



Independent Scientific Review Panel
for the Northwest Power & Conservation Council
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Memorandum (ISRP 2009-30)

July 23, 2009

To: W. Bill Booth, Council Chair
From: Eric Loudenslager, ISRP Chair
Subject: Review of Accord Proposal, Rufus Woods Reservoir Redband Broodstock Net Pens (#2008-117-00)

Background

At the Council's July 7, 2009 request, the ISRP reviewed the Colville Confederated Tribes' Rufus Woods Reservoir Redband Broodstock Net Pens (#2008-117-00), which is a Columbia River Fish Accords project. The project is to raise redband rainbow trout in net pens in Lake Rufus Woods. This would enable the Colville Tribes to raise sufficient broodstock to meet currently identified reservation redband trout planting needs without jeopardizing the incubation and rearing capacity of the Colville Tribal Hatchery for other species managed under the Resident Fish Program.

This project is related to several other projects that have been or are being reviewed by the ISRP. We are currently reviewing the Colville Confederated Tribes' (CCT) *Twin Lakes Enhancement Proposal* (#2008-111-00¹). The purpose of that project is to improve summer habitat for native inland redband trout in Twin Lakes, Washington by enhancing dissolved oxygen levels in bottom waters. We also have reviewed² a Lake Rufus Woods Supplementation and Creel Project (#2007-405-00). Through that project, the Colville Tribes stock triploid rainbow trout into Lake Rufus Woods and evaluate success with creel data collection. Finally, these projects are related to the Colville Hatchery Project (#1985-038-00).

Recommendation

Meets scientific review criteria (qualified). The qualification is that, in future proposals, integration and linkage with the Colville Hatchery Project should be demonstrated with sufficient detail. Moreover, the proposed approach should be set up and considered a proof-of-concept test for a native brood fish management effort.

¹ www.nwcouncil.org/fw/projectselection/accord/200811100.pdf

² www.nwcouncil.org/library/isrp/isrp2007-17.htm

Overall comments

Transitioning from out-of-region coastal rainbow trout to native redband trout is commendable and encouraged by the ISRP. Net-pen rearing of 2-4 year-old redbands for broodstock will benefit fishery resources by aiding in development of a program that shifts away from a non-native rainbow trout stock. The ISRP hopes that switching to redband trout will eventually become sufficiently attractive to Tribal members that the need to propagate brook trout will be diminished.

Along with this transition, stocking plans associated with the Colville Tribal Hatchery and disease management plans need to ensure the genetic, ecological, and health of native redband in adjacent waters. This project should be integrated with the Colville Tribal Hatchery proposal in the future to provide complete evaluation of the program.

Specific comments

1. Technical Justification, Program Significance and Consistency, and Project Relationships (sections B-D)

The problem (inadequate hatchery space for redband broodstock as the program expands) is clearly described. Reviewers have been in strong support of the Tribes shift to the use of redbands and are aware of the limited capacity of the current hatchery. The project is well justified – CCT rearing facilities would be made more efficient if net pens in Lake Rufus Woods were used for rearing redband rainbow trout. The number of broodstock typically held and the duration of their retention at the hatchery were not specifically identified, but the overall problem was well described.

The alternatives considered to solve the problem were cogently discussed. That discussion enables reviewers to track how the proposed use of net pens (through a contractor) was arrived upon.

There are some implications for other projects because if this strategy works out, possibly enabling increased production from the CCT hatchery, the proponents might have the opportunity to increase the number of outplanted redbands. The carrying capacity of streams and lakes should be assessed if and when this occurs.

2. Objectives, Work Elements, and Methods (section F)

Objectives, work elements, and methods seem appropriate. The proposal does not fully identify the streams where redband broodstock would continue to be obtained. The ISRP assumes that obtaining broodstock will not jeopardize the naturally spawning populations in these local streams; however, this assumption should be addressed in future reporting.

There is no indication of the numbers of fish that are anticipated to be spawned each year and the biological objectives in terms of egg transfer to the CCT hatchery and anticipated annual brood requirements. Apparently n=1500 3+ year old and n=1000 4+ year old brood fish will be maintained. More discussion (details) of the transfer of juveniles (one-year olds or two-year

olds?) will be expected in future proposals. There is no discussion as to the fate of any surplus brood fish or in the case of lower than expected survival to the subsequent age class whether or how the brood will be supplemented.

No information is presented on how successfully redbands at the given densities can be reared in the pens, but presumably standard aquaculture procedures will be used. Also, there is no information given on how secure the pens will be. Some basic description of ranges of biomass and productivity feasible or expected in the net pens is desired. Here, the expected range of sizes (length and weight) at a given age should also be described and how these relate to productivity feasibility.

3. Monitoring and Evaluation (section G, and F)

The M&E for this proposal is limited to evaluation of rearing in the net pens and egg production from net-pen reared brood fish. Only a general framework for the metrics to be employed is presented. The sponsor indicates that “results will be objectively measured” but do not provide explicitly a description of the objectives or the metrics that will be measured to evaluate performance against these objectives. In future reporting and proposals, the proponent should provide the specific elements. Especially important is disease and pathogen sampling because eggs from this project will ultimately be distributed as fish to many locations on the reservation. Some mention of a disease management plan should be provided.

The sponsors propose to measure success by assessing the number, condition, etc. of the fish that are produced in the hatchery from gametes of brood stock reared in Lake Rufus Woods pens. However, a better assessment of success would be angler catch and the survival, growth and establishment of redband rainbow trout populations after outplanting. Future proposals should provide information on such goals and how long the net pen/hatchery/outplanting scheme might be needed to achieve them.