



# United States Department of the Interior

## BUREAU OF RECLAMATION

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Boise, Idaho 83706-1234

IN REPLY  
REFER TO:

PN-6200  
ADM-2.00

Mr. Mark Walker Public Affairs  
Northwest Power Planning  
Counsel 851 SW 6th Avenue.,  
Suite 1100

Portland, OR 97204

Subject: Bureau of Reclamation Comments on Document 2002-16, Draft Mainstem  
Amendments to the Columbia River Basin Fish and Wildlife Program

Dear Mr. Walker:

Thank you for the opportunity to comment on the Draft Mainstem Amendments to the Columbia River Basin Fish and Wildlife Program. The Bureau of Reclamation (Reclamation) values its relationship with the Northwest Power Planning Council, the states, and tribes. Your input is important in assisting Reclamation to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

As you are aware, Reclamation has written a record of decision on the National Marine Fisheries Service's (NMFS) and U.S. Fish and Wildlife Service's (USFWS) Federal Columbia River Power System Biological Opinions of December 2000. Reclamation has also produced a Findings and Commitments document on NMFS's May 2001 Biological Opinion for the operation and maintenance of Reclamation projects in the Snake River Basin above Brownlee Reservoir. These documents describe Reclamation's intention to implement the action items as set forth in the respective biological opinions and coordinate any deviations in operations with NMFS, USFWS, and other parties affected by the actions.

Many of the operations presented in the Draft Mainstem Amendments are not consistent with those set forth in the biological opinions. It is therefore essential that the amendments receive support from NMFS and USFWS before Reclamation can seriously consider them.

Reclamation will limit its comments to elements of the operational strategies. Those comments are enclosed. We look forward to reviewing comments on the biological impacts to resident and anadromous fish species, both listed and unlisted. If you have any questions, please call me or Patrick McGrane of my staff at 208-378-5215.

Sincerely,

A handwritten signature in cursive script that reads "J. William McDonald". The signature is fluid and includes a large, sweeping flourish at the end.

J. William McDonald  
Regional Director

Enclosure

January 2003

Bureau of Reclamation Comments

**Draft Mainstem Amendments  
to the  
Columbia River Basin Fish and Wildlife Program, October 2002  
Council Document 2002-16**

**Overarching Strategies (pg.19, line 31):** The strategy of optimizing actions to produce the greatest biological benefits for the targeted species with the least adverse effects on other species and ensuring a reliable power supply is consistent with Reclamation's mission. 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. This includes the desire to maintain aquatic conditions sufficient to preclude additional ESA listings.

**Mainstem Habitat (pg. 22, line 6):** Developing and implementing actions that create littoral habitat and fish structures along the shores of Lake Roosevelt to diversify food available to fish and provide additional rearing habitat may have impacts on cultural resource sites and boating safety. This recommendation needs further investigation and coordination with the affected tribes, the National Park Service, Reclamation, and state of Washington agencies.

**Spill (pg. 25, line 25):** If greater levels of survival can be achieved with less spill in the lower Snake and Columbia rivers, there may be less pressure to draft the storage reservoirs such as Grand Coulee and Hungry Horse for power.

**Spill (pg. 26, line 36):** Strenuous efforts to avoid dissolved gas measurements exceeding 120 percent on the lower Columbia and Snake should be limited to a level that does not require upstream storage reservoirs to spill when there is no market for electricity, as is common during the peaks of spring runoff.

**Water Management (pg. 29, line 17):** Reclamation does stabilize the daily fluctuations at Hungry Horse as required by the USFWS Biological Opinion. It is not possible to stabilize daily fluctuations at Grand Coulee without great cost to the hydropower system. Daily power peaking at Grand Coulee and run-of-river dams allows the other federal storage reservoirs such as Hungry Horse, Libby, and Dworshak to release more stable flows. Stabilizing Grand Coulee flows could lead to more mid-Columbia fluctuation.

**Water Management (pg. 29, line 40):** Reclamation agrees with the statement, "System wide water management, including flow augmentation from storage reservoirs, should balance the needs of anadromous species with those of resident fish species in the river and upstream storage reservoirs, and the needs of migrating fish with those of spawning and rearing fish, so that actions taken to advantage one species do not unnecessarily come at the expense of other species." In implementing Biological Opinion actions, it is Reclamation's intent to avoid compounding problems for threatened bull trout or create further ESA listings (e.g. Westslope and Yellowstone cutthroat trout).

