



Independent Scientific Review Panel
for the Northwest Power & Conservation Council
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Memorandum (ISRP 2009-42)

October 16, 2009

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

From: Eric Loudenslager, ISRP Chair

Subject: Review of the Yakama Nation's Accord Proposal, Columbia Cascade Province MOA Habitat Projects (2009-00-300)

Background

At the Council's September 15, 2009 request the ISRP reviewed the Yakama Nation's Columbia River Fish Accord proposal titled *Columbia Cascade Province MOA Habitat Projects (2009-00-300)*. The project's goal is to improve habitat for salmonids in the Wenatchee, Entiat, and Methow subbasins to a degree capable of supporting sustainable populations. This proposed project is specifically intended to restore ecological functions to stream habitat in the three identified subbasins to contribute to recovery of salmon, steelhead, and bull trout. In addition, the project is intended to be holistic in nature and thus improve habitat for other fish and aquatic as well as terrestrial species present in these areas.

ISRP Recommendation

Response Requested

Because the proposal primarily focused on describing the background and justification of the process of prioritizing habitat restoration in the Wenatchee, Entiat, and Methow subbasins, it is premature for the ISRP to comment on this project's scientific soundness until more information is provided. The narrative suggests that the planned activities are consistent with other inventory and planning efforts in the province, and we assume that funding from the Accord MOA will help provide needed human and other resources in subbasins where such resources are spread thin. However, this proposal in its present form does not contain sufficient technical detail for a scientific review.

We request a revised proposal that provides sufficient detail for a technical review including:

1. Procedures by which watershed assessments and prioritization of projects will be conducted.
2. Summary data on stock and current habitat status (productivity and capacity estimates of past and current conditions) to provide context for the slate of priority activities identified in the proposal.

3. The anticipated effects of habitat improvements on fish and wildlife populations; and the details of a monitoring program that facilitates adaptive learning.

The habitat restoration efforts in the Columbia Cascade Province are well underway, and the YNFRM has played a significant role in improving salmon and steelhead habitat in this area. Implementation of the types of projects identified in the listed priority actions (pages 12-15) should benefit fish and wildlife, if they are implemented in the proper locations. However, at this time it is impossible to evaluate the scientific basis for habitat improvement, or estimate the potential benefit to fish and wildlife populations, until the planning work is complete, sites have been prioritized, and implementation and monitoring plans have been finalized. The ISRP recognizes that this step cannot be accomplished until the inventory and prioritization process is complete. This proposal is consistent with the ongoing planning and implementation process in this province, and it proposes to supplement funding for habitat inventory and restoration projects, which will enable hiring more people to do the actual work. In a region where there is much to do and limited resources to implement the subbasin and recovery plans, additional funding is warranted. However, insufficient detail was provided in the proposal to evaluate the technical adequacy of the protocols that will be employed to complete the inventory and planning activities.

It would be helpful to the ISRP, as this project goes forward, to view outcomes from the planning and implementation of habitat actions in a subset of reaches that include different restoration actions. This does not have to be included in the formal response to our review. It might be possible to highlight the Accord MOA supported work in the context of a rolling provincial review. However, providing the ISRP with information on how the inventory, priority setting, and implementation efforts are progressing would help us understand the project and hopefully provide constructive feedback.

ISRP Comments

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

The Yakama Nation Fisheries Resource Management's (YNFRM) programmatic proposal for habitat improvement work in the Wenatchee, Entiat, and Methow subbasins was well supported in terms of providing documentation of existing recovery plans, watershed and subbasin assessments, and current restoration efforts. This area of the Columbia Cascade Province has a diverse and complex mix of land uses, and the region's stakeholders deserve credit for having attempted the coordination required for implementing restoration actions that make sense at the subbasin scale.

The proposal states that funding from the Accord MOA will be used to implement habitat restoration actions specified in the 2007 Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan. Although the precise locations of those actions have, for the most part, not been identified in the proposal (see below), the project sponsor gives evidence that the work will be consistent with improving the limiting factors that were identified in subbasin assessments, EDT, and other planning and diagnostic tools. Sections B-E of the narrative re-state general

justifications, significance, and project relations found in subbasin and other plans, but relatively few specific actions are provided with respect to this proposed project.

There is some ambiguity in the proposal about how confident the YNFRM are that limiting factors have been correctly identified in previous planning and assessment efforts, because much of the initial work outlined in this project's description involves reach surveys to locate sites for restoration efforts. If these reach surveys are designed to test if restoration strategies can improve survival, this suggests at the very least that YNFRM wants to take a hard look at priority reaches of the Wenatchee, Entiat, and Methow subbasins to determine if limiting factor assessments were likely correct. The ISRP agrees that detailed reach surveys to be initiated in 2009 are a good idea, since decision support models such as EDT ought to be supported and calibrated with local data wherever possible.

