



Preliminary Report: Review of Anadromous Fish Habitat and Hatchery Projects

INDEPENDENT SCIENTIFIC REVIEW PANEL
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Independent Scientific Review Panel

for the Northwest Power & Conservation Council
851 SW 6th Avenue, Suite 1100
Portland, Oregon 97204
www.nwcouncil.org/fw/isrp

ISRP Members

Richard Carmichael, M.S., Consulting Fisheries Scientist, formerly Program Director Northeast-Central Oregon Fish Research and Monitoring, Oregon Department of Fish and Wildlife

Patrick Connolly, Ph.D., Emeritus Research Fish Biologist, United States Geological Survey, Columbia River Research Laboratory

Kurt Fausch, Ph.D., Professor Emeritus of Fisheries and Aquatic Sciences, Department of Fish, Wildlife, and Conservation Biology at Colorado State University

Kurt Fresh, M.S., formerly Program Manager for the Estuary and Ocean Ecology Program at the Northwest Fisheries Science Center, NOAA Fisheries

Stanley Gregory, Ph.D., Professor Emeritus, Department of Fisheries, Wildlife, and Conservation Sciences at Oregon State University

Dana Infante, Ph.D., Associate Professor and Associate Chair of Research in the Department of Fisheries and Wildlife, Michigan State University

Josh Korman, Ph.D., President of Ecometric Research and an Adjunct Professor, Institute of Ocean and Fisheries, University of British Columbia

Thomas P. Quinn, Ph.D., Professor of Aquatic and Fishery Sciences at the University of Washington

Kenneth Rose, Ph.D., France-Merrick Professor in Sustainable Ecosystem Restoration at Horn Point Laboratory of the University of Maryland Center for Environmental Science

Desiree Tullos, Ph.D., P.E., Professor at Oregon State University, Biological and Ecological Engineering Department

Alisa Wade, Ph.D., Research Coordinator for the United States Geological Survey, North Central Climate Adaptation Science Center

Peer Review Group members

John Epifanio, Ph.D., former Principal Scientist with the Illinois Natural History Survey and Research Professor with the University of Illinois; now based in Portland, Oregon

David Heller, M.S., Aquatic Habitat Management and Restoration Consultant, formerly Fisheries Program Leader for the Pacific Northwest Region, USDA Forest Service

Alec Maule, Ph.D., Consulting Fisheries Scientist, Emeritus Research Physiologist, United States Geological Survey, Columbia River Research Laboratory

Robert J. Naiman, Ph.D., Professor Emeritus of Aquatic and Fishery Sciences at the University of Washington

Gregory T. Ruggerone, Ph.D., Fisheries Scientist for Natural Resources Consultants

Steve Schroder, Ph.D., Fisheries Consultant and former Fisheries Research Scientist at the Washington Department of Fish and Wildlife

Chris C. Wood, Ph.D., former Head of Conservation Biology Section at the Pacific Biological Station, Fisheries and Oceans Canada, Nanaimo, British Columbia, Canada

Staff

Erik Merrill, J.D., Independent Science Manager, Northwest Power and Conservation Council

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Introduction

This report provides the Independent Scientific Review Panel's (ISRP¹) preliminary comments and recommendations on [122 proposals](#) submitted for the [Anadromous Fish Habitat and Hatchery Review](#) to implement the Columbia River Basin Fish and Wildlife Program (hereafter "Program"). There are [124 projects](#) identified for this review, but the ISRP's and the Northwest Power and Conservation Council's reviews of two proposals are waiting for review materials from the project proponents. In this preliminary review, the ISRP finds that 32 proposals meet scientific review criteria, 41 proposals meet scientific review criteria with conditions, and 12 proposals are not amenable to scientific review and thus received "not applicable" recommendations. The ISRP requests responses on 37 proposals to determine if they fully meet scientific review criteria. Project proponents are provided an opportunity to respond to our concerns. The deadline for responses is November 22, 2021. The proponents' responses will inform our final report to the Council, scheduled to be completed by February 10, 2022.

