SYSTEM OPERATIONAL REQUEST: #2009-02

The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: National Marine Fisheries Service, US Fish and Wildlife Service, Washington Department of Fish and Wildlife, Idaho Department of Fish and Game, and the Oregon Department of Fish and Wildlife.

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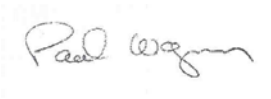


FROM: Paul Wagner, Chairperson, Salmon Managers

DATE: May 12, 2009

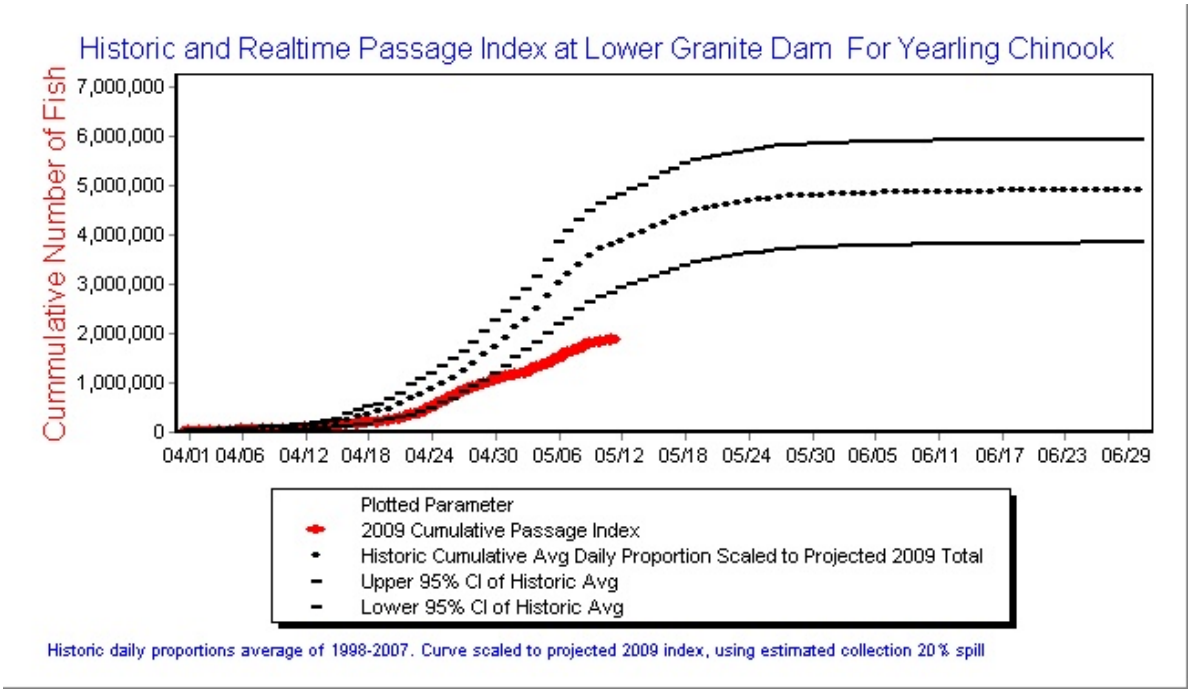
SUBJECT: Dworshak Operations to Provide Improved Migration Conditions in the Snake River.

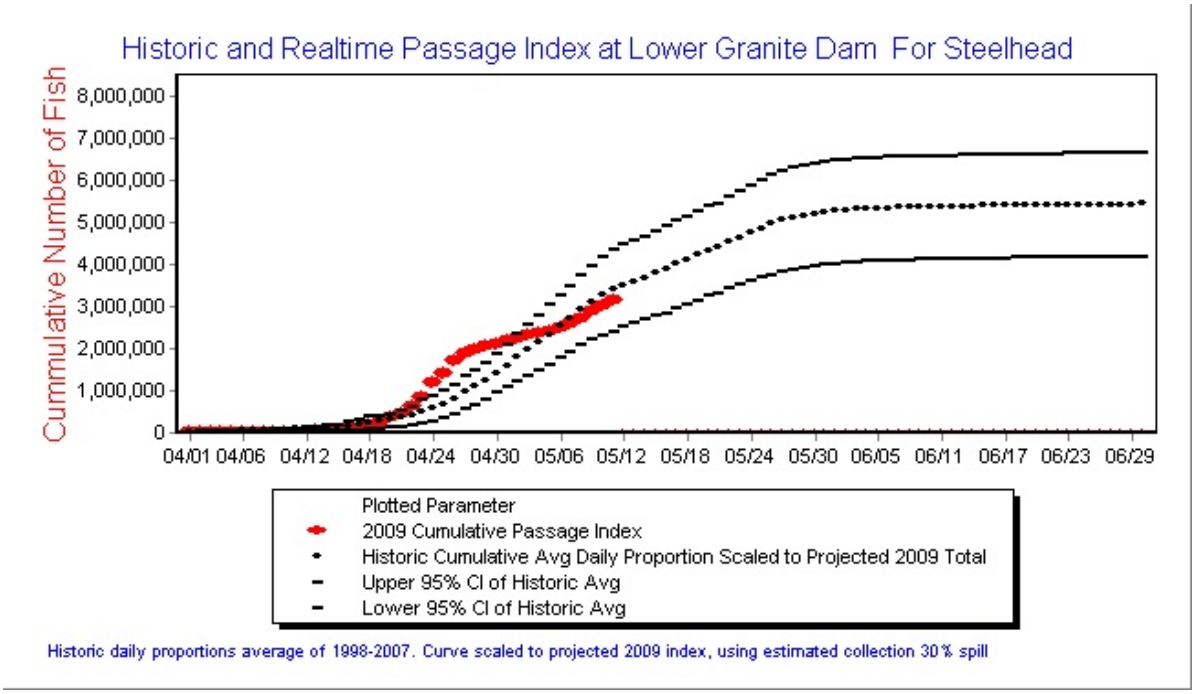
SPECIFICATIONS:

