

RRS Project Review

Project ID: 2007-299-00¹

Title: Investigation of Relative Reproductive Success of Stray Hatchery & Wild Steelhead & Influence of Hatchery Strays on Natural Productivity in Deschutes

Short Description: The purpose of this project is to provide a better understanding of the impacts of stray hatchery steelhead on the viability of Deschutes steelhead by assessing: 1) relative reproductive success of natural spawning stray hatchery and wild fish, 2) number and origin of strays in Bakeoven and Buck Hollow creeks, and 3) changes in survival, productivity and life history resulting from removal of stray hatchery spawners. This work is important because out of basin strays are a key threat to recovery of Deschutes steelhead populations.

Sponsor: Oregon Department of Fish & Wildlife

BiOp association:

RPA 64.2: Determine if artificial production contributes to recovery

Is this an Accord project? No

Budget (2008 to present)

BPA	Total	\$ 2,703,340
	FY16	\$ 335,000
Cost share	No cost share	

Proposal from last Categorical Review:

<https://www.cbfish.org/Proposal.mvc/Summary/RMECAT-2007-299-00>

Most recent Council recommendation:

<https://www.cbfish.org/Assessment.mvc/CouncilRecommendationAssessmentSummary/Assessment/2007-299-00-NPCC-20110124>

**Sponsor has an outstanding deliverable, which was due in 2013. See Comments section below.

Date of most recent annual report available on Pisces/cbfish?

<https://pisces.bpa.gov/release/documents/DocumentViewer.aspx?doc=P148819>

¹ This is one of the six exclusively RRS projects in the program.

Short summary of project reporting compliance: Generally good compliance as far as timeline and following the RM&E template.

Summary of the scope of the project as it was reviewed by Council: The goal of this project is to measure the effects of stray hatchery steelhead, released from hatcheries in other subbasins with the Columbia River, using a BACI manipulative experiment. The hypothesis held that stray hatchery steelhead enter the Deschutes River, apparently to seek refuge in the cool water, and an unknown number remain and spawn with wild Deschutes River steelhead. Initial assumptions were that out of basin hatchery steelhead abundance was 0.5 to 10 times the abundance of wild spawning steelhead, and the effects of this swamping were unknown. The investigators proposed to evaluate the relative reproductive success (RRS) of stray hatchery and wild steelhead in two eastside tributaries of the Deschutes River, and to remove hatchery strays from a treatment stream and compare the RRS of wild steelhead in the treatment stream to those in a control stream.

Summary of the scope of the project now: Essentially the same as when it began.

Has the scope of this project changed significantly since it was reviewed? No

Link to ISRP/AB Critical Uncertainties Appendix D review:

<http://www.nwcouncil.org/media/7149871/isabisrp2016-1appendixd.pdf#page=130>

Comments:

From an administrative perspective, the 2011 Council recommendation for this project included “In two years, the project proponents should provide a report on genotyping, success with the identification of stray hatchery fish, capture of adults and smolts in the target streams, and exclusion of hatchery adults in the target stream” - this report has not been submitted as of August 2016. From a policy perspective, results from this project may have little value to the decision makers and resource managers. For example, since implementation began in August 2010, the number of out of basin hatchery strays entering Deschutes River tributaries has not been sufficient (6% in most recent annual report) to meet the requirements of the study design (estimated at 50% or greater). Furthermore, results from the 2014 annual report suggest that there is very little difference between the control and treatment streams, which in turn makes evaluating RRS difficult or impossible for this study. In other words, the data are, and will likely remain insufficient to evaluate the genetic and demographic effects of out of basin straying as stated in the ISRP qualification for meeting scientific review criteria.

Questions to all project sponsors with RRS studies:

- How does this project inform (1) the Council’s Research Plan and (2) the Council’s Fish and Wildlife Program objectives?
- Can any results from this study be extrapolated to other geographic locations or other populations?
- How does the Idaho Supplementation Study inform this project?

- Does this project have any of the following elements:
 - (a) A scientific question
 - (b) A hypothesis
 - (c) A specific time frame within which to answer the question posed
- How was it determined which species or geographic area to study?
- How does this effort work or collaborate with other RRS projects on aspects of the study (methodology, data and conclusions)?
- How does **density dependence** factor in to this study moving forward?

Questions relative to this project:

- The original hypotheses for this RRS study presumed high proportions of out of basin steelhead strays, which is now known not to be the situation. Given this situation is it now time to end this RRS study?
- Why has the sponsor not addressed Council recommendations?
- Can the evaluation of RRS occur with little difference between treatment and control stream?
- What critical analysis of data could enable managers to assess whether or not the project can answer the questions originally proposed?
- What management actions might be informed by this research?
- Did the scope of this project change based on cumulative annual results to date?