BONNEVILLE POWER ADMINISTRATION

WELCOME

Kootenai River Nutrient Addition



Open House Meeting

Libby Dam Visitor Center September 10, 2024

5 – 7 p.m.

Bonneville POWER ADMINISTRATION





US Army Corps of Engineers



What are your thoughts?

During the public-involvement process, we want your feedback:

What issues should we evaluate?

- What potential environmental impacts should we analyze?
- What alternatives and mitigation should we consider?

Your comments will help inform better decisions on this project that could affect your community and the environment.

Purpose & Need – BPA

The Bonneville Power Administration (BPA) is evaluating the implementation of a pilot project that would test the feasibility and efficacy of adding nutrients to the Kootenai River immediately downstream of Libby Dam to improve the river's ecological productivity affecting the food web.

In meeting this purpose, BPA seeks to achieve the following needs:

- respond to a request for funding from the Montana Fish, Wildlife and Parks to implement the pilot project,
- support efforts to mitigate the effects on fish and wildlife from the Federal Columbia River Power System consistent with the Northwest Power Act;
- support conservation of Endangered Species Act

(ESA)-listed species, including bull trout;

- support BPA's commitments under the U.S. Fish and Wildlife Service's 2020 Columbia River System **Biological Opinion to improve nutrient conditions in** the Kootenai River downstream of Libby Dam; and
- minimize adverse environmental impacts.

Purpose & Need – USACE

The U.S. Army Corps of Engineers (USACE) is evaluating the implementation of a pilot project that would test the feasibility and efficacy of adding nutrients to the Kootenai River immediately downstream of Libby Dam to improve the river's ecological productivity affecting the food web.

In meeting this purpose, USACE seeks to achieve the following needs:

- respond to a request to allow access and use of Libby Dam from Montana Fish, Wildlife and Parks to implement the pilot project,
- support efforts to mitigate the effects on fish and wildlife from the Federal Columbia River Power System;

support conservation of Endangered Species
Act-listed species, including bull trout;

- support USACE's commitments under the U.S. Fish and Wildlife Service's 2020 Columbia River System Biological Opinion to improve nutrient conditions in the Kootenai River downstream of Libby Dam; and
- minimize adverse environmental impacts.

Purpose & Need – MFWP

The Montana Fish, Wildlife and Parks (MFWP) is evaluating the implementation of a pilot project that would test the feasibility and efficacy of adding nutrients to the Kootenai River immediately

downstream of Libby Dam to improve the river's ecological productivity affecting the food web.

In meeting this purpose, MFWP seeks to achieve the following needs:

 support efforts to mitigate the effects on fish and wildlife from Libby Dam and Lake Koocanusa consistent with the 2023 Statewide Fisheries Management Plan;

support conservation of Endangered Species

- Act-listed species, including bull trout; and
 - minimize adverse environmental impacts.

Kootenai River Existing Condition

The construction of Libby Dam on the Kootenai River in Montana changed the river's flow patterns and reduced nutrient transfer downstream. The upstream reservoir – Lake Koocanusa – sequesters about 91% of the phosphorus and 30% of the nitrogen that naturally flow into the river

system, resulting in low levels of nutrients, phosphorus in particular, downstream of Libby Dam. Phosphorus is essential because it is one of the basic building blocks in the molecules that store energy required for all basic life function.

The low phosphorus levels downstream of Libby Dam contribute to:

 excessive production of stalk material by the algal diatom *Didymosphenia geminata* ("*Didymo*") that

excludes other beneficial algal species;

- shifts in the abundance and diversity of aquatic insects to midges rather than desired species such as mayflies and caddisflies; and
- Iow growth and survival rates of important fish in the Kootenai River, such as the Endangered Species Act-listed bull trout.

Project Map





Proposed Project Benefits

Restore nutrient balance.



 Increase abundance and diversity of aquatic insects.



Increase fish growth.





Reduce nuisance "Didymo" stalk formation.



Project Concept -5, 7, and 9 Mo. Regimes

Proposed pilot study activities:

Additive rate of 1 microgram of phosphorus per liter is equivalent to 1 part per billion.

- Additive rate is above existing levels.
- Apply regime and monitor the response of algae, invertebrates, and fish growth for the pilot study period of additives.
- At the conclusion of the pilot study, decide if and how to continue the nutrient additions.



Project Concept – Cont.

Proposed pilot study activities:

 Same study activities as previous slide for the 7- and 9-month regimes.

7 Month Additive Regime



9 Month Additive Regime



Nutrient Delivery System

21 – 500-gallon poly tanks inside Libby Dam





Historic Properties and Cultural Resources

Libby Dam is eligible for inclusion on the National Register of Historic Places

All work for the pilot study is designed to be temporary and completely reversible at its conclusion.



Do you have any questions or comments about the impact this will have on the historic character of the Libby Dam?

> The yellow shapes show where the equipment would be installed.

Environmental Review

 We will consider the potential environmental and social impacts of this project to determine whether they are significant.

Conducting an environmental review supports each entity's decision of whether to proceed with a proposed action. BPA would decide whether to fund MFWP to implement an action; MFWP would decide whether to conduct an action; and USACE would decide whether to approve the use of Libby Dam for an action.

 BPA, MFWP, and USACE plan to conduct this level of environmental review to ensure

fulfillment of requirements under the National Environmental Policy Act and Montana Environmental Policy Act and assure compliance with other federal environmental laws such as the Endangered Species Act and the National Historic Preservation Act.

Environmental Review Schedule

Public comment period ends

September 25, 2024

Consider public comments



Release Draft EA* for comment

Spring 2025

Address comments in the Draft EA* **Summer 2025**

Release Final EA* and issue decision

Fall 2025

If approved, construction start

Winter 2025

*proposed environmental review schedule if

BPA prepares an EA.

How to Comment

Call: 800-622-4519

Email: communications@bpa.gov

Write: Bonneville Power Administration Communications- DKS-7 P.O. Box 14428 Portland, OR 97293-4428

Online: www.bpa.gov/comment



Please reference "Kootenai River Nutrient Addition Project" with all communications.

Scoping Comment Period Ends: September 25, 2024

Project contacts:

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Greg Hoffman, Libby Dam Fishery Biologist, USACE gregory.c.hoffman@usace.army.mil, 406-283-1090

Jim Dunnigan, Libby Dam Mitigation Coordinator Fisheries Division, MFWP jdunnigan@mt.gov, 406-293-4161 ext. 200

Expected Study Response



Kootenai River Nutrient Addition Project Lincoln County, MT

O Water Quality, Algal, Insects, and Fish Monitoring Sites Libby Dam Nutrient Dispersal Lake Koocanusa Addition Site ---- Streams Response Sites

Scale: 1:125,000

August 01, 2024

0 0.75 1.5 3 3 Miles





