

January 20, 2011

To: Erik Merrill, ISRP/ISAB Coordinator, Northwest Power and Conservation Council

From: Steve Martin, Executive Director, Snake River Salmon Recovery Board

Subject: Response to ISRP comments on the BiOp proposal, Tucannon River Programmatic Habitat Project (#2010-077-00)

Background and Response to the ISRP General Comments:

At BPA's request, the Snake River Salmon Recovery Board prepared a proposal to implement tributary habitat improvements in the Tucannon River subbasin using a programmatic approach. Under RPA 35 Table 5 of the 2008 FCRPS BiOp, BPA and the other Action Agencies must implement sufficient types of projects to improve habitat quality for Tucannon River Chinook by 17% by 2018. To achieve this ambitious target, the Action Agencies need a mechanism to support comprehensive project planning, to provide for multi-year funding to address large-effort and complex projects, and to sustain implementation through various funding and solicitation cycles. This project proposal is intended to provide the mechanism to help achieve the Tucannon River Chinook BiOp target.

The Snake River Salmon Recovery Board submitted the Tucannon River Programmatic Habitat Project (#2010-077-00) on August 2, 2010, to BPA for ISRP review. The goal of this project is to restore habitat function and channel processes in the priority reaches of the Tucannon River to improve spring Chinook productivity, as identified in the 2008 FCRPS Biological Opinion. ISRP comments were received on November 15, 2010. This memo provides responses to the ISRP's requests and comments.

The ISRP requested a response to their perspective that the proposal does not contain enough detail to support an ISRP review in its current form. The detail in the proposal is available in the [Tucannon Subbasin Plan](#) (2004) and the [Snake River Salmon Recovery Plan](#) (2006) both of which went through rigorous scientific review. These two plans were then reinforced by the recommendations for spring Chinook in the Tucannon River in the [2008 FCRPS BiOp](#). All three of these assessments concluded that stream flow, water temperature, channel complexity and sediment were the primary limiting factors for spring Chinook in the reach targeted for restoration in our proposal. The ISRP requested that the contribution of restoring those limiting factors to spring Chinook productivity should be provided.

The ISRP asked for justification for a program to identify and support projects in the future, noting that such a justification should address the scale of the program area. They also asked for the composition of the review committee, the criteria they will employ in project selection, and overall program structure and governance. Program funding to facilitate implementation of large scale, complex projects is critical for success. Projects of the scale proposed require

human capacity to ensure landowner support, permitting, designs, cost-share, project management, and reporting. The underpinning of our proposal, and the key to achieving a 17% improvement in the next 8 years, is large scale multi-faceted projects that address multiple limiting factors over a large geographic reach. These projects are complicated to implement and represent a paradigm shift from the conventional project-specific/site-specific restoration approach. So, while the program area is relatively small, the magnitude and complexity of the proposed projects requires program support. Further, the proposed amount of funding requested for administrative support is less than \$80,000 annually and will be leveraged with on-going administrative funding provided by the Salmon Recovery Funding Board. So, while we believe that the suite of pre-identified projects in the proposed programmatic will largely move us towards the 17% improvement, we are mindful that there may be additional needs or higher priority projects that emerge through time. Therefore, our intent is to establish an administrative and technical process for identifying, prioritizing and recommending additional projects for funding consideration.

The composition of the committee that will identify and review future projects includes technical staff from WDFW, CTUIR, DOE, NRCS, USFS, NMFS, and USACOE. This committee, referred to as the Regional Technical Team, has met monthly for the last 10 years to provide technical support for developing and now implementing the Snake River Salmon Recovery Plan. They have reviewed and approved more than \$15-million worth of salmon recovery projects over the last 10 years. Only those projects that meet the criteria established in the Recovery Plan have been approved by the RTT. It is these criteria, described in our proposal and in the Recovery Plan, that they will use to identify future projects under this BPA project. To reiterate the criteria, they are designed to prioritize projects based on their location (priority reaches within MaSA are higher priority than MiSA or non-priority reaches), size (larger is generally better), longevity/persistence, number of limiting factors they address, and cost:benefit.

Governance and structure of the program will be based on the existing 10-year model in the Snake River region within Washington where the Snake River Salmon Recovery Board, relying heavily on technical recommendations from the RTT, will approve projects for BPA funding consideration. The Board is comprised of county commissioners from the five counties in southeast Washington, CTUIR, and landowners. The Board has met monthly for the last 10 years and is supported by an executive director, project manager, and administrative assistant that will manage implementation of this program.

