

# **Dworshak & Brownlee Hydro Operations For Snake River Fall Chinook**

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## **Introduction**

Salmon managers generally agree that flow augmentation from storage reservoirs in the Columbia Basin provides some benefit to the survival of out-migrating juvenile fall Chinook by reducing the travel time through mainstem hydroelectric projects where the fish are subjected to warm water temperatures and predators.

In the Snake Basin, flow augmentation operations for juvenile fall Chinook occur at Dworshak Reservoir and Bureau of Reclamation storage reservoirs in the upper Snake River and tributaries.

## **SRBA Water**

As part of the 2004 Nez Perce Water Rights Settlement (Settlement), formally known as The Snake River Water Rights Act of 2004, Public Law 108-447, the Bureau of Reclamation obtains flow augmentation water from uncontracted storage space, powerhead space and water leased from willing sellers. The Settlement calls for up to 427 acre-feet of flow augmentation from storage reservoirs plus 60,000 acre-feet of private natural flow rights, for a total of up to 487,000 acre-feet. The duration of this action is 30 years, beginning in 2005 and lasting through 2034. In 2005, the Bureau of Reclamation received a Biological Opinion from National Marine Fisheries Service (NMFS) which concluded the proposed actions were not likely to jeopardize the continued existence of 13 Columbia River basin salmon Evolutionary Significant Units (ESUs) and steelhead Distinct Population Segments (DPS) listed under the Endangered Species Act. However, after litigation by American Rivers and others (*American Rivers v. NOAA Fisheries*), U.S District Judge James Redden held that NMFS' 2005 Upper Snake BiOp contained flawed analysis and did not comply with the ESA and issued an Opinion and Order of Remand with instructions to revise the consultation to correct deficiencies. Reclamation has just issued Biological Assessment and it is unknown at this time if NMFS' new BiOp will satisfy the Judge's orders.

The Settlement calls for up to 487,000 acre-feet of flow augmentation to be provided between June and August. In 2007, 427,000 acre-feet was provided, which included the 60,000 AF of natural flow rights. In 2006, 477,000 acre-feet was provided, which included the 60,000 acre-feet. Between 1991 and 2004, Reclamation provided 427,000 acre-feet in seven of the fourteen years.

Flow augmentation from the upper Snake River is intended to benefits juvenile fall Chinook below the Hells Canyon Complex (HCC). Snake River origin juvenile fall Chinook are migrating down the Snake River in June and July. One issue regarding Reclamation's flow

augmentation program is the timing of those releases in relationship to where the fish are in the system. Reclamation's new BA suggests that delivery of the flow augmentation water can be advanced to June and July, depending on water year, instead of the current July and August timeframe. Of concern is the operation of the HCC and whether upper Snake water is getting to the fish when they need it.

### **Brownlee Operations for fall Chinook**

The Hells Canyon Complex of dams on the Snake River is owned by Idaho Power Company (IPC). Currently, the HCC is undergoing Federal Energy Regulatory Commission (FERC) relicensing. FERC recently issued the Final Environmental Impact Statement (FEIS) for the project. The Staff Alternative in the FEIS calls for 237,000 acre-feet of water for flow augmentation between June 21 and July 31. However, a stable pool is allowed through July 4<sup>th</sup> holiday for recreational purposes but 115,000 acre-feet must be drafted by July 15<sup>th</sup>. IPC did not propose flow augmentation in its license application. The Nez Perce Tribe recommended to FERC a sliding scale flow augmentation program based on water year which would provide a minimum of 237,000 acre-feet in low water years and up to 937,000 acre-feet in wet years.

IPC's Fall Chinook Program provides stable flows during adult fall Chinook spawning and maintains a minimum flow during incubation to prevent dewatering of redds.

Of concern is the thermal shift created by the presence of the HCC. This thermal shift results in delayed warming in the spring and delayed cooling in the fall. Likely impacts of the thermal shift in the spring are delayed emergence, slower growth and delayed migration through lower Snake Reservoirs. In the summer and early fall when Snake River temperatures (at Anatone gage) are in the low to mid 70's, the thermal shift may result in reduced survival and reduced spawning success.

The Nez Perce Tribe believes a temperature control structure would enhance survival of juvenile fall Chinook by providing warmer water in the spring to speed emergence and growth and also increase adult spawning success by providing cooler water in the late summer and early fall. Such a structure could give salmon managers greater flexibility in meeting the needs of juvenile and adult Chinook. Also of significant concern is how Brownlee operations may complicate the delivery of the SRBA water. Brownlee fills in June and is then held stable to protect bass spawning to enhance recreational fishing in the reservoir. This operation could minimize the benefits of Reclamations' flow augmentation program.

Also of concern is the fact that IPC does not coordinate its operations with the Technical Management Team, which complicates planning of Dworshak flow augmentation operations.

### **Dworshak Operations**

Dworshak Dam and a large part of the reservoir are located within the exterior boundaries of the Nez Perce Reservation. Each summer, from July through September, Dworshak is drafted 80 feet from full to provide 1.2 million acre-feet of flow augmentation to benefit juvenile fall Chinook emigrating through lower Snake Reservoirs. As part of the Nez Perce Water Rights Agreement, the Nez Perce Tribe has the permanent right to use 200,000 acre-feet (of the 1.2 million acre-feet) for flow augmentation and temperature control in August and/or September.

Cold water releases from Dworshak benefits juvenile fall chinook as well as returning adult fall Chinook and steelhead. Excessive cold water releases in early July can retard the growth of Clearwater fall chinook so salmon managers attempt to balance the needs of the Clearwater fish, which tend to over-winter in lower Snake, and the Snake River fish, which out-migrate primarily in June and July. Operational decisions are made on a weekly basis during the summer with the TMT (except for the Tribe's 200kaf, the operation of which is developed by the Dworshak Board, consisting of the Nez Perce Tribe as Chair, the Corps of Engineers, NOAA Fisheries, Idaho Department of Water Resources and Bonneville Power Administration) and are guided by temperature modeling by the Environmental Protection Agency (EPA) and the Corp of Engineers. The goal of is to not exceed the State of Washington temperature standard of 68 degrees as measured in the tailrace of the reservoir.

Of concern with Dworshak operations is the inequitable conservation burden it carries compared to Brownlee operations and other storage reservoirs in the Basin. Cold water flow augmentation releases from Dworshak are essential for ameliorating the impacts of the lower Snake dams and the HCC but the operation does not come without its own set of impacts to the Clearwater River and the reservoir itself.