



FISH PASSAGE CENTER

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MEMORANDUM

TO: FPAC
Michele DeHart
FROM: Michele DeHart
DATE: August 18, 2003
RE: Methods for estimating 95%

The FPC staff received the proposed methodology for estimating 95% passage from NOAA fisheries this afternoon. We reviewed and discussed the methodology within the context of the proposed management application. The implementation of a passage percentage approach to spill management has implications for the future that should be considered prior to adoption. The management of hydrosystem protection measures on the basis of percentage passage conflicts with the fundamental objective of other aspects of fish management such as management of fisheries. Management of sport, commercial and tribal fisheries is based upon protection of weakest stocks. Unless the percent passage concept is expanded to include percentage of weaker stocks it will weight protection towards strongest stocks and conflict with the basis of weak stock management. We offer the following comments for your consideration and discussion.

The passage percentage criteria should be carefully considered establishing a precedent for management. We reviewed the protocol and the baseline data. The year at each monitored dam with the lowest daily passage index proportion on the 95% passage date is used as a baseline from which to make a prediction of 95% passage dates for other years. However, even within the year that was used as the baseline, in 4 of 5 monitored dams the date of actual 95% passage and predicted 95% passage differed by a week or more (in two years it was earlier and in the other two years it was later, not unlike tossing a coin).

The proposal represents a modification or divergence from the management approach in the NOAA Biological Opinion. The planning date concept of management, which was incorporated into the Biological Opinion, represents a compromise. In past years spill has been shut off on August 31. This "planning date" management concept did not consider the travel time for fish between Lower Granite and Ice Harbor or the lower Columbia River. The

memorandum from FPC dated August 18, shows that in most recent years the 95% passage date for the run-at-large extends into September and October, well beyond the planning date. The planning date management concept precluded the extension of spill to protect these migrants. If the 95% passage date management approach is implemented instead of the “planning date” concept then most of the time spill should be extended into September and October and fish travel time to the lower Snake River and Columbia River projects should be included in the determination of spill dates. In other words the effect of a change from planning date would be to increase the period of spill. It would appear inconsistent and illogical to only implement the 95% passage criteria to shorten the spill period when applicable.

The 95% passage management criteria are not adequately defined in terms of management objectives. Sport and commercial fisheries are managed in terms of stock specific stock status. Fisheries are managed on the basis of protection of weakest stocks. Sport, tribal and commercial fisheries are regulated on the basis of weakest stock protection. Managing fish passage mitigation on the basis of strongest stock is inconsistent. The question is 95% of what. If 95% of passage-at-large is the objective; passage protection will be weighted toward the large hatchery and supplementation production, which are unlisted stocks. Smaller populations, which offer genetic diversity and often comprise the tails of the passage distribution, will not be protected. 95% passage based solely on the passage index will weight protection to the large hatchery releases.

95% passage based upon the passage index alone without consideration of weaker stocks will create an illogical management scenario. Weighting towards large hatchery releases could create a situation in which the 95% passage point is reached at downstream sites prior to upstream sites because of hatchery release schedules and timing. This could result in 95% passage being reached at downstream sites prior to upstream sites creating a situation in which less protection is provided to upstream originating stocks. As an example Wells or Lower Granite stocks could reach 95% on later dates than Bonneville and McNary, and so not have passage protection at lower river sites.

The 95% passage criteria should also include a not less than X% of specific stocks to avoid weighting towards large hatchery releases at the expense of wild stocks and wild production. One of the primary criticisms of the water budget volume management concept was that protection was weighted towards large hatchery releases. The tails of the passage distribution were not provided with protection. The state of Idaho, NOAA and the Tribes have supported the shift of fish flow augmentation into September to provide protection to late migrating fish from the Clearwater River. Eliminating spill prior to the planning date conflicts with this plan. Extending spill to correlate with the provision of flows should be discussed.

If this type of criteria is established, the Smolt Monitoring Program and tributary programs will have to be modified to include population marking on each stock. At the present time there are inadequate stock specific mark groups to allow spill passage management on the basis of 95% of anything. Some research mark groups are available but they are limited in their use because they may not represent the entire population distribution. If the goal is to protect the late listed wild sub-yearling chinook runs originating above Lower Granite Dam then the basis for any passage distribution must be made on these wild listed fish. In order to obtain a

more complete picture of the out-migration timing of these wild listed stocks, there will need to be a greater effort made to PIT tag representative fish from these stocks and track their out-migration progress.

The 95% point of passage occurs earliest in years when the flows are low and the passage distribution is truncated. Eliminating spill protection early in these circumstances would exacerbate a poor passage situation. Spill for fish passage in the summer period is a high priority for testing in the Snake River. Spill may be extremely important to summer migrants in lower than target flow conditions. Establishing a protocol for the purpose of truncating spill is premature.