which liquid nitrogen fertilizer will be discharged to Dworshak Reservoir. The EPA issued a public notice concerning issuance of an NPDES permit with a public comment period that ended on March 24, 2011. The NPDES permit will not be issued until the certification requirements of section 401 of the Clean Water Act have been met with the Idaho Department of Environmental Quality (IDEQ).

The action area considered in this document consists of Dworshak Reservoir and the North Fork 1.9 miles below Dworshak Dam to its confluence with the mainstem Clearwater River. The mainstem Clearwater River is not considered part of the action area because appreciable changes in river nutrients and water quality are not expected due to dilution by the larger volume of water in the mainstem, along with the low concentrations of nutrients that may be added from the North Fork.

Dworshak Reservoir has been divided into three treatment sections, with the prescribed amount of fertilizer in each zone adjusted for the area, volume, and elevation of each section's pelagic (open water) zone as described in the 2006 BA and enhancement report. Prescribed application rates are based on published studies of similar reservoir fertilization results. The fertilizer application rates for each zone of the reservoir are intended to provide no more fertilizer than the biological community can assimilate.

The EPA, through the COE, will implement the following conservation measures to reduce the potential of adverse effects of the proposed project on anadromous fish and/or their habitat:

1. The permit requires the COE to refuel the barge at Big Eddy Marina, or an off-reservoir fuel facility where spill kits and absorbent mats will be available and will be capable of absorbing 125% of any potential fuel or petroleum spill.

2. Application equipment (truck, generators, etc.) will be inspected for leaks, cleaned, and repaired prior to loading on the barge.

3. A spill prevention and control plan will be developed and discussed with equipment operating personnel prior to fertilizer application. The plan will provide detailed descriptions on how to prevent a spill or ensure effective and timely containment of any chemical spill. The plan will include spill control, containment, and clean-up procedures.

4. In the event of over application or a spill of nutrient fertilizer, all application activities will cease immediately. The spill will be dispersed as quickly as possible using any reasonable means available, such as mixing the fertilizer with the barge wake and propellers.

5. The volume of liquid fertilizer transported on the barge will not exceed the total quantity of the weekly application by more than 10%.

6. The application of the fertilizer will be computer controlled and linked to a global positioning satellite (GPS).

7. The permit requires the COE to apply fertilizer so that it is rapidly mixed with the receiving water. The fertilizer will be distributed through a spreader bar to distribute it over a wider area and will be mixed by propeller wash.

8. The permit requires periodic monitoring at multiple locations to analyze the effects of the added nutrients (See permit at I.C, Surface Water Monitoring). If monitoring shows significant negative effects, the program would be modified or halted. The permit requires that the COE cease nutrient additions until obtaining approval from EPA and the IDEQ to resume if the annual median chlorophyll a concentration in the reservoir exceeds 3.0 μg/L or if the annual median Secchi disk reading is less than 3.0 meters.

9. The permit requires the COE to take reasonable steps to prevent tampering or vandalism resulting in an uncontrolled discharge of fertilizer to surface waters.

10. The COE will adhere to IDEQ consent order best management practices. All other restrictions as applicable through the previous COE consultation (2006/05137) will also apply.

Species Determination:

Adult Snake River fall Chinook salmon and Snake River Basin steelhead are found in the North Fork in the vicinity of the action area. The potential pathways for adverse effects to salmonids from the proposed action are through decreased water quality and mortality. Adverse effects to ESA-listed salmon and steelhead from the proposed action will be insignificant or discountable for the following reasons:

1. Dworshak Dam eliminated access for anadromous fish to all but the lower 1.9 miles of the North Fork; any anadromous salmonids above Dworshak Dam in the reservoir and its tributaries are not covered by the ESA. Due to the separation of ESA-listed fish and the project area, the risk of adverse effects will be discountable.

2. The project conservation measures incorporated within the proposed action should be sufficient to ensure that a potential spill of either fertilizer or petroleum products within the reservoir should not cause direct mortality to anadromous fish downstream of the reservoir. Any effects would be limited by these measures to insignificant levels.

