

RECLAMATION

Managing Water in the West

PACIFIC NORTHWEST REGION

RECORD OF DECISION

**Bureau of Reclamation Record of Decision for Upper Columbia Alternative Flood Control
and Fish Operations
Final Environmental Impact Statement**

August 2009



**U.S. Department of the Interior
Bureau of Reclamation**

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, And protect water and related resources in an environmentally and Economically sound manner in the interest of the American public.

**BUREAU OF RECLAMATION
RECORD OF DECISION
FOR
Upper Columbia Alternative Flood Control and Fish Operations
Final Environmental Impact Statement**

I. Introduction

This document constitutes the Record of Decision (ROD) of the Department of the Interior, Bureau of Reclamation (Reclamation), Pacific Northwest Region, regarding the alternative selected for implementation of alternative flood control operations at Hungry Horse Dam on the South Fork Flathead River.

The Corps and Reclamation filed a Notice of Intent to prepare a joint Environmental Impact Statement (EIS) for the Upper Columbia Alternative Flood Control and Fish Operations, commonly referred to as the VARQ Flood Control¹, in the *Federal Register* on October 1, 2001. Scoping letters were sent to over 2000 interested parties in the Columbia Basin. The letters invited the public to comment on the scope of the VARQ Flood Control EIS and provide additional issues or concerns. Seven public scoping meetings were held in October and November 2001 in Oregon, Idaho, Montana, and Washington. On November 10, 2005, the Draft VARQ Flood Control EIS was released for public review and comment. The comment period lasted for 45 days and concluded on December 27, 2005. During this period, seven public meetings were held throughout the region to provide an additional forum to receive public comments. Comments were reviewed and responses to each comment were included in the Final VARQ Flood Control EIS. The Final VARQ Flood Control EIS was issued for a 30 day public comment period on April 28, 2006.²

The U.S. Army Corps of Engineers (Corps) was the lead federal agency for the preparation of the VARQ Flood Control EIS and Reclamation was a cooperating agency. The VARQ Flood Control EIS describes and analyzes the environmental impacts of alternative flood control operations at Libby Dam on the Kootenai River and at Hungry Horse Dam on the South Fork Flathead River. Both dams are located in Montana. The Corps is responsible for operations at Libby Dam and Reclamation is responsible for operations at Hungry Horse Dam. The Corps issued their ROD on June 6, 2008.

Reclamation decided to delay issuance of a ROD in order to complete consultation under Section 106 of the National Historic Preservation Act (NHPA). Reclamation conducted consultations pursuant to Section 106 of the NHPA in 2002 and 2004. However, in 2006, Reclamation determined that, to fully comply with Section 106, further consultations were needed with

¹ VARQ flood control is Variable discharge with Q representing engineering shorthand for discharge.

² Due to requirements of the 2006 Fish and Wildlife Service (FWS) Biological Opinion for Sturgeon operations at Libby dam, The Corps needed to complete their NEPA more quickly than Reclamation's procedure would allow. For this reason Reclamation withdrew as a co-lead on this NEPA and became a cooperator instead.

consulting parties for Grand Coulee before the agency could sign a ROD. In letters dated May 7, 2009, Reclamation further consulted with the Washington State Historic Preservation Office (SHPO), the National Park Service, the Colville Confederated Tribes, and the Spokane Tribe. In a letter dated May 21, 2009, the SHPO concurred with Reclamation's assessment of effect and treatment. No responses were received from other consulting parties.

II. Background

Hungry Horse Dam is one of 14 Federal Columbia River Power System (FCRPS) projects located on the Columbia River and some of its major tributaries. The FCRPS projects have altered the natural river hydrology. Populations of threatened and endangered fish in the Columbia River basin are affected by the altered hydrology.

In accordance with the Endangered Species Act (ESA), Reclamation, the Corps, and Bonneville Power Administration (BPA) engaged in formal consultation on the effects of the operation of the FCRPS on anadromous and resident fish species listed as threatened or endangered. Biological Opinions (BiOps) were issued by the United States Fish and Wildlife Service (USFWS), and the National Ocean and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) in 2000, and most recently the 2008 NOAA Fisheries FCRPS BiOp³ was issued, on the effects of the operation of the FCRPS on species under their jurisdiction. They contained recommendations to implement VARQ Flood Control and certain flow operations to benefit listed fish at Hungry Horse and Libby dams. Additionally, the Fish and Wildlife Program and the 2003 Mainstem Amendments issued by the Northwest Power and Conservation Council (NPCC) included a recommendation to adopt VARQ Flood Control procedures.

Past operations of Hungry Horse Dam were done using Standard Flood Control (Standard FC). High releases were made under the Standard FC during the months of January through April to make room for spring runoff, resulting in a low reservoir level. An essential part of the Standard FC is that during the spring runoff, fill period of May through July, flows can be minimized in order to refill the reservoir. If actual runoff was lower than the volume forecast then the operation based on deep drafts and refill at minimum flow would result in a reduced likelihood and frequency of refilling.

