

## **SYSTEM OPERATIONAL REQUEST: #2004-9**

*The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: U.S. Fish & Wildlife Service, Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, the Shoshone Bannock Tribe, the Nez Perce Tribe and the Columbia River Inter Tribal Fish Commission.*

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**FROM:** David A. Wills, Chairperson, Salmon Managers

**DATE:** May 7, 2004

**SUBJECT:** Operations at Little Goose Dam

### **SPECIFICATIONS:**

According to the 2004 Fish Passage Plan, page B4, "When collection systems are not providing safe fish passage or meeting operating criteria, project managers and biologists will make operational changes that are in the best interest of the fish". Therefore, the Salmon Manager's request that spill occur hourly at Little Goose Dam to those levels specified by the Biological Opinion when it is predicted, based on fish passage information and barge availability, that fish cannot be transported safely from Little Goose Dam.

Unsafe transport conditions include:

- 1) Fish densities in the raceway exceed, or are predicted to exceed, barge capacity or availability;
- 2) Holding time at the transportation collection site is expected to exceed that specified in the Juvenile Fish Passage Plan.

This operation should not come at the expense of other fish protection measures being implemented in the hydrosystem. This operation is within the context of the Fish Passage Plan. This is a way of implementing the Fish Passage Plan to deal with emergency conditions at the Snake River transportation collector projects.

## **JUSTIFICATION:**

Fish migrating from the Snake River have experienced some of the harshest conditions this year compared to recent past years. The Snake River Biological Opinion spill program has been pre-empted because of low flows and regional economic concerns. Thus far this year flow levels in the Snake River have mostly been well below 50 Kcfs. The recent flow increases in the Snake River over the last few days (from less than 50 to over 80 Kcfs) have resulted in the significant movement of fish. Record numbers of yearling chinook salmon have been collected at the Lower Granite Project with substantial increases also occurring in steelhead numbers. The RSW was operated the night of May 5<sup>th</sup> to decrease the number of fish in the collection and these fish were passed into the river below the project. This operation occurred on a revenue neutral basis by decreasing spill at Bonneville Dam, contrary to the state, tribal and USFWS request in SOR 2004-8.

There are now two concerns regarding the continuing fish passage at Lower Granite and Little Goose dams. While yearling chinook numbers at Lower Granite have moderated, it is anticipated that significant numbers of juvenile steelhead could likely pass the project over the next few days. Once again the facility and barge capacity is likely to be exceeded. Rather than bypassing fish to the river the RSW should be operated. Elevated fish mortality at Lower Granite Dam was reported on May 5 to May 6. At this time it is not known if that mortality was attributable to running the turbine units at the upper end, or above, the 1% efficiency range; or due to some collected debris in an orifice. However, there is insufficient capacity to safely accommodate such large numbers of fish at Lower Granite Dam. Lower Granite Dam is equipped with a removable spillway weir that can be used with a minimal amount of training spill (12 Kcfs), which has been proven to be an excellent means of bypassing fish effectively around the hydroelectric project. Given the possibility of increased facility mortality and the large numbers of fish that could be affected, it would be more prudent to provide these fish with this alternate means of bypass, rather than subjecting these fish to the collection and dewatering in the facility. Therefore, it is requested that SOR 2004-8 be implemented under the original specifications.

Additionally, significant numbers of yearling chinook and steelhead are likely to be passing Little Goose Dam in the next few days and the specifications described above should be implemented. The river flows are projected to be above 80 Kcfs for several days and spill at Lower Monumental Dam is scheduled to continue for another week. Consequently, fish bypassed to the river via spill at Little Goose Dam should be afforded good migration conditions. The best scientific information available indicates that spillway passage is safer (returns more adults) than collection and bypass (Sanford and Smith 2002, Budy et al. 2002, Berggren et al. 2003, and Williams et al. 2004). The survival difference between spillway passage and collection and bypass will be even greater if the collected and bypassed fish are further stressed with large numbers of fish in the collection system such as occurred at Lower Granite Dam on May 4th.

Again, given the importance of implementing Biological Opinion measures for the recovery of listed stocks and the continued viability of unlisted stocks, it is important that best fish conditions be provided based on the most up to date knowledge, while not eroding the measures provided by the Biological Opinion. This request is consistent with regional fish protection objectives.