**Water Management (pg. 32, line 30):** Reclamation does not support the statement "As a highest priority at Hungry Horse, Libby, Grand Coulee and Dworshak dams, assure a 95 percent probability that these storage reservoirs refill by the end of June (Libby in late July), so that the reservoirs have the maximum amount of water available during the summer." Hungry Horse can not achieve 95 percent probability of refill on June 30. BPA/Reclamation studies have shown that probability of refill in either June or July, based on monthly models, is 80 percent. The probability of refill to within 5 feet based on the same studies is 84 percent. The Council's own data (Preferred Alternative) suggests that after meeting instream flow requirements in the South Fork of the Flathead River and at Columbia Falls, the overall probability of refilling Hungry Horse Reservoir by the end of June is only 68 percent. It is even worse in individual dry years. To reduce probabilities of flooding and spill, Hungry Horse should not be filled until the threat of high inflows has passed. Because of late runoff in 2002, Hungry Horse was not allowed to fill until July 13. Unlike Hungry Horse, Grand Coulee (Lake Roosevelt) can always be filled with 95 percent confidence by the end of June if flow targets in the lower Columbia are not met.

**Spring Reservoir/Flow Operations (pg. 32, line 35):** The Draft Mainstem Amendments state: "Eliminate the provision in the Biological Opinion calling for the operation of storage reservoirs to assure a high probability that reservoir levels are within 1/2 foot of the upper flood control rule curve by April 10." This statement is contrary to the Biological Opinion, and has little merit at Hungry Horse where the probability of refill is less than 95 percent even with the April 10 constraint. However, the amendment would allow more operational flexibility at Grand Coulee. Drafting below the April 10 flood control elevation target at Coulee would minimize the risk of spilling water, total dissolved gas production, and the potential for bank sloughing and landslides which occur when the reservoir is drawn down quickly. Typically, Grand Coulee must be drawn down quickly between April 10 and April 30 to meet flood control. By reducing the April 10 target, the rate of draft can be reduced, but would need to be discussed during in-season management as it is contrary to the Biological Opinion.

**Integrated Rule Curves (pg. 32, line 40):** Reclamation does consider the Integrated Rule Curves (IRCs) in its operation plans, but Biological Opinion requirements have recently taken precedence. Figure 1 shows a comparison of standard (Std FC) and VARQ flood control elevations, variable draft limits (VDL), IRC elevations, and actual elevations for Hungry Horse for 2002. Year round implementation of IRCs would allow greater draft of Hungry Horse during the winter and spring months than currently allowed under the Biological Opinions. It is true that IRCs would reduce the frequency of refill failure as compared to historic operation, but current operations under the Biological Opinion are not only better than historic operations from a standpoint of refill, but better than IRC's as well. IRCs at Hungry Horse would result in deeper reservoir drafts and more winter power production than the current VARQ operation, but may actually be less beneficial to resident fish in the winter and spring.

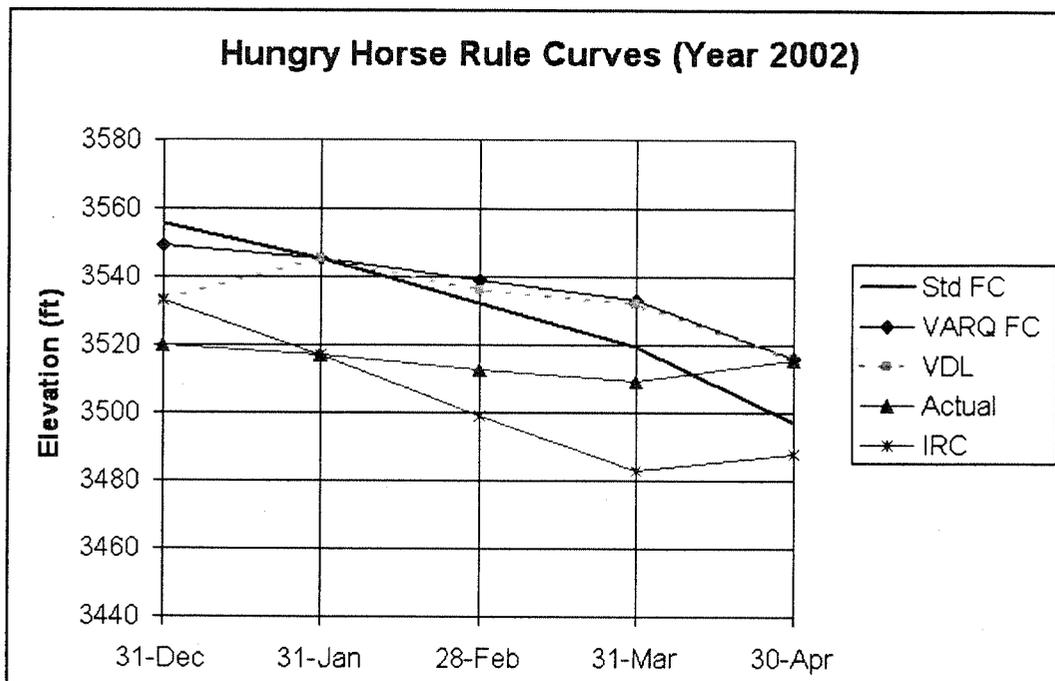


Figure 1. Hungry Horse Rule Curves and Actual Elevations for 2002.