VARQ Flood Control was developed to improve the probability of refill of Hungry Horse Dam while maintaining the same level of local flood control at Columbia Falls, Montana on the mainstem Flathead River and system flood protection in the Columbia River at Portland and Vancouver. The basis of VARQ Flood Control is to draft less water during average and drier water years and allowing the dam releases to vary (as opposed to releasing minimum flow) during the refill period based on the seasonal water supply forecast (WSF), actual reservoir elevation, and the estimate duration of flood control. The VARQ Flood Control enables

³ Consultation on Remand for Operation of the Federal Columbia River Power System, 11 Bureau of Reclamation Projects in the Columbia Basin, and ESA Section 10(a)(1)(A) Permit for Juvenile Fish Transportation Program (Revised and reissued pursuant to court order, *NWF v. NMFS*, Civ. No. (CV 01-640-RE (D. Oregon)). May 5, 2008.

Reclamation to maintain a higher reservoir level in the winter and more reliability of providing spring and summer augmentation flows for fish.

Flood control space required in the reservoir is based on dam's WSF. For years when the April to August WSF is less than 130% of normal at Hungry Horse Dam, the VARQ Flood Control Upper Rule Curve (URC)⁴ would be higher than under the Standard FC during the January through April drawdown period. Years when the WSF is higher than 130 percent, the storage space for flood control at Hungry Horse Dam would be the same under VARQ Flood Control or the Standard Flood Control.

Minimum flow requirements at Columbia Falls and below Hungry Horse dam for bull trout are required year round and often winter minimum outflow requirements are greater than reservoir inflows. This can result in deeper drafts of Hungry Horse reservoir than what would be required for flood control operations in dry years for either VARQ Flood Control or Standard Flood Control.

An indirect effect of implementing VARQ Flood Control at Libby and Hungry Horse is that in slightly above average waters years up to 2 feet more flood control space may be required at Grand Coulee Dam to partially offset the impact on system flood control for Portland and Vancouver. Flood control requirements at Grand Coulee are based on the runoff forecast at The Dalles modified by the upstream storage space that is available. This means that if less space is available at Hungry Horse and Libby dams, more space may be required at Grand Coulee.

III. The Alternatives Considered

The alternatives and flood control curves evaluated in the VARQ EIS for Hungry Horse Dam were developed by the Corps since it is their responsibility to develop flood control curves. The alternatives are described below.

Alternative HS⁵ - No Action: The no action alternative for Hungry Horse Dam is the continuation of Standard Flood Control with salmon and bull trout flow augmentation. Standard FC operations are based on the principal of deep winter drafts for flood control, then minimizing outflow during the refill period from May through the end of June.

Alternative HV⁶ - Preferred: Alternative HV is Reclamation's preferred alternative. This consists of flood control using VARQ Flood Control with salmon and bull trout augmentation flows. The preferred alternative is based on less winter reservoir draft for flood control during years with less than 130% normal⁷ forecast and increases released during the refill period from May through the end of June. This is the current interim operation at Hungry Horse Dam.

⁴ URC is the elevation requirement at the reservoir based on WSF.

⁵ HS abbreviation for Hungry Horse Standard Flood Control

⁶ HV abbreviation for Hungry Horse VARQ Flood Control

⁷ The URC would also be higher in water years with less than 80% normal WSF, but minimum flow requirements for bull trout through out the winter would draft the reservoir below the URC.

Environmentally Preferred: Alternative HV is the environmentally preferred alternative. Alternative HV keeps Hungry Horse Reservoir more full during the winter months which results in increased spring releases and probability of refill both of which benefit anadromous fish.

IV. Decision Factors and Rational for Selected Alternative

Reclamation considered the following factors in identifying alternative HV as the preferred selected alternative.

Hydrology and Flood Control

- Implementation of Alternative HV would result in a slight increase in the probability of refilling Hungry Horse Reservoir.
- Under Alternative HV, there would be no increase in the occurrence of flooding on the Flathead River and the difference in flows would be insignificant in the Pend Oreille River from Albeni Falls Dam to the confluence with the Columbia River.

Aquatic Life

- Modeling shows that under Alternative HV operations, the benthic biomass and phytoplankton production would increase aiding aquatic life in the Flathead River. This is due to more stable outflows from Hungry Horse dam.
- Resident fish in Hungry Horse Reservoir would benefit from higher winter water surface elevations
- Resident fish immediately downstream from the dam in the Flathead River would benefit due to higher flows in May and June as it would grant adult bull trout access to smaller streams for foraging and spawning.

Vegetation

- Alternative HV operations would result in a slightly increased probability of refill or near refill for Flathead Lake which would benefit wetlands and riparian vegetation from Hungry Horse Reservoir down to Flathead Lake.

Wildlife

- Alternative HV would result in an increased probability of higher water levels in wetland and riparian habitats from Hungry Horse Reservoir down to Flathead Lake. This may benefit riparian vegetation and riparian dependent wildlife species.

