Independent Scientific Review Panel
for the Northwest Power & Conservation Council
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Memorandum (ISRP 2011-1) **February 4, 2011**

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

From: Eric Loudenslager, ISRP Chair

Subject: Sekokini Springs Step Review (BPA Project #1991-019-03)

Background

At the Council's August 2010 request, the ISRP reviewed a submittal received from Montana Fish, Wildlife and Parks (MFWP) regarding Sekokini Springs Isolation Facility, Hungry Horse Mitigation Program, BPA Project #1991-019-03. This project has undergone a number of ISRP reviews over the past few years. This MFWP's 2010 submittal responds to the ISRP's most recent review of September 29, 2008 (ISRP 2008-12). In that review, the ISRP recommended that the project met scientific review criteria (qualified). The three qualifications were:

> *1. Reintroducing fish into each of the treated headwater lakes (which are historically fishless), should occur only after confirmation that the hybrid/non-native population in each lake has been eliminated. This includes ensuring there are no fish remaining in inlet and outlet refuges.*
>
> *One of the critical limiting factors in the success of this effort is whether or not the non-native, hybridized fish are actually removed. If they are not, then hybridization will likely recur and require repeating the treatment/stocking cycle. Data provided by the sponsor suggests to the ISRP that "swamping," either genetic or demographic, is not likely to contain the spread of hybrids and should not serve as a substitute for ensuring eradication of the upstream hybrid populations.*
>
> *2. Montana Fish Wildlife and Park's (MFWP's) westslope cutthroat trout strain M012 should not be used to reintroduce trout to the headwater lakes if the opportunity exists for establishing a more appropriate and non-domesticated within-drainage strain, even if this means delaying the stocking schedule.*

M012 is a generic, semi-domesticated westslope cutthroat trout strain. Once established in the lakes it is likely to emigrate and interbreed with remnant native populations homogenizing the highly diverse westslope cutthroat trout gene pool.

3. Monitoring and evaluation should focus on the primary purposes of the program: a) success of eradication of non-native and hybrid populations; b) success of establishing self-sustaining populations from reintroduction efforts; and c) evaluating the extent of hybridization within the tributary drainages following eradication and reintroduction. These have more direct and higher priority over evaluation of alternate fish rearing protocols.

MFWP's submittal is intended to address these ISRP qualifications. The submittal includes a cover letter that provides a point-by-point response to the ISRP's qualifications and a revised ("final") Master Plan. The ISRP's review below is organized by these qualifications.

Recommendation

Meets Scientific Review Criteria (Qualified)

The revised Master Plan and response justify moving ahead with the implementation of plans for the Sekokini Springs facility. However, some project protocols require more complete description. This can be provided within the resident fish categorical review of the Hungry Horse Mitigation Program, of which Sekokini Springs is a part.

Comments

Qualification 1. Elimination of hybrids/non-natives before reintroduction

In their response MFWP indicates they agree with the ISRP that completely eradicating nonnative genetics from headwater sources (lakes inlets and outlets) prior to reestablishing a new westslope cutthroat trout (WCT) population offers the greatest potential for success. MFWP provided a paragraph asserting a long track record of successful chemical rehabilitation. This is important as a justification for advocating the strategy, but it does not suffice as confirmation of success nor serve as monitoring of effectiveness for each lake basin. What is needed is a described protocol for evaluating whether a chemical eradication effort was completely successful and for confirming the fishless status in each lake before restocking. Such a protocol was not cohesively outlined in the RME section of the revised Master Plan and was not found in MFWP's Hungry Horse Mitigation Program Annual Report for 2009.

Qualification 2. Use of generic broodstock

The ISRP and MFWP are in concurrence regarding the use of M012 stock for re-introduction programs: M012 should not be used to reintroduce trout to the headwater lakes if the opportunity exists for establishing a more appropriate and non-domesticated within-drainage strain, even if this means delaying the stocking schedule.

The ISRP's issue was whether this source (originally a composite of 14 tributaries) was appropriate for some or many of the lakes and tributaries being repopulated. The response letter adds an important comment. On page 3 of the response is stated, "...all lake systems targeted for treatment occur above barriers to fish passage. Hybrid trout have been documented downstream of these barriers, impetus for the ongoing WCT conservation project. If stocked fish or their progeny can emigrate to a 'remnant native population' so can the existing populations of hybrid fish." That hybrids will persist downstream continually supplying new hybrid recruits to other downstream populations will remain the major threat to WCT viability in the basin. Ultimately the lakes may end up as the only refuges for the diverse gene pools. Therefore, more than ever reviewers are convinced that drainage specific stocks should be targeted for use sooner rather later.

Qualification 3. Objectives' focused monitoring and evaluation

The RME plan in Chapter 8 is descriptive but without sufficient detail. The ISRP has required an effective monitoring element in all the Master Plans approved in the last several years. Chapter 8 appears to be more of a response to ISRP comments than a thorough presentation of monitoring to evaluate the primary objectives: hybrid population removal, stocked fish recolonization success, and maintenance of populations with reduced levels of hybridization with rainbow and cutthroat trout. The monitoring plan does touch on these topics: molecular detection of hybridization (page 37), donor populations (page 40), demographic and genetic management of within-drainage stocks (page 41), and monitoring donor population trends in recipient waters (page 43), post reintroduction monitoring (page 44). The cover letter suggested that more detail could be found in the Hungry Horse Mitigation Program 2009 Annual Report. Reviewers note that the report contains valuable results but does not comprehensively describe protocol.

In summary for Qualifications 1 and 3: more specificity of methodology, the data, and interpretation and evaluation for adaptive management of the program will be expected by the ISRP in the review of the Hungry Horse Mitigation Program.