Increase outflow at Dworshak Dam to full powerhouse capacity (10 Kcfs) for up to a five day period beginning immediately and tentatively continuing through Sunday, May 17th, as needed to help achieve a Snake River flow at Lower Granite Dam of 100 Kcfs. Use Dworshak only to the extent necessary to achieve the 100 Kcfs flow.

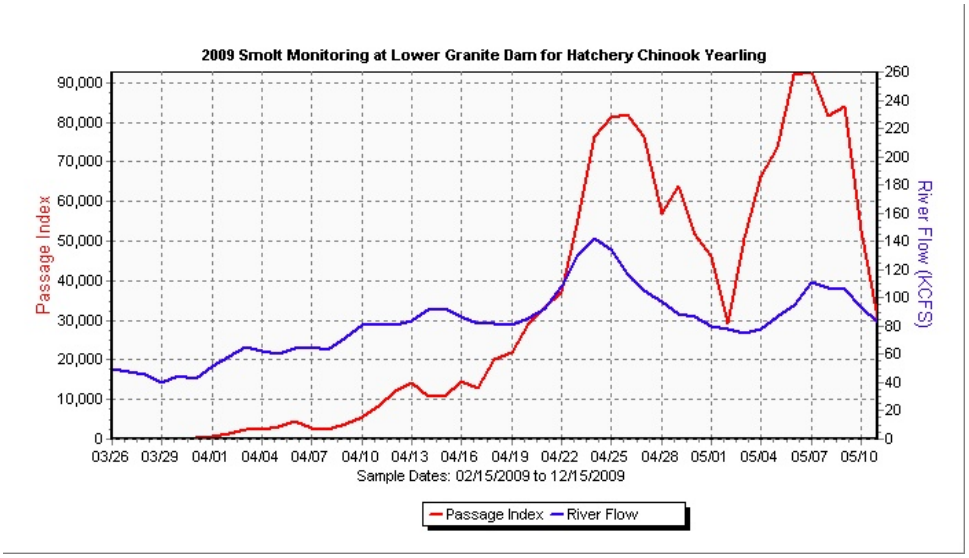
JUSTIFICATION:

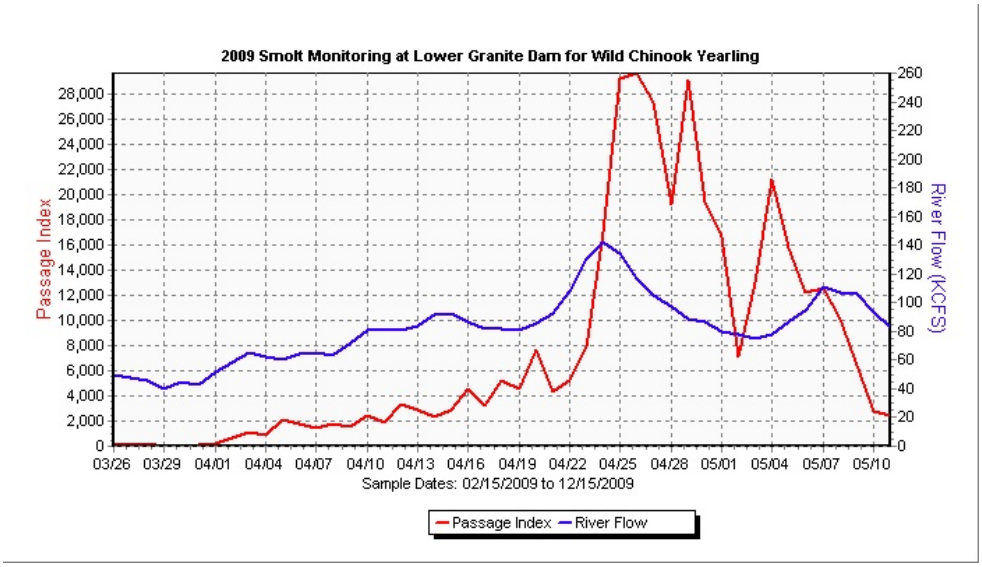
Increased outflow at Dworshak Dam will aid in the passage of yearling Chinook and steelhead in the Lower Snake River. The passage indices of combined yearling Chinook and steelhead have been changing in response to changes in flow. The cumulative passage graphs indicate that based on historic data both the yearling Chinook and steelhead migrations are just past the midway point in their migration at Lower Granite Dam.