3. In 2008 and 2009, the Dworshak National Fish Hatchery experienced increased incidence of infectious hematopoietic necrosis (IHN) and subsequent high mortalities of juvenile hatchery steelhead; those same years coincided with years of nutrient supplementation in the reservoir. The incidence of the IHN disease and mortality in 2010, however, seems to have been reduced by the hatchery obtaining more of its water supply directly from the reservoir, which does not have IHN. The North Fork does have IHN. Because the IHN levels have varied independently of the nutrient program, the risk of increased IHN is discountable.

Based on the best available information and successful implementation of measures described in the BA, NMFS has determined the subject action would have no more than a negligible potential to adversely affect ESA-listed Snake River fall Chinook salmon and Snake River Basin steelhead. NMFS concurs with the EPA's finding that the subject action is "not likely to adversely affect" listed Snake River fall Chinook salmon and Snake River Basin steelhead.

Critical Habitat Determination

NMFS reviews the status of designated critical habitat affected by the proposed action by examining the condition and trends of primary constituent elements (PCEs) throughout the designated area. The PCEs consist of the physical and biological features identified as essential to the conservation of the ESA-listed species (Table 2). The PCEs required for Snake River fall Chinook salmon and Snake River Basin steelhead include sites essential to support one or more life stages of the ESA-listed species (sites for spawning, rearing, and migration) and contain physical or biological features essential to salmon and steelhead conservation.

Table 2. Types of sites and essential physical and biological features designated as PCEs, and the species life stage each PCE supports.

Site	Essential Physical and Biological Features	ESA-listed Species Life Stage
Snake River Basin Steelhead[a]		
Freshwater spawning	Water quality, water quantity, and substrate	Spawning, incubation, and larval development
Freshwater rearing	Water quantity & floodplain connectivity to form and maintain physical habitat conditions	Juvenile growth and mobility
	Water quality and forage[b]	Juvenile development
	Natural cover[c]	Juvenile mobility and survival
Freshwater migration	Free of artificial obstructions, water quality and quantity, and natural cover[c]	Juvenile and adult mobility and survival
Snake River Fall Chinook Salmon		
Spawning and Juvenile Rearing	Spawning gravel, water quality and quantity, cover/shelter, food, riparian vegetation, and space	Juvenile and adult.
Migration	Substrate, water quality and quantity, water temperature, water velocity, cover/shelter, food[d], riparian vegetation, space, safe passage	Juvenile and adult.

a. Additional PCEs pertaining to estuarine, nearshore, and offshore marine areas have also been described for Snake River Basin steelhead. These PCEs will not be affected by the proposed action and have therefore not been described in this letter of concurrence.

b. Forage includes aquatic invertebrate and fish species that support growth and maturation.

c. Natural cover includes shade, large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

d. Food applies to juvenile migration only.

The action has the potential to negatively affect PCEs and fish habitat within the action area by decreasing water quality and altering the substrate, natural cover, and forage/food. However, adverse effects to ESA-listed salmon and steelhead habitat from the proposed action will be insignificant or discountable for the following reasons:

1. The greatest potential for negative water quality effects from nutrient enhancement includes those effects related to fertilizer or petroleum product spills in Dworshak Reservoir. However, these effects should be insignificant due to the EPA's conservation measures that reduce both the likelihood and the amount of spill. Similar fertilization projects in the northwest United States and British Columbia resulted in an increased fishery with little degradation to water quality or clarity.

2. NMFS expects that levels of undesirable blue-green algae in the reservoir during the summer will decrease with the fertilizer treatments and improve the food web structure. Nutrient uptake in Dworshak Reservoir is expected to occur within 12 hours of fertilizer distribution. The risk of adverse effects via this mechanism is discountable.

3. The proposed NPDES permit reflects the changes made in 2008 to a nitrogen fertilizer only. No phosphorous fertilizers are proposed for use. The risk of adverse effects via this mechanism is discountable.

