

SYSTEM OPERATIONAL REQUEST: #2004-6

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, Washington Department of Fish and Wildlife, Columbia River Inter Tribal Fish Commission, The Nez Perce Tribe and the Oregon Department of Fish and Wildlife.

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FROM: David A. Wills, Chairperson, Salmon Managers

DATE: April 22, 2004

Re: Snake River Spill

SPECIFICATIONS:

Continue Snake River spill at the Lower Granite and Little Goose Dam transport collector projects until steelhead predominate in the fish collection numbers at Lower Granite Dam for at least three consecutive days. A similar request would be made for Lower Monumental; however 15 days of spill will be implemented during early May for a spill study, which will provide protection for this early portion of the juvenile migrants.

If flow conditions improve later this season, a request to continue spill at the transport collector projects will be considered to provide a spread-the-risk management approach.

Biological Opinion spill for fish passage at Ice Harbor Dam is to continue through the spring and summer migration periods.

JUSTIFICATION:

SOR 2004-3 requested that spill for fish passage continue to May 1. The selection of the May 1 date was based on pre-season evaluations of historic fish passage information showing when steelhead predominate in fish collections at Lower Granite Dam. Recently, a federal

decision was made to continue spilling until April 23 to provide inriver passage for yearling chinook prior to the steelhead migration. It is clear from the table below that steelhead numbers have not increased sufficiently to predominate in the passage index at Lower Granite Dam. The intent of the request for spill during the early part of the season under Action 51 was to provide spill for yearling chinook migrants to continue their inriver migration. Recent data from NOAA Fisheries had shown that these fish especially do not survival well in transport during the early season. However, data for steelhead was less conclusive and resulted in the recommendation for maximizing transportation when steelhead dominated the passage numbers.

Date	Chinook Passage Index	Steelhead Passage Index
4/16	83,274	21,621
4/17	64,178	18,984
4/18	70,383	16,533
4/19	73,186	27,475
4/20	30,206	26,988
4/21	56,186	23,184
4/22	51,780	23,633
Total to-date	689,676	226,795

In addition, it is estimated that to-date about 13% of the yearling chinook juvenile migrants have passed Lower Granite, whereas, only about 4% of the steelhead migrants have passed. (The total number expected this season is based on projections developed by NOAA Fisheries, March 29, 2004 memo from John Ferguson to Laurie Allen modified for 2004 river operations). Consequently, to better meet the needs of yearling chinook salmon it is recommended that spill continue at these two projects until such time that steelhead predominate for at least three consecutive days in the collections at Lower Granite Dam.

A future request, dependent on flow conditions, will be based on recent study results. Adult returns of PIT-tagged Snake River wild Chinook salmon indicate that under recent conditions, smolts that pass uncollected at the collector dams have SARs as high as transported smolts (Harza 1994, Newman 1997, Sandford and Smith 2002, and Berggren et al. 2003). Sandford and Smith (2002) concluded, "Passage routes of nondetected fish (through spill and turbines) may represent optimal passage conditions". The population of uncollected smolts includes both spillway and turbine passage routes at each of the collector dams. Since the turbine route is known to have lower direct survival, these results suggest that smolts that migrate in-river through spillways may have the highest SARs possible with current dam configuration and operations.