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

Memorandum (ISRP 2009-29) **July 23, 2009**

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

From: Eric Loudenslager, ISRP Chair

Subject: Review of Wenatchee Complexity Project, 200732500: Site CMZ N4

Background

At the Council's June 26, 2009 request, the ISRP evaluated documentation provided by the Chelan County Natural Resource Department to justify restoration actions on one of four proposed project sites for the Wenatchee Complexity Project, 20073250. Chelan County provided this information in response to earlier ISRP reviews, which requested more details to allow us to assess the value of the project on scientific merit (ISRP 2008-13[1]). In that review, although we preferred a complete plan for all sites, we noted that to allow for sequential implementation of the project, we would review support documents for each site as they became available. Chelan County took the sequential approach.

In February 2009, we reviewed support documents for two sites, CMZ 11 and CMZ N4 (ISRP 2009-4[2]). In that review, we found the restoration actions at site CMZ 11 were scientifically justified. However, as Chelan County acknowledged, the CMZ N4 design and effectiveness monitoring plans were not finalized. The ISRP qualified its final assessment on completion and review of those plans. For the review at hand, Chelan County provided the final design, a final design report with a monitoring plan, and a response document that includes a commitment to monitoring and discussion of brook trout.

Submittals for the two other sites are anticipated in December 2009. A fifth site, CMZ 17, will not be addressed under this BPA-funded project.

[1] www.nwcouncil.org/library/isrp/isrp2008-13.htm
[2] www.nwcouncil.org/library/isrp/isrp2009-4.htm

Recommendation

Meets scientific review criteria

The project proponents made a good faith effort to address ISRP concerns and questions pertaining to this site. We provide some additional suggestions below (e.g., incorporation of water quality sampling into the monitoring program) that we hope will be considered as this and other Wenatchee Complexity projects go forward.

Comments

1. CMZ N4 Final Design and Final Design Report

The project proponents, Chelan County Natural Resources Department, have submitted the Nason Creek N4 Oxbow Reconnection Project final design report as requested by the ISRP. The report states that the construction plans and supporting analysis are 70% complete. Although the final details are not yet complete, the proponents felt that the plans were sufficiently detailed to allow us to comment on the scientific underpinnings of the project and the proposed monitoring plan. The ISRP agrees that sufficient details were provided in the design report.

Landowner commitments were obtained, as the ISRP suggested.

The ISRP is pleased that the Nason Creek oxbow reconnection project N4 will provide year-round water connections with the Nason Creek mainstem. We wish that the connections would have employed open-bottomed culverts, but understand the reasons for using full round culverts. We do suggest, however, that the culverts be monitored annually to ensure that they provide unimpeded conditions for fish passage, especially juveniles. A hydraulic model, discussed in detail in Section 3.3, was developed to analyze various culvert sizes and inlet elevations. The proponents have not given details but cite Corps of Engineers methods and criteria for fish passage, ensuring passage through the culverts followed WDFW criteria.

The project proponents have provided more details on design as well as a better explanation of the how the physical and geological components of the ecosystem will be changed to reconnect the oxbow. However, few new details on potential fish use were provided, and so the ISRP continues to rely on previously supplied data, which suggested the fish community in the reconnected oxbow habitat may be dominated by minnows. Low flow and water quality features (e.g., warm temperature, relatively low dissolved oxygen) are conditions which will favor warm-water fish communities, at least in summer. The potential presence of warm-water fishes is one reason why fish communities should be monitored, so CCNRD can show that target species were actually being enhanced.

2. More Rigorous Monitoring Plan and Commitment to the Monitoring Plan

The proponents will implement an annual monitoring plan for two biological aspects of the project: (1) Are fish using the reconnected oxbow? (2) Was the spatial distribution increased by the project? CCNRD have made a commitment to monitoring annually for the initial five years after project construction. Question 1 will be addressed by presence/absence surveys. Question 2 will be addressed at the site level only, i.e., initial results will not be integrated into a broader understanding of fish distribution within Nason Creek.

The monitoring plan would be improved if a commitment was made to monitoring after five years, which is the current cutoff time for annual monitoring. The proponents do state they will continue past five years, but further details will await a long-term monitoring plan. Long-term maintenance and presumably corrective action if design failures occur will be the responsibility of WSDOT.

The monitoring plan would also be improved by inclusion of water quality parameters in the reconnected oxbow, especially dissolved oxygen in summer as the ISRP suggested.

Chelan County states that it does not have the resources to address the issue of the contribution of the Nason Creek N4 project to the overall salmonid productivity if the Wenatchee River system. The ISRP is sympathetic to this assertion because of the large scope of the question. However, the ISRP hopes that ISEMP staff will recognize the potential improvements in lower river floodplain conditions associated with the Wenatchee Complexity projects and will specifically include some effectiveness monitoring directed toward evaluating not only the contribution of CMZ N4 but the other reconnection projects as well. Without this valuable information we will have no way of learning how cost-effective this suite of projects has been. More information on how ISEMP plans will actually fit into monitoring this project will be needed at some point, following the comments in the design plan and monitoring plan.

"CCNRD will continue to coordinate with ISEMP to determine if they can monitor the Wenatchee Complexity projects"

This is especially important as the proponents state (page 9) they "will rely on ISEMP to address the subbasin level monitoring questions."

3. Brook Trout Monitoring

The proponents provide evidence that brook trout are unlikely to occur in the lower reaches of Nason Creek based on surveys conducted by others, and we suspect the same comment would apply to bull trout. The proponents have agreed to be alert to the presence of brook trout as requested by the ISRP. However, if brook trout are observed at the CMZ N4 site, the project proponents do not state what will be done to deal with this non-native species?