4. Significant changes in water temperatures within Dworshak Reservoir are not expected due to the size and depth of the reservoir. The reservoir is used to manipulate water temperatures in the North Fork through strategic water releases. The risk of adverse effects via this mechanism is discountable.

5. NMFS expects no change to the current oxygen levels in the North Fork below Dworshak Dam since the multi-level spillway replenishes dissolved oxygen, and the amount of algal and microbial biomass expected to spill over the reservoir is unlikely to have an appreciable effect on the biological oxygen demand downstream. Any effects would be insignificant.

Based on the best available information and successful implementation of conservation measures described in the BA, NMFS concurs with the EPA's finding that the proposed project is "not likely to adversely affect" designated critical habitat for Snake River fall Chinook salmon and Snake River Basin steelhead.

Magnuson-Stevens Fishery Conservation and Management Act

Federal agencies are required, under 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect EFH. The MSA defines EFH as "those

waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA 305(b)(4)(A)). This consultation is based, in part, on information provided by the EPA and COE and descriptions of EFH for Pacific salmon contained in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (August 1999) developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce (September 27, 2000).

The proposed action and action area are described in the BA and this letter. The action area includes habitat which has been designated as EFH for various life stages of Chinook salmon and coho salmon. Because the habitat requirements (i.e., EFH) for Chinook and coho salmon in the action area are similar to those of the ESA-listed species and because the conservation measures included as part of the proposed action are adequate to address ESA concerns, they are also adequate to avoid, minimize, or otherwise offset potential adverse effects to designated EFH. Therefore, conservation recommendations pursuant to MSA (305(b)(4)(A)) are not necessary.

This concludes informal ESA consultation on this action in accordance with 50 CFR 402.14 (b)(1), and MSA consultation in accordance with 50 CFR 600.920 (e)(3). The EPA and/or the COE must reinitiate consultation on this action if new information becomes available, or if circumstances occur that may affect ESA-listed species, designated critical habitat, or EFH in a manner, or to an extent, not previously considered. This letter of concurrence meets the applicable Information Quality Act standards for utility, integrity, and objectivity.

Mr. Dale Brege at (208) 983-4060 is the NMFS contact for this consultation.

Sincerely,

David Mahr
for

William W. Stelle, Jr.
Regional Administrator

cc: R. Holder – USFWS
E. Schriever – IDFG
J. DuPont – IDFG
M. Lopez – Nez Perce Tribe
F. Higginbotham – COE
B. Nickel – EPA

United States Department of the Interior

Fish and Wildlife Service

Idaho Fish And Wildlife Office

1387 S. Vinnell Way, Room 368
Boise, Idaho 83709
Telephone (208) 378-5243
http://www.fws.gov/idaho

JUN 07 2011

Michael J. Lidgard
Manager, NPDES Permits Unit
U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Subject: NPDES Permit for the Dworshak Reservoir Nutrient Supplementation Project—Clearwater County, Idaho—Concurrence
CONS-100a 14420-2011-I-0179

Dear Mr. Lidgard:

This letter transmits the Fish and Wildlife Service's (Service) concurrence on the effects of the proposed issuance of a National Pollution Discharge Elimination System Permit for the Army Corps of Engineers (Corps) Dworshak Reservoir Nutrient Supplementation project to species listed under the Endangered Species Act (Act) of 1973, as amended. In a letter dated May 25, 2011, and received by the Service on May 27, the Environmental Protection Agency (EPA) requested concurrence with the determination, documented in your Biological Assessment (Assessment), that the issuance of the permit for the Corp's nutrient supplementation project is not likely to adversely affect bull trout (*Salvelinus confluentus*) and its critical habitat. Our letter addresses both the issuance of the National Pollutant Discharge Elimination System (NPDES) permit by the EPA and implementation of the Dworshak Reservoir Nutrient Supplementation project by the Corps and voids our previous 2006 letter to the Corps discussed below.

