



# FISH PASSAGE CENTER

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## MEMORANDUM

TO: Jim Ruff, NOAA Fisheries

*Michele DeHart*

FROM: Michele DeHart, FPC

DATE: October 23, 2003

RE: Historical Review of Fish Passage Data

In response to your request, as chairperson of the Implementation Team, the Fish Passage Center staff prepared a summary of fish passage data for presentation to the Implementation Team. The power point presentation slides are attached. The presentation was prepared and presented to assist the Implementation Team in their consideration of two different approaches to management of spill for fish passage. At the present time, the spill for fish passage, as defined in the NMFS 2000 Biological Opinion, is managed according to pre-set planning dates. The issue of using a different management approach was elevated last summer through the Regional Forum process from the Technical Management Team to the Implementation Team, and then to the Executive Committee, by Bonneville Power Administration (BPA) representatives. This issue was raised by BPA as a result of the early migration timing in the summer of 2003, which prompted BPA to pursue an earlier end of spill than the BiOp's August 31 planning date. The request by the Bonneville Power Administration to end spill prior to the BIOP planning date was considered through the regional process. The Technical Management Team, the Implementation Team and the Executive Committee considered the BPA proposal. Due to the lack of regional consensus spill for fish passage was implemented according to the Biological Opinion planning dates. The Executive Committee then sent the attached memorandum to the Implementation Team. As a result, the Implementation Team then began their review of management options for spill for fish passage by requesting the data review.

The FPC staff collected and summarized the Smolt Monitoring Program juvenile fish passage data for 1985 through 2003. In addition, the FPC staff collected and summarized PIT-tag mark data that provided additional insight into passage timing of specific stocks. These efforts resulted in the data summary plots included in the attached power point presentation. As the passage data was summarized, several issues became obvious regarding the two management approaches being considered by the Implementation Team. These issues are included in the power point slides and explained in additional detail in the following discussion.

## **Advantages and Disadvantages**

The different approaches to spill management have both advantages and disadvantages. The significant advantage of utilizing planning dates is the certainty factor for planning hydrosystem operations and power marketing. In addition, when the completed data summaries clearly showed that, particularly for the summer migration, in most years the August 31 planning date results in curtailing spill for fish passage earlier than what would occur utilizing a 95% cumulative passage date. The most significant disadvantage of using the percent passage date approach, other than the uncertainty in planning, is the additional investment required to increase the smolt marking and sampling program at a time when funding is critically limited. From a fish protection standpoint for run-at-large summer migrants, on average, the BiOp's planning date for the end of spill (August 31) is reasonably close to the 95% passage date at Lower Granite Dam (September 3). However, specific stocks may receive less protection. In addition, the August 31 end of spill date does not incorporate adequate travel time of summer migrants to Ice Harbor Dam where summer spill actually takes place. With an average travel time of 15 days from Lower Granite to Ice Harbor Dam, only the passage distribution through August 15 at Lower Granite Dam is afforded spill protection at Ice Harbor Dam. The percent passage dates at Lower Monumental plus travel time to Ice Harbor were also considered relative to spill management at Ice Harbor. Pit tag detection at Lower Monumental Dam was not in place until 1994, resulting in fewer years of historical data. However, for wild fall chinook PIT tags the results were similar when considering Lower Monumental plus an average travel time of five days to Ice Harbor Dam. In four of the ten years the 95% passage date occurred after August 31.

## **Changing Management Approaches**

Managing spill for a specific fish passage percentage relative to planning dates will require an increase in specific index group marking or sampling. If the decision is made to change to a percent passage date approach, significant work needs to be done in design of an adequate smolt sampling program and additional index group marking. This will require regional consultation, peer review of an expanded smolt monitoring program, and additional funding. Based upon our knowledge and experience in developing regional consensus on fish marking and monitoring programs, and then implementing those programs, i.e., funding and marking, we do not believe it is practically feasible to attempt to implement a new spill management approach for the 2004 passage season.

**Attachment:**

August 26, 2003

Statement of Corps of Engineers, Bonneville Power Administration, NOAA Fisheries  
Re: Continuation of Summer Spill for Fish Passage in the Columbia and Snake Rivers

The regional heads of the Corps of Engineers (General William Grisoli), Bonneville Power Administration (Steve Wright) and NOAA Fisheries (Bob Lohn) said today that spill at Federal Columbia Basin dams to aid juvenile salmon migrants will continue until Aug. 31 consistent with the planning date identified in the 2000 NOAA Fisheries Biological Opinion on operation of the Federal Columbia River Power System. But the agency heads said they believe changes must be implemented before next summer to more clearly allow alternative measures that could accomplish the biological benefit associated with spill at a reduced cost.

Currently the river system is operated consistent with a 2000 biological opinion that provides recommendations for operating the system to improve survival of salmon and steelhead listed as threatened or endangered. The opinion sets a planning date for terminating the summer spill program on August 31, although the exact date is subject to in-season management by the Technical Management Team. However, the biological opinion provides little guidance for determining when to end spill in a particular year.

The federal agency heads noted that the summer spill program, based on available evidence, appears to be excessively costly relative to the biological benefit provided. An analysis performed by the Northwest Power and Conservation Council concludes that summer spill in August is likely to result in an increase in the number of 5 adult listed Snake River fall chinook, while non-listed adult upper Columbia River fall chinook are expected to increase by approximately 2400. Estimates by some of the region's Tribes indicate potentially higher numbers of survival as a result of the spill program. Spill this year is reducing revenues for the Bonneville Power Administration by approximately \$1 million a day in August. The federal agency heads are concerned that under any of the survival estimates the costs appear exceedingly high relative to the biological benefit.

The federal agencies attempted to work with States and Tribes to identify alternative measures that would achieve similar or greater biological benefits. However, regional consensus could not be reached. Following considerable review, the federal agencies concluded there was an inadequate basis to cease spill this year at a time other than the August 31 planning date. The federal agencies determined to continue spill through August 31.

The agency heads stated their goal is to have a method in place by next year to help ensure that biological benefits are met in the most cost effective manner available. The agency heads concluded that they have a responsibility to the region to devise an approach that is less costly while maintaining the ability to achieve the biological objectives for salmon and steelhead, and will work with all interested parties in the region to accomplish this objective.