**Nason Creek Reach Based Restoration PRISM 12-1438**

**CCNRD Response to SRFB Review Panel Comments July 6, 2012**

**Overall Response to Comments**

This project has been revised based upon review comments received to date. The following changes have been made to the pre-proposal:

* The beaver dam removal has been taken out of the final proposal.
* The project has been split into two final applications
  + PRISM 12-1438 Lower Nason Creek RM 3.7-4.7
    - One log jam near RM 3.7 to activate an existing side channel
    - Placement of large wood, brush bundles, and vegetation in the 2007 oxbow
    - Removal of 0.64 acres of floodplain fill
  + PRISM 12-1843 Lower Nason N1-KDIZ3 Floodplain Reconnection
    - Install a 10’ and 30’ culvert under SR 207 to reconnect 13 acres of floodplain including 4.6 acres of high flow channel
    - This is the same project that was proposed as PRISM 10-1788 and was an alternate project in the 2010 grant round.

Final regional proposals have been uploaded to PRISM. These proposals provide additional information about each of the proposed projects listed above.

CCNRD has prepared a comprehensive alternatives analysis and SR 207 Relocation Feasibility Study. Part of the SR 207 relocation feasibility study included a geomorphic analysis and an analysis of biological benefit of road relocation. All of these materials are available online through Habitat Work Schedule <http://hwsconnect.ekosystem.us/Project.aspx?sid=290&id=15026>

Stakeholder review summary tables were prepared for the alternatives analysis and the SR 207 feasibility study. These tables summarize the history of the project development and they are included with each final regional proposal uploaded in PRISM. In summary, SR 207 relocation is estimated to cost 10 – 20+ million. When the SR 207 relocation feasibility study was presented to RTT in April 2012, there was some question about whether or not the biological benefit was sufficient to justify the cost without significant contribution from WSDOT. North Central region of WSDOT has indicated that they do not have funds for this project and the WSDOT CED program has much higher priority projects. BPA has indicated that they are not willing to contribute more than 3 million to any one project. So these two proposals present lower cost alternatives to address the limiting factors of floodplain connection and high flow refugia in lower Nason Creek.

SRFB review panel (Steve Toth and Pat Powers) had the following review comments in 2010 (PRISM #10-1788): “While relocating Highway 207 may be the ideal alternative from a fish habitat perspective, it is hard to imagine this alternative being considered in the near future.”

**Responses to Specific Comments – in red text**

1. Remove floodplain fill of parking lot and old bridge abutment:
   1. Clarify contradicting excavation elevation – in Section 2. Project Design text says it will be inundated at the 5 year event and a map says it will be inundated at the 2 year event. Greater inundation would increase rearing access opportunities – please clarify biological goals associated with this action.

We only have modeling for the existing conditions for the 2 year and the 100 year event. These results indicate that the parking lot fill area is not currently inundated at the 2 year event, however, it is inundated during the 100 year event. We have not had funds to cover engineering costs to run the model with the fill removed. In addition, the frequency and duration of future inundation would also depend upon the depth of excavation proposed for the fill removal. If the fill is removed to match existing grades, then the area is likely to be inundated during the 2 year to 5 year event.

1. Replace culverts under highway SR 207: FLAGGED. While floodplain reconnection is a valuable ecological function and can provide valuable complex off-channel rearing habitat, in this case due to constraints of the highway the costs don’t seem to justify the benefits especially if future highway realignment ever gets programmed.
   1. The application is confusing in terms of expected habitat benefits (0.9 acre in one place and 13 acres cited in another). Please provide flow inundation scenarios relative to presence of rearing juveniles.

The acreage of inundation varies depending upon the flood event and the depth of inundation selected to calculate the acreage. The 2011 USBR indicated that this 13 acre floodplain area has a 4.6 acre high flow through channel. A graphic is included with the final application.

1. Install three large wood structures: 2 of 3 sites FLAGGED. The site selection at RM 4.6 and 4.3 for large wood structures along the highway prism to pre-empt future bank armoring is not a good justification for habitat complexity placement.
   1. While the panel understands that wood structures better scour pools if they are in contact with higher flows, if these flows are on an eroding bank than the purpose is intended more for bank stabilization than for habitat improvements. Wood is a better habitat option than rock revetments but that is a weak argument to spend limited salmon recovery dollars on highway roadfill stabilization where chronic deficiencies have been identified.

The large wood structures proposed near RM 4.6 and under the BPA powerlines have been removed from the final proposal.

* 1. The structure placement at RM 3.7 has more obvious habitat benefits due to site selection at the inlet of an existing side channel. This particular location is better justified.

1. Remove beaver dam in oxbow side channel: FLAGGED. This action is not adequately justified in the proposal and runs counter intuitive to beavers as integral to habitat forming processes (see all the rationale for reintroducing beavers in that proposal).
   1. During the site visit RTT members mentioned that a culvert installed to reconnect the “2007 oxbow” (funded by BPA) was designed for a 30 foot culvert but instead a 12 foot culvert was actually installed, and that this is a major factor in limiting flows into the oxbow and creating instead attractant flows and conditions that beavers prefer. This undersized culvert issue needs to be addressed in detail – why was a smaller culvert installed and can the proposal be modified to correct this issue instead? Removing the beaver dam in only a temporary fix for if beavers like this location they will invariably return. The beaver activity in this case is a symptom of the inadequately executed project.

The beaver dam removal has been taken out of the final proposal. The culverts placed under SR 207 in 2007 were sized to convey approximately 10% of the mainstem flow. There was concern that if more flow was put through the oxbow that it might alter existing spawning habitat in the mainstem.

* 1. If the habitat in the oxbow is simplified ponded habitat lacking cover the proposal could be modified to add cover in the form of whole trees. The review panel’s first choice is to correct the undersized culvert first and then address in-stream conditions.

The final proposal proposes to add large trees, brush bundles, and vegetation in the oxbow.

* 1. The review panel recommends leaving the beaver dam as is – the habitat provides benefits in the form of high flow refugia and for storing sediments in a low flow environment.

The beaver dam removal is not part of the final proposal.