

## 5.1 Hydrosystem Priorities

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During development of the 2000 BiOps, the effect of current hydrosystem operations and dam configuration on threatened and endangered fish was estimated using the Simpas model (NMFS 2000 BiOp, Appendix D, tables D-1, D-2 and D-3). The projected increase in juvenile survival that may be achieved by altering hydro operations and installing new dam configurations was also estimated (Appendix D, Tables D-4, D-5 and D-6). These operation and configuration changes were used by NMFS as a basis to determine performance standards.

The strategies below were developed to guide hydrosystem actions and achievement of hydrosystem survival performance rates outlined in the BiOp. Priority criteria were used to determine the completion order for configuration projects. Water management priorities in this Plan are those provided in the BiOps. The implementation of these priorities is adaptively managed in-season using actual hydrological conditions. Operation and maintenance (O&M) priorities were established to develop O&M plans and allocate staff and funds.

The BiOp acknowledged long-term Clean Water Act goals for total dissolved gas (TDG) and water temperature, which were considered complementary to other recovery actions. The near-term and primary focus is to achieve the juvenile and adult survival performance standards. Efforts to meet Clean Water Act standards have been viewed as long-term goals and variances to the 110 percent **TDG standard are coordinated with the states to enhance achievement of ESA performance standards.**

### Hydrosystem Actions Under Consideration

Since the BiOps were issued in December 2000, research and evaluation has continued, revealing new information about BiOp implementation and performance results. In addition, BPA recently conducted a Financial Choices public process in which the agency asked the region (customers, constituents, states, tribes, interest groups, etc.) to comment on a range of actions the BPA might take to eliminate its forecasted revenue shortfall over the remainder of the current rate period (FY 2003 through FY 2006).

In September and October 2002, the Action Agencies together with NMFS and USFWS jointly reviewed configuration, spill and flow operations to see whether modifications or changes could be made that would sustain or accelerate progress in achieving hydro performance standards but potentially reduce hydrosystem operational costs. The actions include some that were already under consideration based on experience learned through research studies and implementation.

Our intent is to discuss these potential actions through the NMFS Regional Forum teams in November and December of 2002, and to make decisions on actions to be implemented in 2003 early in the year. The following actions are being considered for implementation during the 2003-2007 period:

#### **Configuration Alternatives**

The intent of the following options is to improve upon existing project survivals, or provide equivalent survival, while reducing spill levels. As we develop the options, and if implemented,

we would adaptively address necessary spill/operational requirements with the goal of meeting biological opinion performance objectives.

- Accelerate installation of a Removable Spillway Weir (RSW) and Behavioral Guidance System (BGS) at Ice Harbor Dam.
- Accelerate installation of an RSW and BGS at Lower Monumental Dam. Accelerate installation of a forebay physical guidance device at The Dalles Dam and reduce spill from levels called for in the BiOp.

#### **Water Management Alternatives**

- Discontinue spill at Bonneville Dam to assist passage of the Spring Creek Hatchery release in March. This alternative may involve reprogramming of hatchery funds or other actions to move fish production to facilities below Bonneville Dam.
- Eliminate daytime spill testing at John Day in the spring. Information to date does not show a survival advantage of 24-hour spill for spring migrants. Review of 2002 research results is needed to make a determination.
- Test alternative levels of nighttime spill at John Day Dam in the spring. Survival studies at John Day show no significant difference in tailrace egress for 30% and 60% spill levels. Reduced spill levels may not impact survival and would increase generation. Review of 2002 research results is needed to determine what level of intermediate spill may be appropriate for testing.
- Modify spill at Ice Harbor Dam to optimize tailrace egress. Reassessment of a spill cap based on tailrace condition (similar to what NMFS developed for other projects) will be considered for the summer passage period, and perhaps the spring. Recent evaluation results suggest survival through nighttime spill in the summer is lower than expected.
- Assess whether operations to maintain flows to benefit chum should be consistently maintained through emergence in low water years. This assessment will also take into account Vernita Bar flows.

Those interested in these additional/modified implementation plan measures are encouraged to participate in the System Configuration Team (for configuration alternatives), the Technical Management Team (for water management alternatives), and other regional technical teams. Policy issues will be addressed in the Implementation Team. Information on the scope of topics and contacts for each Regional Forum group is provided in Chapter 6.0.

### **5.1.1 Hydrosystem Strategy 1: Configure Dam Facilities to Improve Juvenile and Adult Fish Passage and Survival**

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Much attention has been given over the last decade to improving juvenile and adult passage survival