

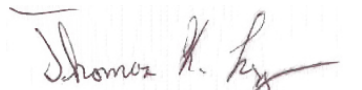
State, Federal and Tribal Fishery Agencies Joint Technical Staff Memo

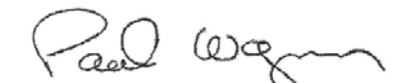
*Columbia River Inter-Tribal Fish Commission
NOAA National Marine Fisheries Service
Oregon Department of Fish and Wildlife
Washington Department of Fish and Wildlife*

*Idaho Department of Fish and Game
Nez Perce Tribe
U.S. Fish and Wildlife Service*

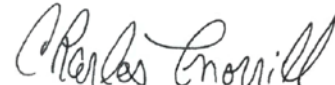
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SUBJECT: Comments on draft report *Compliance monitoring of yearling and subyearling Chinook salmon and juvenile Steelhead survival and passage at McNary Dam, 2014*

DATE: January 27, 2015

The purpose of this memorandum is to request additional information be included in the final version of *Compliance monitoring of yearling and subyearling Chinook salmon and juvenile Steelhead survival and passage at McNary Dam, 2014*. Reports on performance testing are used by fishery managers to determine not only whether a performance standard has been met at a specific project, but also what operations and conditions result in higher or lower survival and to indicate opportunities for improvement. To assure that these determinations can be made, we request the following information to be added to the report:

- **Number of fish rejected due to size**

Section 3.1, “Fish collection, rejection, and tagging,” includes details of the number of fish handled and rejected due to condition. However, rejections due to size are not included in these tables. From the histograms in Figures 3.6 and 3.8, it is clear that the run of river smolts for yearling and subyearling Chinook included smolts below the 95mm tagging threshold. These figures indicate that the smolts that were tagged for the study may not be representative of the run of river, but the extent of this rejection rate should be clearly stated in the report.

- **Route-specific passage and survival estimates**

In *Survival and passage of yearling and subyearling Chinook salmon and juvenile Steelhead at McNary Dam, 2012* survival estimates were provided for each route of passage. These data provide important information for managers, as they can indicate areas requiring improvement and monitor the effects of dam modifications. We request that route-specific survival estimates be included in the final version of *Compliance monitoring of yearling and subyearling Chinook salmon and juvenile Steelhead survival and passage at McNary Dam, 2014*.

- **Details of Dead Fish Detections**

The two dead fish detections of yearling Chinook make this the second performance test to require corrections of dam passage survival due to the positive detections of tagged dead smolts. These corrections are important because they directly impact the estimates of dam passage survival. No information is provided in the draft report regarding the methodology for dead fish releases and the detection of these two fish. Specifically:

- A total of 25 dead smolts of each species are released during the study. The report should indicate if these are released at evenly spaced intervals, or if an effort is made to encompass the range of flow conditions and dam operations. These factors may affect the detection probability of dead fish.
- The flow and spill conditions that occurred when the two positive detections were encountered must be defined to determine if there are conditions that will increase the detection probability.
- Although the methodology is provided for the adjustment to survival estimates, the impact on the standard error is not adequately described. Showing the closed-form estimate of the adjusted standard error (based on the delta method mentioned in Appendix C) for the reach survival of the V1 release group would help show how the precision of this correction relates to the sample size of dead fish tested. An explanation of these calculations is required to assess the implications of the dead fish detection probability.
- It is assumed that the additional uncertainty due to the dead fish detections was ultimately incorporated into the estimate of dam passage survival. However, page 2.6 states that “the variance of S_{dam} was estimated in a two-step process that incorporated both the uncertainty in the tag-life corrections and the release-recapture processes”. Further to this, Section 3.5.1.1 never shows how the

standard error of dam passage survival changed with and without the correction for dead fish detections. This needs to be clarified.

- An underestimate of dead fish detection probability could seriously inflate dam survival estimates. If the sample size is too small to adequately calculate detection probability, this could affect the results from previous performance testing.
 - The sample size of 25 dead fish has previously been justified by the lack of any dead fish detections. However, with the single detection in 2012 at Little Goose Dam and the two detections at McNary in 2014, this assumption of sample size adequacy should be further explained and justified.
- In 2014, performance testing at McNary Dam was conducted under far higher spill levels than dictated by the Fish Operations Plan (FOP). However, the degree of this unplanned spill is not described in the report. A full description of the number of days and the amount of overspill should be included in the final report.
 - Performance testing at McNary Dam in 2012 also far exceeded planned spilled levels. The final report should include a discussion of how high spill levels could affect survivals and the likelihood that performance standards would be met under other flow conditions.
 - A table or figure showing how changes in flow and spill levels for each release group affected results would be beneficial.

In conclusion, it is our opinion that more information about size-related rejection rates, route-specific survival estimates, dead fish detections, and spill levels are essential for a more thorough assessment of performance testing at McNary Dam during the 2014 passage season. The inclusion of these data in the final report will provide managers with the information necessary to evaluate the current test results and better shape the discussion for potential remedies and future operations.