

## **Project 2002032**

Response to Council 10-6-06

The preliminary FY07 funding level made by the MSRT for project 2002032 was \$750,000. At this level of funding we can not accomplish Objective 3, which addresses how the reservoir-type life history affects smolt-to-adult return (SAR) calculations for Snake River fall Chinook salmon. At the Council's meeting in Astoria, there was support to provide an additional \$250,000 if more fish could be tagged to address Objective 3. One approach to addressing Objective 3 is to estimate the contribution that both life history types make to the overall SAR for fall Chinook, which requires estimating the proportion of each group in each reservoir at different time increments (e.g., monthly). Clearly this is not possible for the entire lower Snake and Columbia rivers. However, by limiting our tagging and tracking efforts to Lower Granite Reservoir, we should be able to obtain sufficient data to test potential biases of existing models to estimate SARs, test assumptions necessary for creating alternative models, and deriving variances and calculating sample sizes for future studies. Both field and statistical methods can be tested in Lower Granite Reservoir to determine the efficacy of applying them to additional reaches in the future should more funding become available. In addition, we will obtain a better understanding of the environmental, physical, and behavioral mechanisms that contribute to juvenile life history expression. Recent data suggest there may be a point in time during the juvenile outmigration after which most fish will become reservoir-type somewhere in the system. Knowing this may simplify statistical procedures if additional assumptions are made, and will be applicable to implementing summer spill and transportation. We want to emphasize that Objective 3 will not be easily accomplished even with full funding, but the additional funding will enable us to begin testing the core methods necessary for better estimating SARs for both juvenile fall Chinook life history types. Efficiencies may be gained by coordinating with COE-funded studies using acoustic telemetry, but these studies have not been finalized for FY07.