



## Independent Scientific Review Panel

for the Northwest Power & Conservation Council  
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**Memorandum (ISRP 2011-19)**

**July 14, 2011**

**To:** Tony Grover, Director, Fish and Wildlife Division, Northwest Power and Conservation Council

**From:** Richard Alldredge, ISRP Chair

**Subject:** Follow-up Review of the Yakama Nations' Project, *Rock Creek Fish and Habitat Assessment* (#2007-156-00)

### **Background**

At the Council's May 25, 2011 request, the ISRP reviewed a revised proposal for the Yakama Nation's Project, *Rock Creek Fish and Habitat Assessment* (#2007-156-00). The revised proposal is available at [www.cbfish.org/Proposal.mvc/Summary/226](http://www.cbfish.org/Proposal.mvc/Summary/226). The proposal states that its "primary goal is to gather information on the anadromous salmonid populations' (steelhead, fall Chinook, and coho) status within the subbasin. Information will be collected on the abundance, growth, genetics, diseases, habitat condition, and movement of salmonids in Rock Creek, a unique watershed of the middle Columbia River."

An earlier proposal was submitted and reviewed as part of the Categorical Review for Research, Monitoring and Evaluation and Artificial Production projects ([ISRP 2011-44B](#), pages 201-202). In that review, the ISRP recommended that the proposal did not meet scientific review criteria and commented, "There are not enough details in the project to conduct a scientific evaluation. This project likely needs more time than is available in the response loop to adequately develop this project for a meaningful ISRP review. The ISRP looks forward to reviewing a proposal when it is fully developed... a few parts of this might be supportable if better justified."

The ISRP's review of the revised proposal follows below.

### **Recommendation**

*Does Not Meet Scientific Criteria*

## Comments

This proposal remains difficult to evaluate for scientific content because the objectives continue to be vaguely articulated, the descriptions of methods are extremely sketchy or not present, and previous results (for example, those from the 2008 Annual Report) are not sufficiently discussed and incorporated. As written, it remains a data collection project, which could be adequate if the proposal clearly described the goals, objectives, and thus the reasons, for the collection of that data. The importance of the work and the appropriateness of the methods continue to be obscure in the revised proposal.

Detailed information was provided and appreciated for the steelhead population survey and PIT-tag interrogation work. Similar details are needed, but not provided, for many of the other project work elements. Major reviewers' concerns are:

1. From a proposal comment (and the 2008 Annual Report) it appears that some EDT analysis has been done in Rock Creek. If the proposal had summarized the results in terms of modeled reach-specific limiting factors it would have significantly strengthened the proponents' efforts to justify the habitat restoration work. Now that the basic habitat and fish distribution information has been gathered, it should be time to move forward with targeted work to restore and protect critical stream portions, but such efforts were not outlined.
2. The project summary emphasizes high water temperatures in Rock Creek, and presumably these temperatures are the basis for concerns about potential disease/pathogen problems in steelhead and other native species, as well as the reason for re-establishing riparian vegetation. As the ISRP noted in its initial review, previous pathogen surveys of Rock Creek fishes appeared to indicate this was not a significant issue, but it remains in the proposal. Clarification of the pathogen and temperature issue would be required if it were to be pursued further.
3. Riparian plantings do have the potential to be helpful, but the ISRP cautions that steps must be taken to protect seedlings from ungulate browse (or even loss to beaver activity) that could reduce restoration effectiveness. Future proposals should note if this was considered, and how.
4. The narrative notes at least two other potentially significant factors – extensive grazing and non-native fishes. It seems these must also be addressed to a measurable extent by this project.

The ISRP previously requested additional study details so that the scientific merit of the work could be assessed. Sufficient study details are still lacking, but required for a science review. Some detail of the methods can be found in the previously completed annual report, but reviewers require more description of sampling techniques and analytical methods. In general,

details on study design should be summarized in the proposal itself and augmented with attached or linked documents.