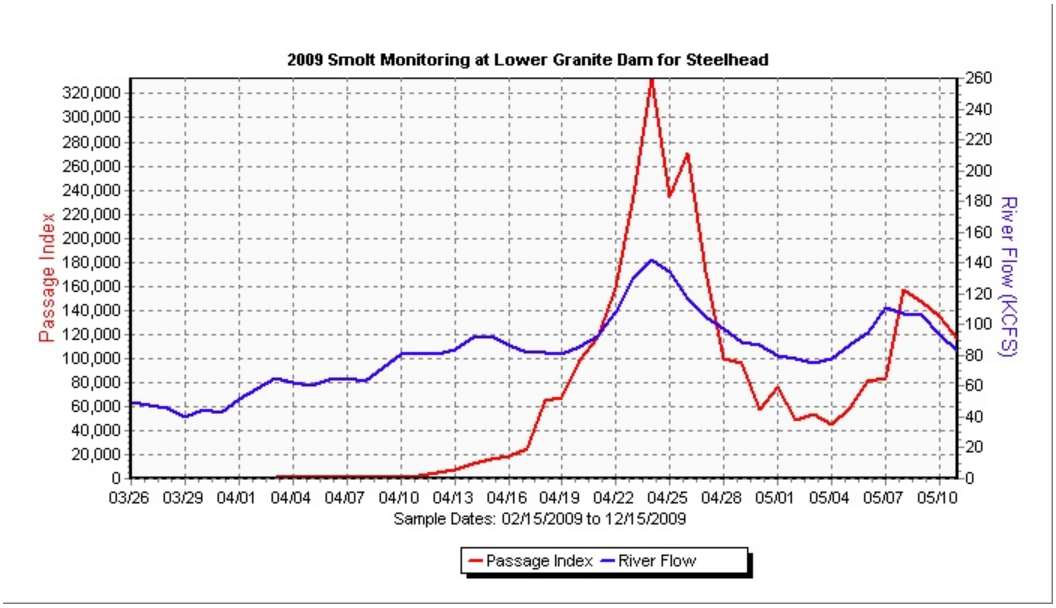

Historic and Realtime Passage Index at Lower Granite Dam For Yearling Chinook
Cummulative Number of Fish
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
04/01 04/06 04/12 04/18 04/24 04/30 05/06 05/12 05/18 05/24 05/30 06/05 06/11 06/17 06/23 06/29
Plotted Parameter
2009 Cumulative Passage Index
Historic Cumulative Avg Daily Proportion Scaled to Projected 2009 Total
Upper 95% CI of Historic Avg
Lower 95% CI of Historic Avg
Historic daily proportions average of 1998-2007. Curve scaled to projected 2009 index, using estimated collection 20% spill


Historic and Realtime Passage Index at Lower Granite Dam For Steelhead
Cummulative Number of Fish
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
04/01 04/06 04/12 04/18 04/24 04/30 05/06 05/12 05/18 05/24 05/30 06/05 06/11 06/17 06/23 06/29
Plotted Parameter
2009 Cumulative Passage Index
Historic Cumulative Avg Daily Proportion Scaled to Projected 2009 Total
Upper 95% CI of Historic Avg
Lower 95% CI of Historic Avg
Historic daily proportions average of 1998-2007. Curve scaled to projected 2009 index, using estimated collection 30% spill

As flow increased and decreased this past week, the yearling Chinook passage index dramatically increased and then decreased at Lower Granite Dam over the same period. The passage index at Lower Granite for combined yearling Chinook increased to a high of 105,266 on May 7th and then decreased to only 32,948 on May 11th. Passage indices for steelhead had also been increasing over the last week at Lower Granite Dam, with a daily passage index of 157,213 on May 8th and then declined to 115,584 on May 11th. The following graphs of the passage index and flow for hatchery and wild yearling Chinook and steelhead show how these changes in abundance have followed changes in flow at the project.







The Biological Opinion flow period began on April 3 with a flow objective of 100 Kcfs based on the April Final Water Supply Forecast. Flows at Lower Granite Dam have averaged 89.8 Kcfs over the spring season thus far. While flows increased over the past week, it appears that they have peaked and are deceasing in advance of the natural runoff. This request to increase discharge from Dworshak Dam is intended to increase flow to as close as possible to the Biological Opinion flow objective in advance of the natural runoff preventing flows from further declining during this critical passage period for spring Chinook and Steelhead.

The COE reduced the flow from Dworshak Dam last week to a minimum of 1.7 Kcfs based on their concern regarding the refill of this project. Based on the COE May Final Runoff Volume Forecast of 2631 KAF, there should be sufficient inflow to provide this increase in flow for the five day period and meet refill objectives.