This review is limited to projects that are currently being funded under the Program. Although new project proposals were not solicited, proponents of ongoing projects could describe new work elements, phases, or objectives for their projects based on adaptive management or new priorities, within existing budget constraints. Most of the 124 projects in this review have been the subject of numerous past reviews. Consequently, in the [Council's guidance document](#) to project proponents, the Council stated that important functions of this review are to evaluate:

- project results and accomplishments; the degree to which project objectives are being achieved
- how each project has adapted proposed future work based on those results; specifically, the degree to which project objectives, actions, and methods reflect new information gained from those results
- clear delineation of progress towards completion
- how well the project proponents have responded to the scientific and management issues identified in previous Council reviews and recommendations
- the collective progress of particular groups of projects that have a similar focus

¹"ISRP" refers to both ISRP members and Scientific Peer Review Group (PRG) members.

Although we are recommending conditions or requesting responses on 78 proposals, this does not reflect poorly on the projects or the Fish and Wildlife Program. In fact, we are impressed with the proponents' commitment to the objectives of the Program as evident in their many accomplishments, the effort they devoted to the proposals and presentations, and their constructive approach toward scientific review. We are using this preliminary review to continue our dialogue with the project proponents to improve clarity on the projects' objectives, methods, and results as well as the scientific foundation.

Based on the proponents' responses, our final report will provide final recommendations on each project and a full discussion of programmatic issues that apply across projects to inform Program development and performance. Programmatic topics will likely include integration of projects within geographic areas, particularly between monitoring and evaluation (M&E) and habitat restoration projects; future review processes; habitat assessment and prioritization methods; climate change; the dire conditions of some salmon and steelhead stocks; alignment of genetic stock identification (GSI) and viable salmonid population (VSP) analyses; uncertainties about long-term fitness effects on natural populations resulting from hatchery supplementation and straying; and other issues identified during the response review. To aid the proponents in developing responses, we include a brief programmatic discussion of integration of M&E and habitat restoration projects. Additionally, we include some preliminary thoughts on future project review processes because we understand the Council and Bonneville Power Administration staff are beginning discussions on the next review process.

The ISRP strives to ensure that our multi-year recommendations for the projects and the Program have a sound, well-documented scientific foundation.

The ISRP Review Process

Review Criteria

ISRP reviews are based on criteria provided in the [1996 amendment to the Northwest Power Act](#). The amended Act directs the ISRP to review projects for consistency with the Council's Fish and Wildlife Program and whether they:

1. are based on sound science principles
2. benefit fish and wildlife
3. have clearly defined objectives and outcomes, and
4. contain provisions for monitoring and evaluation of results

Pursuant to the 1996 amendment, the Council must fully consider ISRP recommendations when making its recommendations regarding funding and provide an explanation in writing where its recommendations diverge from those of the ISRP.

For individual projects, as described in the [Council's guidance document](#), the ISRP review focuses on project performance by assessing the following project components:

- the degree to which project objectives are being achieved
- accomplishments and results

- the degree to which project objectives, actions, and methods reflect new information gained from those results and
- a clear delineation of progress towards completion

Review Steps

ISRP reports include written recommendations and comments on each proposal that is amenable to scientific review. These reports reflect the ISRP's consensus. To develop preliminary recommendations for this review, the ISRP used a multi-step process:

1. ISRP and Council Proposal Workshops (February 11 and 25, 2021). Several ISRP members participated in two Council hosted webinars in February to guide proponents through the proposal form template, instructions, and submission process. The ISRP and Council's guidance emphasized how to develop quantitative biological objectives and project evaluation and adjustment plans. The workshops and detailed instructions in the proposal forms seem to have improved the proposals' goals and objectives, but we will more fully evaluate the effectiveness of this outreach compared to past outreach efforts in our final report.

2. Individual ISRP reviewer evaluations (May 4 – July 22, 2021). At least three reviewers reviewed each proposal and provided written evaluations. The ISRP assigns review teams based on expertise and whether members reviewed the project in the past or participated in site visits. Reviewers include Peer Review Group (PRG) members who augment the ISRP's expertise and ensure that the ISRP has the capacity to complete extensive reviews on specific deadlines. Assignments are made to avoid appearance of bias based on members' past affiliations. Individual reviewer's comments and records of discussions are confidential and not available outside the ISRP review teams.

3. Review meetings (June 14 – July 22, 2021)

- **Project presentations.** Over 5 weeks, 13 review meetings were held, in which the proponents presented their proposals to the ISRP, other project proponents, and Council and BPA staff. Time was reserved for questions and discussions. These discussions aided the ISRP in clarifying specific concerns and understanding the projects. The presentations are available on the Council's [project review webpage](#).

