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Sent: Wednesday, September 30, 2009 5:07 PM

To: Dean Orbison

Cc: Tydingco, Troy A (DFG); Mike Prewitt; Melissa Dinsmore; Margaret Beilharz; Ken Coffin; Ferguson, Jim M (DFG); Chadwick, Robert E (DFG); Maclean, Scott H (DFG); Susan Walker; Richard_Enriquez@fws.gov

Subject: RE: FERC 2230 Blue Lake Expansion Draft Sedimentation Study Plan

Dean,

Thank you for the opportunity to comment on the Draft Reservoir Sedimentation Study Report for the Blue Lake Expansion Project (FERC No. 2230) prepared for the City and Borough of Sitka Electric Department (CBS). This report evaluated the effects of raising the reservoir level 83 feet on sedimentation patterns and associated effects on rainbow trout habitat and migration after 50 years of project operations. Following are ADF&G's comments.

First, we found this study to be well designed and implemented, particularly given the challenges involved. We believe the assumptions, paraphrased below are reasonable:

- 1) The past sediment and hydrologic regimes of Blue Lake Creek (BLC) will remain the same into the future.
- 2) After 50 years of project operations, the composition and distribution of sediment in the new expansion BLC delta will be similar to the existing BLC delta.
- 3) Similarly, the stream gradients in the new expansion BLC delta will be similar to the stream gradients in the existing BLC delta and will be graded to the new minimum pool level in a similar manner as the existing delta.
- 4) The reservoir operations model provides a reasonable estimate of the altered timing and magnitude of reservoir fluctuations.

If the above assumptions are true, then it may be reasonable to expect that the quality of rainbow trout (RBT) spawning habitat in the BLC delta 50 years from now will be similar to existing conditions (which formed after 52 years of project operations). However, it may not be reasonable to expect that the quality of spawning habitat in the other three important inlet streams (Becky, Brad, and Sheldon creeks) will remain the same due to the steep topography of these other drainages compared to the BLC drainage.

Given that relatively equal numbers of RBT spawn in each of these three inlet streams as compared to BLC (Draft 2008 Fisheries Studies Report for the Blue Lake expansion project, Wolfe 2009), we recommend that CBS discuss the effects of the increased reservoir level on RBT spawning habitat in these three creeks. We are not suggesting that a comprehensive sedimentation study be done, rather discuss how the increased reservoir level might affect RBT spawning habitat in these creeks.

Secondly, the report states that a longer length of BLC will be accessible to RBT in Blue Lake during the majority of the spawning season under expansion conditions than under existing conditions. While this is true, the question is whether RBT will use this newly available habitat for spawning. Presently, RBT spawning is concentrated in and near the interface between the reservoir and BLC as well as the interface with the three other inlet spawning streams (Wolfe 2009). If RBT continue to primarily spawn at the interface, then the longer length of BLC that will become accessible is irrelevant with respect to the amount of available spawning habitat. The longer length of BLC that will be accessible will, however, provide RBT in Blue Lake access to good feeding habitat upstream in the creek, which is a benefit.

And finally, while the new BLC delta and stream channel may be similar to existing conditions after 50 years of operation, what about in the interim? How will RBT habitat in the lake, deltas, and creeks change over time during the next 50 years? For example, what will the quality and quantity of spawning habitat be like right after the dam is raised, after 5 years of operation, etc.? While this is a difficult question to address in detail, it may be helpful to look back in time and discuss when RBT were first stocked and how they've fared over time in relation to when the project was originally built and its history of operation.

In summary, we recommend that CBS discuss:

- 1) the effects of the increased reservoir level and project operations on RBT spawning habitat in Becky, Brad, and Sheldon creeks; and
- 2) how RBT habitat in the lake, deltas, and creeks may change over time once the project is built, not just what habitat conditions will look like after 50 years of project operations.

Please contact me if you have any questions.

Thank you,

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