Recreation

- Alternative HV would result in a slight increase in the usable days for the boat ramps at Hungry Horse Reservoir.

Cultural Resources

- Alternative HV would result in a continuation of ongoing effects to historic properties. Higher summer elevations at Hungry Horse could reduce the potential effects on cultural resources from recreation use. Deeper flood control drafts at Grand Coulee in some years could increase the potential for damage associated due to additional exposure of sites.
- The on-going program FCRPS historic properties program is designed to address

potential effects from all operations for all purposes at Hungry Horse and Grand Coulee. Therefore no new or supplemental compliance program is needed to address implementation of the Alternative HV.

Reclamation has reviewed its authorities concerning implementation of the selected alternative and determined that the operation of Hungry Horse Dam would be consistent with its authorizing legislation. In addition, the selected alternative does not impact Reclamation's ability to operate Hungry Horse Dam to meet other authorized purposes. The selected alternative is consistent with Reclamation's Tribal Treaty and Trust responsibilities to Columbia Basin Native American Tribes. Treaties between the U.S. government and some Columbia Basin Tribes document agreements reached and the federal government has a trust responsibility to protect the tribal rights under these treaties. Impacts to trust and cultural resources were carefully considered. The selected alternative will have fewer impacts to cultural resources along the shoreline of Hungry Horse Reservoir, in comparison to Alternative HS, since these resources will more likely be submerged during a greater portion of the year and therefore less vulnerable to vandalism. The selected alternative fulfills key operational elements and Reclamation responsibilities under ESA for Hungry Horse Dam. In particular, it is consistent with the recommendations for VARQ Flood Control in both the 2000 USFWS BiOp Reasonable and Prudent Measures (RPM) and 2008 NOAA Fisheries BiOp Reasonable and Prudent Alternative (RPA) concluding no-jeopardy. The selected alternative is consistent with Hungry Horse Dam's VARQ Flood Control operations and Hungry Horse's summer drafts recommended in the Northwest Power and Conservation Council's Fish and Wildlife Program Mainstem Amendments.

V. Environmental Commitments in Implementing the Decision

In addition to the management actions described for Alternative HV, mitigation actions are considered to be commitments made by Reclamation. Mitigation measures were determined for each river basin. In the Pend Oreille basin, no additional mitigation needs were identified beyond the minimization and avoidance measures already being implemented. For the main stem Columbia River to Grand Coulee, the following mitigation actions were identified.

Cultural Resources

- Reclamation will implement, or continue to implement, the following actions to address identified potential incremental increases in on-going effects:
 1. Targeted survey, focusing on secondary effect areas above the 1310 elevation or in areas within the 1240 to 1250-foot exposure zone, where current survey data is unreliable or needs updating.
 2. Targeted monitoring within these same areas, focusing on exposed sites or vulnerable areas with high resource potential.
 3. Additional erosion monitoring.
 4. Consider giving priority to evaluation of sites within the 1240 to 1250-foot zone.
 5. Continue on-going documentation of named places and other ethnographically known areas within the Area of Potential Effect (APE), and their evaluation as Traditional Cultural Properties (TCPs).

5. Continue on-going documentation of named places and other ethnographically known areas within the Area of Potential Effect (APE), and their evaluation as Traditional Cultural Properties (TCPs).
 6. Continue on-going monitoring sites or patrolling vulnerable areas throughout the drawdown zone.
 7. Mitigation of adverse effects, including both site-specific treatments and activities such as public education and outreach.
- The above actions will be implemented as part of the existing FCRPS historic properties program, under the terms of the FCRPS Systemwide Programmatic Agreement (once that is signed).
 - Reclamation will define a process to integrate these commitments into the on-going FCRPS historic properties program. The process will be defined either in the Lake Roosevelt historic property management plan (HPMP) or in a separate implementation plan. By December 31, 2009, Reclamation, with input and assistance from the Lake Roosevelt Cooperating Groups, will determine if the process will be defined in the HPMP or in a separate plan, and will develop a specific timeline. If a separate plan will be created, a plan outline will be completed by December 31, 2009.

VI. Decision

Because Section 106 consultation has been completed, it is determined that the Corps' final VARQ Flood Control EIS meets Reclamation's NEPA needs and is therefore adopted as Reclamation's final EIS. Based on the factors discussed above Reclamation's decision is to implement the Preferred Alternative (Alternative HV (Hungry Horse VARQ Flood Control)) and associated environmental commitments (mitigation measures) as described in the Final VARQ Flood Control EIS. Implementing this alternative will balance the need for flood control and fish augmentation flows at Hungry Horse Dam while recognizing the commitment to protect the natural and cultural environment. This alternative best achieves the project goals and objectives and meets the purpose and need of the project in an environmentally sensitive manner.

Approved:



J. William McDonald
Regional Director
Pacific Northwest Region



Date