- **ISRP group evaluation meetings.** Individual reviewer comments were compiled prior to the project presentations. Following the presentations, review teams met to discuss individual reviews, develop a consensus recommendation for each proposal, and ensure consistency across reviews. These meetings were attended by ISRP and PRG members only, and the deliberations are confidential.

5. Preliminary report completion (July 23 – September 23, 2021). After the evaluation meetings, a lead reviewer synthesized individual reviewers' comments into a consensus statement on each proposal. The ISRP reviewers evaluated and edited these draft consensus statements to produce this preliminary report, which includes final recommendations for 85 projects and response requests for 37 projects.

Next Steps

- Public comment begins September 24, 2021
- Managers and Proponents' responses due by Monday, November 22, 2021
- Final ISRP report due by February 10, 2022
- Public comment ends March 10, 2022
- ISRP presentation at the Council's February 2022 meeting
- F&W Committee recommendation March 2022*
- Council recommendation April 2022*

*Project proponents will be notified if the schedule changes.

Recommendation Categories

Table of ISRP recommendation categories and use in ISRP preliminary and/or final reports.

Recommendation	Prelim	Final	Short Description
Meets Scientific Review Criteria	X	X	Substantially meets the ISRP's criteria
Response Requested	X		Clarification needed before the ISRP can make a final decision
Meets Scientific Review Criteria – Conditional	X	X	Mostly meets criteria but further justification, adjustments, or reporting needed
Does Not Meet Scientific Review Criteria		X	Significant deficiency in one or more of the ISRP's criteria
Not Applicable	X	X	Objectives not amenable to scientific review

The full definitions of the ISRP's recommendation categories are:

1. Meets Scientific Review Criteria is assigned to proposals that substantially meet the ISRP's criteria: "[1] are based on sound scientific principles; [2] benefit fish and wildlife; and [3] have a clearly defined objective and outcome with [4] provisions for monitoring and evaluation of results." Proposals do not have to contain tasks that independently meet each criterion but can be an integral part of a program that provides the necessary elements. For example, a habitat restoration project may use data from a separate monitoring and evaluation project to measure results as long as the proposal clearly demonstrates this integration. Unless otherwise indicated, a "Meets Scientific Review Criteria" recommendation is not an indication of the ISRP's view on the priority of the proposal, nor an endorsement to fund the proposal, but rather reflects its scientific merit and compatibility with Program goals.

2. Response Requested is assigned to a proposal in a preliminary review that requires more information on specific issues before the ISRP can make a final recommendation. This does not mean that the proposal has failed the review. The ISRP requests responses on many proposals, and, in the past, most proposals provided sufficient information in the response loop to meet the ISRP's scientific review criteria. In terms of requesting responses, the ISRP approached the review with the perspective that all review questions do not warrant the time and expense of a formal response; so,

the ISRP focused response requests on those proposals where a response would be critical to whether the proposal meets or does not meet scientific review criteria.

3. Meets Scientific Review Criteria – Conditional² is assigned in the ISRP’s preliminary and final review to a proposal for which additional actions by the proponent are needed to fully justify the entire proposal and substantially meet all the ISRP’s criteria. For example, a particular implementation objective or method may need to be modified or removed, a comprehensive results report may be required, or a management plan may be needed. In some cases, the proposal includes some objectives/methods that substantially meet the ISRP’s criteria and some that do not. The ISRP specifies which objectives do not meet the review criteria.

The ISRP expects that needed changes to a proposal receiving a “Conditional” recommendation will be determined by the Council and BPA in consultation with the proponent in the final project selection process. Regardless of the Council’s or BPA’s recommendations, the ISRP expects that, if a proposal is funded, subsequent proposals for continued funding will describe how the ISRP’s conditions were addressed by project actions or policy decisions. In some cases, a proposal that receives a Conditional recommendation will be reviewed subsequently by the ISRP outside the standard review process.

3. Does Not Meet Scientific Review Criteria is assigned in the ISRP’s final review to a proposal that is significantly deficient in one or more ISRP review criteria. One example is a proposal for an ongoing project that *might* offer benefits to fish and wildlife but does not include provisions for monitoring and evaluation or reporting of past results. Another example is a research proposal that is technically sound but does not offer benefits to fish and wildlife because it substantially duplicates past efforts or is not sufficiently linked to management actions. Some projects receiving this recommendation propose actions that could unintentionally harm non-target, native fish or wildlife. The ISRP notes that proposals in this category may attempt to address needed actions or are an integral part of a coordinated watershed effort, but the proposed methods or approaches are not scientifically sound. In some cases, an alternative approach or project may be warranted to address the needed action.

