

## **SYSTEM OPERATIONAL REQUEST: #2000-30**

*The following State and Federal Salmon Managers have participated in the preparation and support this SOR:  
Oregon Department of Fish & Wildlife, U.S. Fish & Wildlife Service, Washington Department of Fish and Wildlife,  
and the National Marine Fisheries Service.*

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**FROM:** Marv Yoshinaka, Chairperson, Salmon Managers

**DATE:** August 23, 2000

**SUBJECT:** Dworshak Reservoir

**GOAL:** Decrease temperatures in the lower Snake River for in-river migrants  
during the first two weeks of September.

### **SPECIFICATIONS:**

Draft Dworshak reservoir to elevation 1500 by September 17 to evaluate the effects of cool water releases from this reservoir on lower Snake River temperatures and the response of migrating adult salmon and steelhead to the cooler water river condition.

### **JUSTIFICATION:**

Extensive debate has occurred for the past several years regarding the merits of reserving a portion of Dworshak reservoir storage for the adult salmon migration. Extensive research has been conducted which supports the use of flow augmentation for increased flow and decreased temperatures to benefit juvenile salmon survival. However, there is a paucity of data regarding the effects of cooler temperatures on the adult migration. The proposed reservoir operation is needed to provide information on this issue.

Concerns have been expressed that this operation would reduce the probability of reservoir refill the next season. An analysis conducted by BPA indicates that drafting to elevation 1500 will result in a 98% probability of refill by June 30. This operation also poses a small risk to spring flows. The 244 kcf of storage which will be used by this Operation could reduce spring flows by an average of 1.7 kcfs if spread over the entire spring flow augmentation period.

The physical effects of this operation will be recorded by the tri level thermographs currently deployed in Lower Granite Reservoir and by the total dissolved gas monitors in the

forebays and tailraces of the projects. The biological response of migrating adults will be monitored by adult fish equipped with recording depth and temperature sensitive tags as part of the ongoing study, "Evaluation of Adult Salmon, Steelhead and Lamprey Migrations Past Dams and through Reservoirs in the Columbia River and Tributaries, Adult Salmon and Steelhead Study Plan 2000". This adult radio-tracking study is being conducted by Ted Bjornn, University of Idaho. We propose that the additional fish be tagged with depth/temperature tags at Lower Granite Dam. We propose including this work as part of objective 5 of this study. This study was reviewed and approved in the System Configuration Team as part of the Corps of Engineers Anadromous Fish Evaluation Program.

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