**Independent Scientific Review Panel**
for the Northwest Power & Conservation Council
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**Memorandum (ISRP 2010-42)** **November 17, 2010**

**To:** Bruce Measure, Chair, Northwest Power and Conservation Council

**From:** Eric Loudenslager, ISRP Chair

**Subject:** Review of Scope Change for WDFW's BiOp Fast Track proposal, Tucannon Steelhead and Spring Chinook Expanded PIT Tagging, 2010-042-00

## Background

At the Council's October 20, 2010, request, the ISRP reviewed a change of scope for Washington Department of Fish and Wildlife's proposal, Tucannon Steelhead and Spring Chinook Expanded PIT Tagging, 2010-042-00. This proposal was favorably reviewed during the Fast Track proposal review for projects designed to fill monitoring and evaluation gaps identified for the Federal Columbia River Power System (FCRPS) Biological Opinion (BiOp).

The original proposal was to "purchase of PIT-tags and operation of a remote PIT detector array to expand current WDFW monitoring of natural steelhead VSP metrics, and to better describe adult stray behavior, survival and spatial distribution into the Snake basin." The expanded activities, that are the subject of this review, are to add Chinook PIT-tagging and monitoring to the proposal. The ISRP has already reviewed the steelhead component, so this review only pertains to the added work with Chinook.

## Recommendation

*Meets Scientific Review Criteria (Qualified)*

Qualification: The ISRP recommends that the proponents should define the level of precision they need for specific metrics, and if needed have Dr. John Skalski, University of Washington, help with establishing the required numbers of juveniles for tagging. Dr. Skalski is under contract to BPA to provide statistical analysis and design support to Fish and Wildlife Program projects. This should be done for both steelhead and Chinook. If the steelhead need substantially more individuals tagged, a discussion of additional smolt capture would be justified.

The ISRP does not need to see a response to the qualification, and the proponent may add precision estimates/discussion at or prior to contract finalization with BPA and the Council.

**Comments**

As the ISRP stated in our previous review, “This is a well-justified project that will help to fill important data gaps for natural origin summer steelhead in the Tucannon River.” The additional tagging objective for spring Chinook is also justified (with qualification above). If critical assumptions are met and objectives are successfully achieved, information may be available to improve management decisions for recovering Tucannon steelhead and Chinook.

As the ISRP cautioned for steelhead in our previous review, the analysis and interpretation of straying and migration data for spring Chinook may prove equally difficult because (1) a certain percent of straying for steelhead is common/normal, and (2) not all detected cases of unexpected migration may be attributed to hydrosystem effects, as other factors may affect migration behavior.

In addition to the above caution, the ISRP has some questions regarding the precision of the margin of error for straying estimates. Using the numbers presented in the proposal for Chinook (12500 tagged, SAR to Tucannon of 0.21%, assuming 50% stray above Lower Granite Dam), an analysis results in a margin of error of plus/minus 14% for estimating stray rate. Based on numbers provided for steelhead (3000 tagged, 40-60 adult returns to Snake River), an analysis results in a similar margin of error for estimating steelhead straying.

The proponent provided a section on statistical justification. They concluded that the steelhead portion may not provide valid estimates. They believe the Chinook portion will return 52 tagged fish to the Snake Basin and will provide reasonable estimates of straying above Lower Granite Dam. However, they do not provide the precision desired for either the steelhead or spring Chinook estimates. Thus, the ISRP recommends the qualification described above that the proponents define the level of precision they need for specific metrics.

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