4. Not Applicable (N/A) is assigned to proposals with objectives that are not amenable to scientific review. Projects receiving “N/A” recommendations in previous reviews were largely administrative, such as regional coordination projects and projects that propose plans to develop plans. The ISRP generally identifies programmatic issues with such projects and provides comments on how the science to inform and evaluate the projects could be incorporated to improve the project.

² The ISRP previously used “In Part” and “Qualified” recommendations, but “Conditional” is less confusing and better fits our intent and usage.

ISRP Review Comment Sections

[Proposals](#) consist of the following sections:

1. Problem statement and significance to the Program
2. Progress to date
3. Goals and objectives
4. Methods
5. Project evaluation and adjustment process

Supporting sections

6. Potential confounding factors and/or major uncertainties
7. Timeline
8. Relationships to other projects
9. Response to past Council recommendations and ISRP reviews
10. References
11. Key personnel
12. Appendices
13. Proposed budget

The ISRP's recommendation and comments on each proposal are divided into five fields based on the ISRP's review criteria covering:

- Overall comment and recommendation
- Q1. Clearly defined objectives and outcomes
- Q2. Methods (based on sound science principles)
- Q3. Provisions for monitoring and evaluation of results and project adjustment process
- Q4. Results: benefits to fish and wildlife

ISRP Recommendations and Comments

200860800 - Idaho MOA/Fish Accord Water Transactions

Links to: [Proposal](#) | [Past reports](#) | [Past reviews](#)

Proponent: Idaho Governor's Office of Species Conservation

Province/Subbasin: Mountain Snake/Salmon

Period of Review: 2013-2020

Recommendation: Meets Scientific Review Criteria

Overall comment:

Generally, this project has demonstrated success in navigating the complex and challenging issues associated with securing instream flows. While the objectives for the project are not SMART, the proposal provides an adequate indication of the scope of the work. Strengths include thorough prioritization and review of the transactions, collaboration among diverse stakeholders and peers, and a thoughtful monitoring framework. In addition, this program is working through many legal and other barriers to improve flows, which are a key limiting factor on production or mere persistence. The negotiations of transactions and the subsequent monitoring are very complicated, but there is every indication that this program is functioning well, given the challenges inherent in the goals. Prioritization of permanent protections is a strength of the program, as is the awareness of and response to the rising frequency and severity of droughts.

As with other water transactions projects, streamflow monitoring is a financial and logistical challenge that the proponents continue to try to address, in part through partnerships with other agencies conducting monitoring. This perennial issue will challenge compliance monitoring for the program and may require exploring some emerging streamflow measurement strategies, expanding collaborations, and/or increasing funding from BPA or other sources.

Although the proposal meets scientific criteria and no response is requested, we encourage the proponents to support the effort to develop an M&E matrix for the Upper Salmon River basin.

M&E matrix - support. As habitat projects and monitoring projects are not presented as part of an integrated proposal or plan, the need for a crosswalk to identify the linkages between implementation and monitoring is extremely important for basins or geographic areas. The ISRP is requesting a response from the Upper Salmon Basin Habitat Restoration Project (200739400) to summarize the linkages between implementation and monitoring projects in the Salmon River basin. During the response loop (September 24 to November 22, 2021), we ask this project to assist them in creating the summary and provide information to them about what is being monitored for this implementation project and where and when the monitoring occurs. A map or maps of locations of monitoring actions would be helpful in this regard.

Q1: Clearly defined objectives and outcomes

The objectives themselves are not SMART, but the content in Table 1 and the supporting text gets close to quantitative objectives. For example, the first objective is to "Improve the instantaneous rate of flow through a defined stream reach," which is not a SMART objective. However, the text sets a target of 25 [permanent] cfs [at the L-6 diversion] by 2025, as well as defines additional tasks

to be completed under this general objective. However, some of the tasks are quite general “Determine possible transactions...” A similar blend of measurable and unmeasurable targets are present under all objectives.