### *1. Purpose, Significance to Regional Programs, Technical Background, and Objectives*

The proposal does not very thoroughly describe the Rock Creek project in relation to other inventory and restoration actions in the adjacent Yakima River subbasin. What has been learned in nearby tributary systems that could be applied to Rock Creek?

As stated by the proponents: “The Rock Creek Fish and Habitat Assessment project's primary goal is to gather information on the anadromous salmonid populations' (steelhead, fall Chinook, and coho) status within the subbasin. Information will be collected on the abundance, growth, genetics, diseases, habitat condition, and movement of salmonids in Rock Creek, a unique watershed of the middle Columbia River.” This primary goal should be made more specific. Such information gathering is much more efficiently and economically designed and implemented if clearer, more focused statements are included about what questions are being asked or what hypotheses are being evaluated.

No Objective 3 is listed in the proposal. It moves from Objective 2 to 4.

According to the proponents, “The Rock Creek subbasin has been identified as a unique watershed with high potential productivity for steelhead (as evidenced by spawner surveys) but with significant habitat limitations (low flow, high stream temperatures, and riparian, channel and floodplain degradation).” It is not clear how high its potential can be (i.e., beyond where it is now) with these significant habitat limitations. If the subbasin is highly unusual or distinctive, it is not clarified exactly what makes this watershed unique or highly unusual. As described, the symptoms that limit salmonid abundance seem typical of other watersheds in the region.

### *2. History: Accomplishments, Results, and Adaptive Management*

The proposal would benefit from a more complete summary of the work done to date. For example, results of habitat surveys (temperature, stream habitats, sediment levels) should be summarized. More information on instream movements (this revision mentions two instream PIT-tag interrogators) and smolt emigration are needed, as well as more complete summaries of genetic analyses and pathogen surveys.

It would also be helpful if the project summary was more explicit about how the information from the monitoring would be used to modify current management practices, such as grazing.

### *3. Project Relationships, Emerging Limiting Factors, and Tailored Questions for Type of Work (Hatchery, RME, Tagging)*

Because Rock Creek apparently has been modeled using the EDT decision-support tool, the proposal should provide a more complete summary of what the analysis revealed. In particular,

a listing of what has been learned about the relative importance of different limiting factors over the entire Rock Creek system and description of how the EDT results incorporated into hypothesis formulation and testing in the current project, or in prioritizing sites for restoration, would assist with direction of the work and expedite science review.

#### *4. Deliverables, Work Elements, Metrics, and Methods*

Regarding Objective 2, a description of the habitat survey methods is needed. The proposal states that “EDT methodologies” will be used; however, the EDT model does not give field methods but rather a framework for analysis and interpretation. The proposal would have benefited greatly from a map showing habitat sampling locations (as well as other types of sampling such as PIT-tag interrogators). Summaries of previous habitat surveys would be very helpful. In addition, an investigation and consideration of the use of new CHaMP protocols may be of benefit, particularly if these methods become standardized in the Columbia Basin.

Assertions such as "Each habitat survey site will be a representative homogenous section of each reach. " and "Surface substrate will be sampled at two typical spawning sites in the Rock Creek mainstem and one site in Squaw Creek, one of its tributaries” require additional implementation details for evaluation. Additional justification of whether samples sizes are adequate or excessive for evaluating habitats, SARs, genetic assessments, pathogens, etc. is needed.

More details are needed on lamprey surveys. There has been increased emphasis on lamprey monitoring throughout the Columbia River Basin. Future project proposals would be strengthened by incorporation of information emerging from these studies.

Regarding Objective 4: Listing Deliverable 9 (Status reports for BPA) under the “salmonid use, life history, and growth” objective seems misplaced. Also, a description is needed about how a straightforward assessment of age and growth would be evaluated or quantified.

More information needs to be presented to indicate how the proposed, mostly routine fieldwork is to be targeted toward and used in management applications.