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MEMORANDUM

TO: Erick Van Dyke, ODFW

FROM: Michele DeHart

DATE: January 14, 2014

RE: Performance testing at LGS and LMN Dams for subyearling Chinook in 2013

In response to your request, we have reviewed the draft report “BiOp Performance Testing: Passage and Survival of Subyearling Chinook Salmon at Little Goose and Lower Monumental Dams, 2013.” As with previous performance testing, this study raises many concerns about the experimental design and analyses.

This memo provides a brief summary of issues specific to 2013 testing at Little Goose and Lower Monumental Dams. Previous FPC memos have described in detail a number of general issues with performance testing (see FPC Memo from January 4th, 2013, for overall summary; also June 24, 2009; July 29, 2010; Feb. 16, 2011; March 24, 2011; June 21, 2011; Feb. 15, 2012; March 16, 2012; March 23, 2012; Feb. 11, 2013; March 19, 2013; Oct. 7, 2013; Dec. 3, 2013). These issues include spill levels that exceed planned operations, survival inflation through usage of the Virtual-Paired Release design, high rejection rates of fish from tagged groups, mortality in control groups, smolt behavior potentially biasing results, and the failure of evaluation to take into account factors other than concrete survival, such as latent mortality. Most of these issues also apply to the 2013 studies, but are not repeated in this review. Concerns specific to the 2013 testing include:

- Testing in 2013 had the highest rejection rate of any performance testing to date, at 18% of smolts sampled. These fish were rejected from the study due to size or physical condition. In 2010, testing at The Dalles Dam had a rejection rate of 12.6%, which was concerning enough to SRWG members that rejection criteria were revised for future studies. In 2011 and 2012 rejection rates for subyearling Chinook were 3.2% and 6.3%. The exceedingly high rejection rates in 2013 indicate that the testing is not representative of the actual distribution of the run-at-large.

- In 2011 and 2012, changes in river conditions and operations generated early and late season estimates, as well as an overall season-wide estimate. However, in 2013 only the season-wide estimates were provided. The subyearling migration spans spring and summer operations at Lower Monumental, in part because of hatchery releases, which occur before the transition to summer spill. Consequently, the provision of survival estimates specific to spring and summer operations would provide managers with more data to evaluate future operations.
- In addition to all the concern raised regarding the non-representativeness of the fish and conditions evaluated in performance testing, the performance tests at both dams failed to meet survival standards as outlined in the BiOp. Survival estimates in 2013 were approximately 5% lower than in 2012. The draft of this report implies that this additional mortality is due to higher tailrace egress in 2013 than 2012. However, route-specific survivals are not available in this report, so this claim is unsubstantiated. Providing route-specific survivals will allow managers to make informed decisions regarding improving operations to increase survival of subyearling Chinook.