To address declining biological productivity in Dworshak Reservoir, especially in regards to kokanee salmon (*Oncorhynchus nerka*), the Corps began a 5 year pilot nutrient supplementation project in 2007. We provided a letter to the Corps on September 12, 2006 (2006-I-1014) concurring with their determination that the project was not likely to adversely affect the bull trout, the bald eagle (*Haliaeetus leucocephalus*) and the gray wolf (*Canis lupus*). Please note that the Service delisted the bald eagle and the gray wolf subsequent to our 2006 letter.

The Corps began fertilizer applications in 2007 and continued applications in subsequent years until May 2010 when the EPA determined that the project required an NPDES permit. The issuance of the NPDES permit will allow the Corps, in coordination with the Idaho Department of Fish and Game and the Nez Perce Tribe, to continue the project for

TAKE PRIDE IN AMERICA

five years beginning in 2011 or 2012, depending on whether the permit is issued in time for fertilizer applications in 2011.

The Corps will apply liquid nitrogen fertilizer (ammonium nitrate, 11 pounds per gallon concentration) once per week. The NPDES permit would allow nutrient application from April 1st through September 30th each year, however, specific application start and end dates will change from year to year and depend primarily on water temperature. Generally, application would start around the last week of April and end the last week of September. A barge carrying a fertilizer truck will be used for applying the fertilizer. Barge speed can be adjusted, and the nozzles will automatically adjust the discharge rate according to barge speed. Application rate varies with lake level and season.

A 2010 summary memorandum[1] indicates that the project has not resulted in any adverse impacts to water quality in the Reservoir and that there has been an increase in edible phytoplankton and subsequent increase in zooplankton biomass. These are stated goals of the project.

The project incorporates Impact Minimization Measures and NPDES permit limitations and monitoring to reduce resource impacts. Refer to the Assessment for a complete project description.

Service concurrence that the project is not likely to adversely affect bull trout is based on the following rationales:

- Nutrient supplementation is expected to benefit bull trout because increased phytoplankton productivity in the Reservoir should benefit kokanee salmon productivity. As bull trout are piscivorous, increases in kokanee productivity equates to a more abundant bull trout food source.

- Other effects, besides the beneficial effect described above, are expected to be insignificant because of the Impact Minimization Measures and NPDES permit limitations and monitoring incorporated into the project. These protection measures include restricting the amount of fertilizer transported by barge to no more than 10 percent above the amount needed for a week, checking equipment daily for leaks, refueling at Big Eddy Marina or an off reservoir location where spill kits and absorbent mats are available, and immediately ceasing fertilizer applications in the event of a spill or over application. Monitoring will provide feedback on the effectiveness of the project. If monitoring indicates significant negative effects to bull trout are occurring, the project will be modified or halted.

- The Service designated Dworshak Reservoir and the North Fork Clearwater River below the Reservoir as bull trout critical habitat. The effects of the project on the Primary Constituent Elements are expected to be insignificant and/or

[1] Brandt, D. 2010. Summary of Dworshak Nutrient Enhancement Project. Memorandum to John Bailey, U.S. Army Corps of Engineers, Walla Walla Washington. Terragraphics, Spokane, Washington. August 2, 2010.

discountable. The project will maintain the functionality of the critical habitat in providing feeding, migrating, and overwintering habitat for bull trout.

This concludes informal consultation on the proposed project under section 7 of the Act. If the proposal addressed in this letter is modified, environmental conditions change, or additional information becomes available regarding potential effects on listed species, you should verify that your conclusions are still valid.

Thank you for your continued interest in the conservation of threatened and endangered species. Please contact Clay Fletcher at (208) 378-5256 if you have questions concerning these comments.

