

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

DWORSHAK RESERVOIR NUTRIENT SUPPLEMENTATION PILOT STUDY IDAHO

1. BACKGROUND

The Walla Walla District, US Army Corps of Engineers (Corps) is proposing to resume a nutrient supplementation pilot study at Dworshak Reservoir (Reservoir). The intent of the study is to assess whether applying liquid fertilizer would increase biological productivity within the Reservoir.

2. PURPOSE AND NEED

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. The decline in reservoir nutrients/productivity produced a corresponding decline in the fishery (kokanee being the primary one). Further, 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 due to the “anatoxin a” and Microcystin toxin they may produce (e.g. rash, illness). Because of the declining biological productivity and kokanee fishery, the Corps, in conjunction with the Idaho Department of Fish and Game (IDFG), proposes to undertake a 5 year pilot study to assess the feasibility of enhancing the biological productivity of Dworshak Reservoir by adding inorganic, liquid fertilizer. This study is a continuation of an initial 5-year nutrient supplementation project started in 2007 but suspended in 2010 before completion of the full 5 year assessment period. Because the data from the initial study was inconclusive in determining the efficiency and success of using liquid fertilizer, a full 5-year study is now being proposed.

3. PROPOSED ACTION AND PROJECT ALTERNATIVES

The following two alternatives were identified for this project.

a) Proposed Action –

The proposed action is a 5-year pilot study to assess the benefits of adding inorganic liquid fertilizer to Dworshak Reservoir and continues the nutrient supplementation study started in 2007. The study would be used to help determine the feasibility of continuing this same action or a similar action in the future. This project would begin in 2012 and run through 2016. The objectives of the pilot study are:

- 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

Liquid fertilizer would be kept in double-walled storage tanks located in a secured area that is closed to the public. A tank for distributing the fertilizer would be loaded onto a dump truck and then driven onto a barge that would be used for applying the fertilizer. 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 fertilizer would be applied once per week by the Corps and would take one day for application. The weekly application rate for the liquid fertilizer would vary based on the volume of the reservoir at the time of the application. 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. Monitoring and the reporting of monitoring results will be done on a monthly basis as required under the Corps' National Pollutant Discharge Elimination System permit issued by the Environmental Protection Agency (EPA). 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.

b) Alternative 1 – No Action

Based on the NEPA Regulations promulgated by the Council on Environmental Quality (i.e. 1502.14), each Environmental Assessment (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 can be 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 and conditions favoring blue-green algae production.

4. ENVIRONMENTAL IMPACTS

Nine environmental components were identified as being relevant to this project – biological/endangered species, cultural resources, water quality, recreation, environmental justice, noise, climate change, air quality, and cumulative effects. However, after review and assessment, only biological/endangered species and water quality were identified as needing further assessment, including consultation/coordination with other Federal, state, and tribal entities.

Biological/ESA

For the proposed 2012-2016 nutrient supplementation pilot study, a BA was prepared. This document addressed both the execution of the Corps’ nutrient supplementation project at Dworshak Reservoir and also the issuance of EPA’s Nation Pollutant Discharge Elimination System (NPDES) permit to the Corps. The BA noted that the “...Federal action for this consultation is the issuance of the NPDES permit by the EPA, and, as such, the EPA is the lead agency.” The EPA made the following Endangered Species Act (ESA) determinations.

<u>Species</u>	<u>ESA Designation</u>	<u>Species Determination</u>	<u>Critical Habitat Determination</u>
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	

(NLAA – Not Likely to Adversely Affect)

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.

4.2 Water Quality

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 authorizes the discharge of liquid 32-0-0 urea-ammonium nitrate fertilizer (effluent) into Dworshak Reservoir from a barge that is fitted with a delivery tank, from April 1 through September 30th of each 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

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.

In addition to the affected environment and environmental effects addressed in Section 4 of the EA, the Corps also considered recreation and economic benefits based on comments received during the EA public review period. While both recreation and economic benefits (placed under Environmental Justice) were identified in the EA, neither was carried forward for additional discussion based on their known status at the time.

Recreation: A number of comments expressed concern about algae blooms in the reservoir (attributed to nutrient supplementation) causing rashes or other health issues for swimmers and recreationists who might come into contact with the blooms. Responses/information provided by EPA and IDFG show that algae blooms were observed in Dworshak Reservoir both prior to and after cessation of the initial nutrient supplementation pilot study (i.e. 2007-July 2010). The two agencies also stated there is no evidence that nutrient supplementation is the cause for the algae blooms occurring in the reservoir.

Economic Benefits: Several comments touched on the impacts (both positive and negative) the supplementation study had or might have on the local economy. Dworshak Reservoir has been operating under the current status (i.e. "No Action" alternative) for many years and has reached a level of equilibrium. Based on this situation, it's likely that the portion of the local economy based on reservoir conditions has also been fairly stable although other factors could impact tourism/recreation – e.g. weather, economy, etc. As with recreation, available data does not indicate that nutrient supplementation is adversely affecting the reservoir – e.g. water quality, local fishery. Should there be a decline in the reservoir, it would be from other factors such as less natural nutrients available for intake. A decline in reservoir biological productivity could possibly have a negative impact on the local economy. On the other hand, if the supplementation project is successful and continued in the future, it could improve fishing and recreation opportunities and possibly economic benefit for local communities.

5. COORDINATION

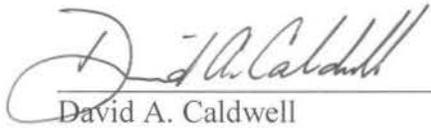
The project has been coordinated with the City of Orofino, Clearwater County Commissioners, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Environmental Protection Agency, Office of Senator Mike Crapo, Office of Senator

James Risch, Office of Representative Raul Labrador, the Idaho State Historic Preservation Office, Idaho Department of Fish and Game, Idaho Department of Environmental Quality, the Nez Perce Tribe, US Army Corps of Engineers (North Pacific Division) and the Northwest Planning and Conservation Council. Each entity was contacted and provided project information.

The project EA and draft FONSI were released for a 30 day public comment period starting January 18, 2012 with a second 30-day review period provided starting on February 17, 2012. Notice of the proposed project and the opportunity for public review of the Environmental Assessment (EA) and draft FONSI was published in the Clearwater Tribune (Orofino, ID) and the Lewiston Tribune (Lewiston, ID). The EA and draft FONSI were also available for review on the Corps' website. Comments and responses are included as an attachment to this FONSI including EPA's responses to public comments received on its proposed issuance of a NPDES permit to the Corps for the Dworshak Nutrient Supplementation Study.

6. FINDINGS

I have taken into consideration the technical aspects of the project, best scientific information available, public comments, and the information contained in the EA. Based on this information, I have determined that the proposed action would not significantly affect the quality of the human environment, and that an Environmental Impact Statement is not required.



David A. Caldwell
Lieutenant Colonel, Corps of Engineers
District Commander

2 May 12

Date