Given the uncertainty of new minimum streamflow rights in the Lemhi basin and the outcomes of the Managed Recharge study, it is understandable that the scope is not fixed. In addition, Table 1 provides a reasonable set of actions for the next project period in a format with that is easy to understand, detailing goals, objectives, provides definitions, and an indication of the quantification process (e.g., redd counts, fry surveys, subsurface data loggers to measure flow, etc.).

Furthermore, it was not clear to the ISRP if the project objectives need to match the broader CBWTP objectives. These objectives were critiqued for not being measurable or time bound in the 2013 Geographic Review. In addition, Objective 2 (“Improve the total volume of water restored to a defined stream reach over a period of time”) is problematic as a metric due to the variation in flows over the irrigation season and the difficulty in estimating total volume based on individual measurements, etc. The ISRP questions the value of this objective if it cannot be defined quantitatively or measured.

In summary, while the scope is generally clear in the proposal, the project would benefit from crafting measurable and time bound objectives that allow for assessment of project success and impact and inform project adjustments, but a response is not requested because the proposal scope was clear enough based on the materials provided (particularly Table 1).

Q2: Methods

The methods clearly describe the steps involved with securing instream flows, and Table 2 provides a clear overview of the transactions tools that are used and what is involved with implementing them. Details of how prioritization and ranking of transactions are conducted were not presented in the proposal. It would have helped to have a summary in the proposal rather than referencing related proposals. The Flow Restoration Accounting Framework (FRAF) has been implemented since 2015 to provide simple (i.e., compliance) to more complex (i.e., biological) monitoring of transactions. Some of the results of the monitoring were presented in the Progress to Date, which were very helpful, though details on how proponents plan the higher tier, more detailed monitoring for the next project period was not provided.

Of note, all transactions are extensively reviewed, both by CBWTP and by the Idaho Water Resource Board, which occurs as a public process. This section provided clear indication of the amount of work involved with securing these instream flows, and the ISRP was surprised to learn that some of the MSFs currently being negotiated in the Lemhi will require approval of the Idaho state legislature. The proponents are clearly operating in a complex space, and success with water transactions demonstrates careful attention to diverse stakeholder concerns.

The proponents note that funding and logistics of streamflow monitoring are challenges for the project, despite the important role of stream flows in compliance monitoring, hydraulic modeling, etc. The proponents may investigate some of the emerging technologies for streamflow monitoring, such as radar gauges on bridges or the use of NASA’s new SWOT dataset for wider sections of the river. For smaller channels, crowdhydrology.com or similar tools can be a useful tool where

landowners are willing to read staff gauges. While these specific technologies will not solve this critical issue for all rivers, expanding beyond the traditional tools for streamflow monitoring may ultimately benefit the project.

In summary, the methods appear to be appropriate for this challenging but important project. While some details were not included in the proposal for review, those methods are well established at this point, and the ISRP has confidence in the application of science based on the strong track record and collaborative processes in place.

Q3: Provisions for M&E

The proposal provided a detailed description of the activities that contribute to project evaluation and adjustment. A key feature of this process is collaboration with other groups, ranging from monthly, quarterly, and annual meetings with a variety of technical partners and proponents. In addition, the proponents are using new science and collaboration with partners to innovate, such as the potential for transactions based on managed recharge for restoring instream flows. The ISRP also appreciated how, in the Potential Confounding Factors section, the proponents described how they were identifying actions that could mitigate the factors most likely to frustrate their efforts to improve flow (i.e., non-participation by senior water right holders, non-tolerance of beaver activity, and inadequate management of groundwater in headwaters). This narrative is indicative of broader thinking about project constraints and direction that is a key component of project adaptation and adjustment. Notwithstanding the stated concerns regarding the growing challenges of streamflow monitoring, data were presented indicating the success of the proponents in getting at least some water in much-needed place and time combinations.

Q4: Results – benefits to fish and wildlife

The section on Progress to Date is very thorough, summarizes important lessons learned, and includes biological and streamflow data to support findings. It summarizes the amount of instream flows that have been protected, and includes some biological data (e.g., redd counts, PIT tag data) to attempt to relate results to biological outcomes. Given that relating cfs to numbers of fish is not realistic, the proponents have demonstrated a reasonable attempt to show benefits where monitoring data can support it. In a minor point for interpreting benefits, the ISRP questioned the value of Figure 4, as it is not clear how the PIT-tag data supports the claim of fish seeking thermal refuge.