Sincerely,

FOR Brian T. Kelly, State Supervisor
Idaho Fish and Wildlife Office

cc: IDFG, Region II, Lewiston (Hennekey)
NOAA Fisheries, Grangeville (Brege)
COE, Walla Walla (Caldwell)

APPENDIX B

CULTURAL RESOURCES COORDINATION

CENWW-PM-PD-ECS April 15, 2011

MEMORANDUM FOR Environmental Compliance Section, Walla Walla District, U.S. Army Corps of Engineers

SUBJECT: National Register of Historic Places, Section 106 Finding of No Potential to Affect for the Dworshak Nutrient Study

1. SUMMARY: The Walla Walla District Cultural Resources Management (CRM) Team has completed the National Historic Preservation Act (NHPA) Section 106 Review, in accordance with its implementing regulation 36 Code of Federal Regulations (CFR) Part 800, for the proposed federal undertaking. The Dworshak Nutrient Study will assess the effects of increasing the Dworshak Reservoir's organic productivity by adding inorganic nutrients. The objective would be to accelerate fish growth for stocking schedules and generally benefit fish populations to create a higher quality fishery. The liquid fertilizer treatments would be applied from tank on a barge each week over a two day period. The barge wake and prop wash would mix the fertilizer in the epilimnion. The nutrient applications may occur over the entire reservoir.

2. DETERMINATION: The Walla Walla District, U.S. Army Corps of Engineers is reviewing the annual requirements of the Nutrient Supplement Plan. The undertaking does not involve ground disturbances or chemical effects to sediment. We have determined the current scope of activities does not have the potential to affect historic properties. However, if the requirements of the plan change an additional review of the federal action may require additional review under 36 CFR Part 800.

3. ADMINISTRATIVE RECORD: The Walla Walla District has completed the necessary review for this project and has no further obligations under Section 106 of the NHPA and 36 CFR Part 800. A copy of this review is filed at the Walla Walla District.

4. For further information or questions regarding this action, please contact Mary E. Keith, at (509) 527-7278 or mary.e.keith@usace.army.mil.

Mary E. Keith
Archeologist

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Peer Reviewer

APPENDIX C

CLEAN WATER ACT COORDINATION

DRAFT

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1118 F Street • Lewiston, Idaho 83501 • (208) 799-4370

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

Idaho Department of Environmental Quality

§401 Water Quality Certification

July 26, 2011

NPDES Permit Number: ID-0028444; Dworshak Reservoir Nutrient Enhancement Pilot Project

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Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC Section 1341 (a)(1), and Idaho Code §§ 39-101 et.seq., and 39-3601 et.seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NDPES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, including the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02) and other appropriate water quality requirements of State law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations or permits.

CONDITIONS THAT ARE NECESSARY TO ASSURE COMPLIANCE WITH WATER QUALITY STANDARDS OR OTHER APPROPRIATE WATER QUALITY REQUIREMENTS OF STATE LAW

1. The permittee shall submit to DEQ two copies of the Dworshak Reservoir Nutrient Enhancement Project Progress Report and Data Summary. At a minimum, this document shall include the following:
    - Description of the application activities;
    - Description of the environmental conditions (climate and hydrology);
    - Description of the monitoring methods and results (similar to the requirements in Part I.C.5 of the NDPES permit); and
    - Discussion of the results.

2. Within thirty days of receipt of the Dworshak Reservoir Nutrient Enhancement Project Progress Report and Data Summary, DEQ will respond with any questions, comments or requests for further information. If further information is required by DEQ, the permittee shall submit such information to DEQ within thirty days of DEQ's request.

3. If at any time during the period of nutrient enhancement activities agency notification is required, the permittee shall notify the Department of Environmental Quality Lewiston Regional Office at (208) 799-4370 or email John.Cardwell@deq.idaho.gov.

4. Any equipment operated adjacent to waters of the State shall be maintained in a good state of repair in order to prevent an unauthorized release of pollutants into waters of the State. If an above ground spill or overfill of petroleum results in a release that exceeds 25 gallons or causes a sheen on nearby surface water, the responsible person must make an effort to contain the spill and notify the Emergency Response System at 1-800-632-8000.

5. The permittee shall be responsible for obtaining the required agreements necessary to implement the nutrient enhancement activities.

MIXING ZONES

Pursuant to IDAPA 58.01.02.060.01.f, DEQ authorizes a mixing zone for nitrogen that is limited to ten percent (10%) of the epilimnion of Dworshak Reservoir.