The proposal and supporting documents describe coordination of many assessment and implementation activities over a large geographic area. This is commendable and should be encouraged to continue. There are good examples of such assessments and implementations, yet the specific actions (e.g., carcass analog placement, reduction of negative species interactions, log additions) lack scientific justification and seem to lack an effective monitoring program that truly encompasses adaptive management. Some existing assessments and implementation plans are incomplete. The inclusion of Intensively Monitored Watersheds is promising, but a clear definition of which response variables will be tracked and how they will be measured is missing. In addition, we were provided no background on population status, productivity, and capacity, nor any indication on how the proposed actions will improve these demographic properties. Issues related to the effects of regional human population growth and climate change on habitat restoration success are not mentioned, and should be included if relevant. Likewise, the extent of supplementation and the possibility that infusions of hatchery fish will confound the interpretation of results, as well as the effect of other watershed restoration actions, should be covered. A treatment/control watershed-scale restoration approach should be considered that provides the opportunity to employ adaptive (i.e., experimental) management as it was originally envisioned.

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

Section G (Proposal biological/physical objectives, work elements, methods, and metrics) does not explicitly state the objectives, but instead refers the reader to other documents, including the subbasin plans and recovery plans (USFWS 1999). The primary work element is to cooperate with local watershed action groups to “develop, design, and implement projects or strategies within the selected reaches [Peshastin, Nason Creek, Upper Wenatchee, Entiat, Mid-Methow, Lower Twisp, Lower Chewuch, Gold Creek/Libby Creek] that address the priority actions.” The process is described in general terms, but does not go into detail sufficient for a scientific review. While the process seemed reasonable, it was not completely clear how funding for this particular project would be allocated other than to support part of the reach selection and restoration prioritization effort that is described in Appendix E. It is assumed that after the assessments are completed and sites have been prioritized, this project will actually fund habitat improvement actions.

Because the proposal did not go into detail regarding specific projects but instead was process-oriented, the ISRP is unable to comment on the scientific basis for project selection, the methods

of implementation, or the monitoring and evaluation of project effectiveness until specific projects have been identified.

3. M&E (section H)

The ISRP recognizes that because individual restoration actions have not yet been identified, specific details about M&E efforts cannot be provided in the proposal. We further recognize that this proposal is not requesting funding for M&E. However, the proposal does indicate that M&E associated with Accord habitat projects would be monitored by the partnership of organizations listed in Appendix C through the UC Monitoring and Evaluation Plan (NMFS 2008). It is not possible for the ISRP to determine whether monitoring and evaluation techniques employed by the partners will be adequate to evaluate the efficacy of actions executed under this proposal. This approach to M&E appears to be rather uncertain as there is no indication in the proposal as to the availability of staff and other resources to ensure that ongoing M&E efforts will be sufficient. The ISRP does not doubt that the commitment to implement an adequate M&E effort exists. However, more detail with respect to how these various, ongoing, M&E efforts will be coordinated to include the projects generated by this proposal is needed. Hillman (2006) and Appendix C are referenced as the M&E plan, yet these documents seem to be primarily in draft and largely a list of contacts.

Restoration actions generated by the project should be treated as experiments and incorporated into an adaptive management program. The proposed workshop could be utilized to begin to define the structure of such a program and assign roles and responsibilities among the entities currently engaged in M&E efforts in the region, keeping in mind that reference or “control” sites are needed for experiments to be meaningful. This program should enable M&E elements such as the characterization of current habitat status (e.g., percent perturbed, amounts “recovered,” and to be recovered), stock productivity and capacity, and anticipated increases based on real examples from the field (e.g., smolts per spawner). Sufficient technical talent has been deployed in these three watersheds to enable the organization of a very effective M&E/adaptive management program. This proposal can provide the resources to ensure that these M&E activities are coordinated and complementary.

This project provides an opportunity to develop a comprehensive habitat restoration plan for these watersheds, incorporating real adaptive management where management actions are treated as experiments. The many tributaries in the three main watersheds should afford many options to explore alternative restoration hypotheses. The November workshop discussed in the proposal is an excellent forum to begin the development of an integrated adaptive management process. The objectives and products of this workshop should be specified in the proposal and the manner by which these products will be used to inform assessment, restoration, and M&E activities in the basin specified. Marmorek et al. (2004)¹ and Walters et al. (1988)² can be used as a basis for development of the facilitated workshop and provide useful information regarding the development of an integrated restoration plan and a monitoring program that yields useful feedback on restoration effectiveness.

¹ <http://www.essa.com/documents/ESSA%20Multi-watershed%20report%20H00012481-1.pdf>

² <http://rparticle.web-p.cisti.nrc.ca/rparticle/AbstractTemplateServlet?calyLang=eng&journal=cjfas&volume=45&year=1988&issue=3&msno=f88-062>