November 2, 2010 NWR5/FCRPS

DRAFT FILE MEMORANDUM

FROM: Gary Fredricks

SUBJECT: Preliminary NOAA Recommendation for the Operation of The Dalles Dam Ice and Trash Sluiceway in 2010/11

Last year, my recommendation regarding this adult steelhead passage issue (my September 21, 2009 file memo) was to conduct another season of sluiceway passage evaluations at this project before implementing any longer term operational changes. The Corps completed the second year of testing and Fenton Khan of the Pacific Northwest National Laboratory reported the results of the tests to the region in their draft final July 2010 report. Several discussions have occurred in the various Regional Forum meetings to review the data and discuss future research and operational changes for this sluiceway. At the most recent meeting, on October 5, NOAA was asked for recommendations on the questions of future research, operation and crediting.

1. Research. Two years of general off season passage is sufficient to establish the passage trends and general operational guidelines. However, based on the discussions we have had in the various forum meetings, it seems prudent to conduct one additional of year of monitoring to evaluate the length of time steelhead will hold in the forebay before passing through the powerhouse turbine units. Wertheimer and Evans (2005) reported forebay median, non-spill, residence times for steelhead kelts as 8.0h to 9.6h at the Bonneville and The Dalles dam forebays, respectively. These fairly short residence times would rule out any alternate day on/off type of operation of the sluiceway. However, the number of fish monitored was small and these were all kelts at the lower end of the river system and may have been more actively migrating than overwintering steelhead in the area of The Dalles. Unfortunately, Unit 1 at The Dalles Dam is currently out of service for an extended period. Since the sluice gates over this unit have the automated gates, it is likely this research will be put off until the 2011/12 season. Also, a tentatively planned kelt radio tag study in early 2012 would provide additional information if the on/off study were postponed until then.

2. Operation. Based on the data provided in Khan et al. (2010), for the 2010-2011 winter season, we recommend continued operation of the The Dalles Dam ITS in November as outlined in section 2.4.1.2. of the 2010 Fish Passage Plan. We also recommend extended daily 24 hour operation of four sluice gates over unit 1 and unit 18 (or adjacent units if these are out of service) for the first two weeks in December and the month of March.

3. Crediting. NOAA agrees that improving overwintering and kelt steelhead survival at The Dalles and other dams can be credited against the 6% survival improvement required for Snake River B-run steelhead spawners over the life of the BiOp as defined in Section 8.5.5.8. of the 2008/2010 BiOp and Appendix J of the 2008/2010 BiOp Supplemental Comprehensive Analysis. Our preliminary review (including data in Keefer et al 2008, our PIT tag analysis, other R/T work, etc.) indicates that this credit likely will be on the order of **0.5 to 1%** over the life of the BiOp, primarily because the action at The Dalles will improve survival for both kelt and

prespawn adult steelhead. Final accrediting will require more work to determine the proportion of B-run Snake River fish in the population at The Dalles Dam and the potential survival benefit of operating the sluiceway during the winter period. This crediting process should be included in the AA's Kelt Management Plan (BiOp RPA 33).

Literature cited:

Keefer, M. L., C. T. Boggs, C. A. Peery and, C. C. Caudill. 2008. Overwintering distribution, behavior, and survival of adult summer steelhead: variability among Columbia River populations. N. A. Journal Fish. Man. 28:81-96.

Khan, F, G. Johnson and M. Weiland. 2010 Draft. Hydroacoustic evaluation of overwintering summer steelhead fallback and kelt passage at The Dalles Dam, 2009-2010.

Wertheimer, R. H., A. F. Evans. 2005. Downstream passage of steelhead kelts through hydroelectric dams on the lower Snake and Columbia Rivers. Trans. Am. Fish. Soc. 134:853-865.