



FISH PASSAGE CENTER

847 NE 19th Avenue, #250, Portland, OR 97232

Phone: (503) 833-3900 Fax: (503) 232-1259

www.fpc.org/

e-mail us at fpcstaff@fpc.org

MEMORANDUM

TO: Eric Hockersmith, USACOE

FROM: Michele DeHart

DATE: September 17, 2015

RE: Comments on *Survival and passage of yearling and subyearling Chinook salmon and juvenile steelhead at McNary Dam, 2014*

At your request, we have reviewed the draft final version of *Survival and passage of yearling and subyearling Chinook salmon and juvenile steelhead at McNary Dam, 2014* and are providing the following comments. As stated before ([FPC Memo February 3, 2015](#)) we find that overall, the study design used in this and similar performance testing cannot accurately represent the impact of dam passage on smolt survival. However, we also have identified specific shortcomings of this report that were not addressed, despite the request of both the FPC and the Fish Passage Advisory Committee ([JTSM January 27, 2015](#)). To clarify the results of the study, we request the following information to be added to the report:

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

Section 5.0, “Fish collection 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. Furthermore, Figures 3.6–3.8 in the draft report, which provided histograms of size distribution for each release group and run-of-river by species, have been eliminated from the final draft version of the report. Figure 9.1, added to the discussion in the final draft version, provides significantly less graphical information than the eliminated histograms.

The extent of size-based tagging rejections should be clearly stated in the report, as in all other reports for compliance monitoring. Reporting requirements are also included in Axel et al. (2011), the criteria developed by the Columbia River Basin surgical protocols

steering committee. All projects involving the use of acoustic tags are expected to follow these protocols, and the exclusion of this information from the final draft report represents a serious omission of critical information for fisheries managers.

- **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. Further details are required to evaluate the impact of dead fish detections on study results. Specifically:

- Although the methodology is provided for the adjustments 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.
- 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 expanded and justified.