ANTIDEGRADATION

The antidegradation provision in Idaho's WQS provides that existing uses and the water quality necessary to protect the existing uses shall be maintained and protected (IDAPA 58.01.02.051.01). In addition, where water quality exceeds levels necessary to support uses (high quality water), that quality shall be maintained and protected unless DEQ finds, after intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate important social or economic development in the area in which the waters are located (IDAPA 58.01.02.051.02).

The NPDES permit authorizes the U.S. Corps of Engineers to discharge liquid 32:0:0 urea-ammonium nitrate fertilizer into Dworshak Reservoir. Implementation of the project is designed to secure long-term improvements in water quality by restoring the natural nutrient balance necessary to support the associated uses within Dworshak Reservoir. The effluent limitations and requirements of the permit ensure that the state's numeric and narrative criteria will be met and are set at levels that will not result in degradation. Furthermore, the project is expected to enhance the aquatic life communities in the reservoir. The NPDES permit requires implementation of best management practices. As such, DEQ has concluded that changes in water quality may be allowed without an antidegradation review (IDAPA 58.01.02.052.02).

OTHER CONDITIONS

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities, including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site specific criteria, variances, or other new information, shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to §401.

RIGHT TO APPEAL FINAL CERTIFICATION

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5), and the Rules of Administrative Procedure Before the Board of Environmental Quality, IDAPA 58.01.23, within 35 days of the date of the final certification.

Questions regarding the actions taken in this certification should be directed to John Cardwell, Surface Water Manager at (208) 799-4370 or John.Cardwell@deq.idaho.gov.

Clayton Steele

Clayton Steele
Regional Administrator
Lewiston Regional Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
WATER AND
WATERSHEDS

SEP 6 2011

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Paul Pence
Natural Resources Manager
U.S. Army Corps of Engineers
P.O. Box 48
Ahsahka, Idaho 83520

Re: Dworshak Reservoir Nutrient Enhancement Pilot Project
NPDES Permit No.: ID0028444

Dear Mr. Pence:

We are issuing a National Pollutant Discharge Elimination System permit for the facility referenced above. The enclosed document authorizes the facility to discharge to the receiving waters indicated in the permit. Also enclosed is EPA's response to the comments received on the draft permit during the public notice period.

This letter serves as service of notice under 40 CFR §124.19(a). The permit will become effective on the date indicated in the permit unless a timely appeal meeting the requirements of 40 CFR §124.19 is received by the Environmental Appeals Board. Information about the administrative appeal process may be obtained on-line at http://www.epa.gov/eab or by contacting the Clerk of the Environmental Appeals Board at (202) 233-0122.

Sincerely,

Michael A. Bussell, Director
Office of Water and Watersheds

Enclosures

cc: Mr. Clayton Steele, Regional Administrator, Idaho Department of Environmental Quality, Lewiston Regional Office

Mr. John Cardwell, Idaho Department of Environmental Quality, Lewiston Regional Office

Commenters (via first class mail or e-mail)

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Authorization to Discharge under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

U.S. Army Corps of Engineers
Walla Walla District
201 N. Third Street
Walla Walla, WA 99362-1876
Dworshak Reservior, Idaho
Nutrient Enhancement Pilot Project

is authorized to discharge nitrogen supplements from a portable tank mounted on a barge at the following location:

Outfall	Receiving Water	Latitude	Longitude
001	Dworshak Reservoir	46° 31' 32.70" N	116° 17; 45.94' W

Legal Description of Dworshak Dam is NE ¼ Section 35, T37N, R 1 E, Willamette Meridian

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective October 15, 2011.

This permit and the authorization to discharge shall expire at midnight, September 30, 2016.

The permittee shall reapply for a permit reissuance on or before April 3, 2016 if the permittee intends to continue operations and discharges at the facility beyond the term of this permit.

Signed this 6th day of September 2011.

Michael A. Bussell, Director
Office of Water and Watersheds