**Grand Coulee Dam (pg. 34, line 3):** The elevations suggested in the Draft Mainstem Amendments for end-of-month (January - 1270 feet, February- 1260, March-April 15- 1250, April 16- 1255, May- 1265, June- fill to 1290) are achievable. They are deeper than the current flood control elevations in dry years and will limit spill during the late spring and may result in more entrainment of fish from the reservoir. There is an inconsistency between the report and the Council's modeling output. The 50-year average elevations shown in the Council's preferred alternative are some what lower than the stated minimum elevations for Grand Coulee (January - 1261.3 feet, February- 1251.7, March- 1248.7, April 15- 1244. 1, April 30- 1243, May- 1260).

**Grand Coulee Dam (pg. 34, line 24):** Reclamation does not agree with the statement: "Manage the reservoir and dam discharges to produce steady flows across each season and each day to minimize reservoir fluctuations and ramping rates." It is not possible to produce steady daily flows from Grand Coulee Dam and still have a viable hydropower system. Possible impacts could be an increase of spill during non-peak hours. Deeper than required drafts are economically infeasible for the power system.

**Flow Augmentation (pg. 35, line 21):** Reclamation agrees with the statement "The Council further notes, and agrees, that the issue of providing water from the Bureau of Reclamation's upper Snake River Basin projects and Idaho Power Company's Hells Canyon projects to assist in achieving Snake River flow objectives at Lower Granite Dam will largely be addressed in separate, ongoing Section 7 consultations, and that implementation of flow augmentation, with respect to the Snake River Basin, must be consistent with applicable state and federal law, including but not limited to Idaho Code §42-1763B."

**Hungry Horse and Libby Dams (pg. 36, line 24):** Reclamation agrees with the statement "Reduce the frequency of refill failure (to within five feet of full pool) as compared to historic operation." This is consistent with the Biological Opinions and current operations. It is a better amendment than those requiring 95 percent probability of refill.

**Hungry Horse and Libby Dams (pg. 37, line 6):** Reclamation has encouraged the Corps of Engineers to reexamine flood control at Grand Coulee as it relates to implementation of alternative flood control strategies such as VARQ at Libby and Hungry Horse. However, Reclamation has not conditioned implementation of VARQ at Libby and Hungry Horse on the premise that it not affect Grand Coulee.

**Grand Coulee (pg. 37, line 11):** The document recommends Reclamation:

"Operate Grand Coulee Dam from June through December in the following manner:

- Fill to elevation 1290 feet by the end of June.
- Draft evenly from Lake Roosevelt to elevation 1283 feet by the end of August.
- From September through December, maintain a minimum elevation of 1283 feet, to maximize water retention times and to protect kokanee access and spawning.
- Maximize water retention times from June to December of 40 to 60 days or the maximum historically achievable for each month.
- Manage the reservoir and dam discharges to produce steady flows across each season and each day to minimize reservoir fluctuations and ramping rates."

With the exception of the last item pertaining to steady flows across each day, all these actions are possible. As with Hungry Horse, due to late runoff at Grand Coulee in 2002, Reclamation delayed refill until after June 30 to reduce probability of flooding in the lower Columbia River and filling and spilling the project. Grand Coulee was not able to prevent spill but by delaying refill until mid July, reduced the potential magnitude of spill and helped prevent TDG levels from exceeding 120 percent.

However, drafting to elevation 1283 in August is inconsistent with NMFS 2000 Biological Opinion. The Biological Opinion calls for a draft to elevation 1278 in August to augment salmon flows in below average years and a draft to elevation 1280 in August in average to above average years.

**Fish Passage Center (pg. 39, line 41):** Reclamation supports the Counsel's recommendations for the Fish Passage Center.

**Annual and In-season Decision Making (pg. 43, line 5):** The document states: "The Council continues to recommend to the federal agencies that this implementation structure, which includes the Technical Management Team and the Implementation Team..." Reclamation encourages the Council to actively participate in the "In Season Management" process.

**Modeling Assumptions:**

- Brownlee -- The modeling assumptions for operation of Brownlee Reservoir in both the NMFS 2000 Biological Opinion and the Council Preferred Alternative is inconsistent with recent history. NPPC should coordinate operations with Idaho Power Company.
- Grand Coulee -- The assumption states that VARQ flood control is modeled at Grand Coulee. This is not the case. There is no VARQ flood control operation for Grand Coulee. The Corps of Engineers' flood control procedure for Grand Coulee has not changed. Because Coulee's flood control draft is dependent on the amount of upstream reservoir space, the VARQ operations at Hungry Horse and Libby can circumstantially affect the amount of reservoir draft at Grand Coulee.

**General Comment:** The document addresses many of the elements in the Biological Opinions, but does not discuss draft of Banks Lake to meet Biological Opinion flow targets. Reclamation is currently evaluating a late summer draft to ten feet on Banks Lake and expects to complete a final environmental impact statement and make a decision by late summer 2003.