

## Chapter 9

# Conclusions and Findings

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In 1995, the Bonneville Power Administration (BPA), the U.S. Army Corps of Engineers (Corps), and the Bureau of Reclamation jointly led the development of the Columbia River Power System Operation Review Environmental Impact Statement (SOR EIS). The purpose of the SOR EIS was to evaluate different management strategies for the 14 federal dams and reservoirs in the Columbia River Basin that have a major influence on multiple purpose system operations. The SOR environmental analysis was comprehensive, evaluating the potential impacts of the alternatives on the following topics: earth resources, water quality, air quality, anadromous fish, resident fish, wildlife, cultural resources, Native Americans, aesthetics, recreation, flood control, navigation, power, irrigation, municipal and industrial water supply, economics, and social impacts. The Corps and BPA have tiered this Environmental Assessment (EA) to the 1995 SOR EIS.

Since the implementation of the SOR preferred alternative in 1995 as modified by the agency Records of Decision (RODs) and subsequent Biological Opinions (BiOps) for addressing endangered species, winter operations at Albeni Falls Dam (AFD) have been largely guided by the interagency coordination on management actions for kokanee spawning, described in Section 3.8 of this EA, and flood risk reduction activities. BPA has proposed to more actively utilize storage behind AFD consistent with existing operational criteria for power generation. The proposal is called Flexible Winter Power Operations (FWPO). This proposal changes the way the dam has operated in recent years, but it is similar to historical winter operations. FWPO includes a new ice best management practice and minimum fluctuation standard operating procedure. The purpose of this EA is to determine whether, 1) FWPO is a substantial change from the SOR EIS proposed action relevant to environmental concerns, or whether 2) there are significant new circumstances or information relevant to environmental concerns and bearing on the SOR EIS proposed action or its impacts (40 C.F.R. §1502.9(c)). The SOR EIS did not have an explicit “proposed action;” rather, the EIS evaluated a range of management strategies. The agencies selected the EIS preferred alternative, which was adopted with additional measures for kokanee management testing in agency RODs, and further adapted primarily as a result of subsequent BiOps under the Endangered Species Act. Current winter operations have not utilized the full range of the flexibility provided by the SOR EIS preferred alternative. The current winter operation is defined as the No Action Alternative for purposes of this EA’s analysis since this is the management strategy in the wintertime that the public is most familiar with. This represents current AFD operations and functions as the SOR EIS “proposed action” and the No Action Alternative for the purpose of the analysis in the EA.

Chapter 4, Environmental Consequences, and Chapter 5, Comparison of FWPO to SOR EIS Proposed Action, evaluate effects of FWPO relative to current operations/No Action Alternative. Because of the opportunistic nature of FWPO, countless potential water storage and drafting scenarios could be analyzed. For this reason, a “bookend” scenario was used to analyze effects of FWPO operating within the maximum range of outflows and lake elevations allowed. The purpose of evaluating FWPO this way is to ensure that potential impacts have been thoroughly described. The bookend scenario is considered unlikely to occur, because it does not account for important variables such as power demand, weather, and system conditions that would trigger the need to utilize the available storage.

The effects identified include a combination of new information and effects that had not previously been disclosed in the SOR EIS, and more detailed information on effects that were previously disclosed in the SOR EIS. The new environmental and socioeconomic effects include:

- Potential for increased damage to less structurally sound docks as a result of winter lake fluctuations and certain ice conditions on the lake.

- Potential effects on winter lake recreation as a result of lake level fluctuations and ice interaction with the shoreline.
- Potential increase in the rate that the invasive flowering rush is spread around Lake Pend Oreille and to locations downstream of AFD. This is due to the species' tendency to be transported by moving ice, which is predicted to increase with implementation of FWPO.

The effects on docks and recreation are considered socioeconomic effects of FWPO with limited environmental concern. The effect on flowering rush is not considered a significant environmental concern in the context of 40 C.F.R. §1508.27. This is due primarily to the very limited role FWPO could play in the seemingly inevitable spread of this invasive species.

Since 1995 the Eurasian watermilfoil population has expanded around Lake Pend Oreille and the Pend Oreille River. However, we do not consider this to be a significant new circumstance as a result of existing operations. This expansion would have occurred with or without implementation of existing operations. As identified in this EA, FWPO should not significantly affect this expansion as compared to under existing operations.

The remaining effects identified in this EA are considered additional detail to effects, including those that were previously identified as significant, that were previously disclosed in the SOR EIS. These effects include:

- An increase in shoreline erosion around the lake and related erosion of cultural resources and wildlife habitat. This is due to the increased lake fluctuation compared to the relatively constant winter lake elevation considered in the No Action Alternative.
- Alteration of winter flows from AFD downstream to Box Canyon Dam (BCD). This is about 45 miles of the Pend Oreille River. This would result in greater fluctuations in river stage and velocity than would otherwise occur leading to the dewatering of aquatic habitat along the margins of the river, loss of invertebrate populations in the dewatered areas, and potential stranding of fish including bull trout.
- Water quality impacts associated with gas supersaturation and related potential for gas bubble trauma in fish in the Pend Oreille River downstream of BCD and downstream of Waneta Dam. In each case, this effect would potentially occur prior to 2016. At this time, both Box Canyon and Waneta dams are scheduled to have completed upgrades to their facilities that would allow passage of the maximum flow contemplated for FWPO without creating supersaturated gas levels.

Based on the analysis presented in Chapter 5 in this EA, FWPO, as compared to actions addressed in the SOR EIS, results in a different winter management strategy (including some differences in operating parameters for power operations). The environmental concerns of the management strategy for FWPO have been assessed and are summarized above.

**Findings:**

As a result of the analysis in this EA, I have the following findings. I find that: 1) the FWPO is not a substantial change from the SOR EIS proposed action relevant to environmental concerns; and, 2) there are no significant new circumstances or information relevant to environmental concerns and bearing on the SOR EIS proposed action or its impacts (40 C.F.R. §1502.9(c)). I have determined for my respective agency that preparation of a new or supplemental Environmental Impact Statement is not warranted to implement FWPO. As a result of the analysis in this EA, I also find that the actions proposed and evaluated in this EA do not result in any new significant impacts to the human environment within the meaning of the National Environmental Policy Act. Accordingly, I have decided to proceed with adoption of FWPO as a winter management operation at Albeni Falls Dam at this time.

*November 4, 2011*  
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Date

*/s/ William C Maslen for*  
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F. Lorraine Bodi, VP  
Environment, Fish & Wildlife,  
Bonneville Power Administration

*November 4, 2011*  
\_\_\_\_\_  
Date

*/s/ Bruce A Estok*  
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Bruce A. Estok  
Colonel, Corps of Engineers  
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