



ISRP INDEPENDENT SCIENTIFIC REVIEW PANEL

FOR THE NORTHWEST POWER AND CONSERVATION COUNCIL

PORTLAND · NW COUNCIL.ORG/ISRP

Memorandum (ISRP 2023-5)

December 20, 2023

To: Jeffery Allen, Chair, Northwest Power and Conservation Council

From: Richard Carmichael, ISRP Chair

Subject: Step 1 Response Review for the Shoshone-Bannock Tribes' Waterwheel Hatchery Program Master Plan (Project #2008-906-00)

Background

On November 20, 2023, the Northwest Power and Conservation Council (hereafter "Council") asked the Independent Scientific Review Panel (ISRP) to review a response from the Shoshone-Bannock Tribes to address six conditions raised in the ISRP's August 18, 2023, review of the Tribes' *Waterwheel Hatchery Program Master Plan, March 17, 2023* (see [ISRP 2023-3](#)). The response review documents include a [Cover letter and Technical Memorandum](#). This response review is part of the Council's Step Review Process for a proposed hatchery under Project #2008-906-00, *Crystal Springs Planning and Operations/Maintenance*. The Master Plan is for the construction and operation of Yellowstone cutthroat trout and spring-summer Chinook salmon hatchery facilities and programs to mitigate the effects of the Federal Columbia River Power System through the Council's Columbia River Basin Fish and Wildlife Program. The Tribes' response, the 2023 Master Plan, and our review build on past reviews of proposals, Lower Snake River Compensation Plan summary documents, and the Crystal Springs Hatchery Master Plan from 2011-2012. A detailed summary of those past reviews and documents is included in our August 2023 review (see [ISRP 2023-3](#), pages 2-7).

Our review below focuses on the Shoshone-Bannock Tribes' responses to our six review conditions concerning the new Step 1 Master Plan and the new site for the hatchery.

ISRP Recommendation

Defer to ISRP Step 2/3 Review

The ISRP thanks the Shoshone-Bannock Tribes (hereafter SBT or proponents) and contributing consultants for providing a timely and informative response to the ISRP's six conditions associated with the Step 1 Master Plan review. The response addressed the six conditions with varying levels of detail. Overall, the response was highly informative, addressed aspects of each condition, and will clearly serve as a good foundation for revising the Master Plan to fully address all elements of each condition. In those cases where limited or no information was provided for a specific condition, the response provided a clear plan for how the conditions will be addressed in the Step 2/3 Master Plan.

Our response is purposely brief, and we have chosen to defer determination of whether the Master Plan meets scientific criteria until we complete our review of the Step 2/3 Master Plan.

ISRP Comments on SBT Responses to Conditions

Anadromous Fish – Spring/summer Chinook

1. Consolidate Goals and Objectives

Although the proponents plan to fully address all elements of this condition in the Step 2/3 Master Plan, some important and detailed information was provided in the response that should be highlighted.

Biological, harvest, and cultural goals will be developed, as recommended by the ISRP, to serve as broad, qualitative, desired outcomes for the program. SMART objectives will be developed for each goal, and the proponents plan to use the Grande Ronde Spring Chinook Salmon Captive Broodstock Program objectives as a starting foundation. Utilizing the Grande Ronde Program objectives should serve well as a starting point; however, objectives should be adapted to meet the Waterwheel Hatchery Program's specific needs. The format and content of Table 2-1 provides a solid framework for development and display of SMART objectives, and this approach will facilitate development of a full complement of biological and implementation objectives in the revised Master Plan.

In addition to the objectives presented in Table 2-1, we encourage the SBT to develop and include objectives for outreach and education, cultural enhancement, adaptive management, data management, reporting, and information sharing.

2. Best Available Science

We appreciate the attention and detail provided in the proponents' response, as it is critical to the success of the program. The description of the SBT and supporting consultants' experience in implementation of captive broodstock programs as co-managers was helpful. SBT staff participation in the multi-agency Captive Chinook Salmon Technical Oversight Committee has provided valuable knowledge and experience that will benefit Master Plan development.

The proponents' review and summary of the scientific basis and performance of the WDFW/NOAA, ODFW/NOAA, and IDFG/NOAA/SBT Chinook Captive Broodstock Programs provided a substantial amount of new information. Using this information to help identify major design and programmatic challenges is a scientifically sound step forward in addressing this condition and for the Master Plan revision. The response highlighted how previously completed technical memos (especially TM-11) provided context and detail related to how challenges and uncertainties of the WDFW/ODFW/IDFG programs were used in development of the Step 1 Master Plan.

Table 2 in the response provides some needed clarity for the scientific basis of the key biological design parameters. There remain some elements of the table that are confusing and need additional clarification. For example, adult maturation rates are reported as the proportion of fish alive at age N that mature at age N+1, which is inconsistent with the standard method of reporting the proportion of the broodyear that mature at each age. That is, it would be helpful if the percentages maturing at different ages summed to 100%. Additional information describing the variables and values in the table would also be beneficial.

The notes associated with each variable value were quite beneficial in describing the basis for key biological design parameters. We support the choice of selecting conservative biological requirements and performance assumptions as risk containment measures. The information highlighted for infrastructure and rearing requirements for egg incubation, fry, smolt, maturation, and spawning phases clarified some of our questions related to details of the full production cycle. We appreciate the commitment stated in the response, "that a thorough understanding of the challenges (as well as successes) encountered during the last three decades of captive Chinook Salmon broodstock propagation (the current "best available science" specific to this project) will be considered and help guide the proposed program moving forward."

3. Research, Monitoring, and Evaluation

The proponents provided a brief response and stated that "we will develop a new RM&E document in Step 2/3" and "having all the RM&E in a single document will allow for a simpler review and implementation in the future." We agree and support the proposed approach for developing a comprehensive RM&E plan as part of the revised Master Plan.

4. Production Assumptions and Management Uncertainties

The proponents appropriately plan to address this condition in the Step 2/3 Master Plan. Additionally, they will update the Hatchery Genetics Management Plan with the new captive broodstock program and associated RM&E to be submitted to NOAA for approval and ESA permitting.

5. Adaptive Management and Project Adjustment

We acknowledge and appreciate the descriptions of past adaptive management changes and successes accomplished by SBT. These examples illustrate their commitment to the adaptive management process. We look forward to reviewing the complete adaptive management and project adjustment plans as part of the Step 2/3 Master Plan Review.

Resident Fish - Yellowstone Cutthroat Trout

6. Broodstock Options Assessment

The ISRP strongly supports the decision to not mine Yellowstone cutthroat trout natural populations for broodstock as part of this harvest augmentation proposal. We look forward to additional detail and rationale in the revised Master Plan related to the plans for selection of the Yellowstone cutthroat trout broodstock source.

The ISRP looks forward to continued interactions and collaboration with SBT throughout the Master Plan development and review process.