The ISRP asked how the planned actions contribute to the limiting factors, specifically, “how does adding LWD or setting back dikes help cool the water or reduce sediment?” This question is troubling because it suggests that the ISRP either does not understand critical linkages between properly functioning channel conditions and the suite of limiting factors (not limited to just temperature or sediment) that are addressed by returning a river to its properly functioning condition, or, of greater concern, that they are wanting each project action to specifically address a single limiting factor that can be quantified. The underpinning of the proposal is to implement large scale, complex projects over large geographic reaches so that the suite of limiting factors is addressed at the scale needed to make a difference.

The ISRP noted that a more complete description of the RM&E effort also is required. They continue by stating that details on the interaction with ISEMP should be included. They ask “how will the goal of improving Chinook productivity be measured and will changes in VSP parameters be tracked?” They also requested a more sufficient description of the experimental design or sampling protocols to be used in assessing project-level effectiveness. And last, they requested that a decision framework for modifying restoration actions if sufficient improvement does not occur should be added. These comments are addressed in the RME section on page 5 of this memo.

Responses to Specific ISRP Comments

1. Technical Justification, Program Significance and Consistency, and Project Relationships

We appreciate ISRP acknowledgement that this proposal represents a new paradigm for implementing salmon habitat restoration and protection. This new paradigm warrants a new approach to habitat restoration and protection as we are proposing.

The technical justification for this project can be found in the Tucannon Subbasin Plan, the Snake River Salmon Recovery Plan, and the 2008 FCRPS BiOp. But in a nutshell, the selected reach was identified by the Interior Columbia Technical Recovery Team as a Major Spawning Area for spring Chinook in the Tucannon, which means this reach has the highest intrinsic potential for spring Chinook in the Tucannon watershed.

http://www.nwfsc.noaa.gov/trt/trt_documents/tucannon_river_chinook2007.pdf

The conventional habitat restoration model (a specific project at a specific site addresses a specific limiting factor) was not chosen because BPA has an ambitious goal of improving conditions by 17% for spring Chinook in the Tucannon. The approach to achieve this goal in the Tucannon is to provide for properly functioning conditions at a large geographic scale, i.e., watershed scale, while simultaneously adding significant quantities of LWD to maximize the near-term productivity potential. Many historic restoration projects were implemented at the *reach scale* (e.g., 1-2 log structures added stream reach). In general, salmon and steelhead densities increase in these restoration reaches (i.e., treatments) compared to reaches that were not restored (i.e., control sites; Viola et al. 1989, Bumgarner et al. 2003). However, it is uncertain whether restoration projects implemented at the *reach scale* resulted in population level increases (i.e., more fish produced in a watershed; Roni et al. 2009). Recently, some *watershed-scale* restoration projects on the west-side of the Cascades have been implemented (e.g., adding hundreds of structures to multiple reaches) that have demonstrated a population-level response. We believe that if *watershed-scale* restoration efforts are implemented on the east-side of the Cascades population level responses are more likely than if *reach scale* restorations are continued. The Asotin IMW is currently testing this assumption but with the results of previous studies concluding that watershed-scale restoration demonstrating high

success at increasing populations we believe that the approach proposed in this programmatic represents the greatest chance of success.

The ISRP requested a clear explanation, beyond general description, of why the sites are the locations with the highest potential to contribute to Chinook recovery. The sites (which are generally much longer than a conventional project site) were selected based on three criteria: (1) they are within the MSA (for reasons described above), (2) they are currently constrained by anthropogenic factors, i.e., they have the largest restoration potential or they suffer from legacy impacts (historic LWD removal and channel straightening), and, (3) they are large enough to collectively improve conditions to the magnitude needed.

2. Objectives, Work Elements, and Methods

The ISRP requested easily accessible supporting documents that provide the objectives targeted for this proposal. The Snake River Salmon Recovery Plan is available at http://www.snakeriverboard.org/recovery_plan/plandec06.html. The ISRP commented that the targets (presumably they mean objectives) in the proposal are not justified. The objectives are really not negotiable at this time because they were developed by our regional technical representatives, underwent NMFS technical review, and were approved in the Snake River Salmon Recovery Plan, and are the same as identified in the BiOp. The EDT analysis for spring Chinook salmon in the Tucannon River is forecast to achieve the viability criteria with the implementation of the actions identified in the recovery plan. Modeling indicates that adult abundance is likely to double if the implemented actions achieve full effectiveness and habitat objectives are met in the project reach (MaSA). Until such time that we meet the stated objectives and/or determine that the objectives are not rigorous enough to achieve our salmon recovery goals, it is difficult to respond to the ISRP comment that the objectives are not justified in the proposal.

We appreciate the desire by reviewers to know the expected improvements in salmon survival by implementing a specific project. The underpinning of this proposal is to improve a suite of limiting factors over a large enough geographic area to achieve population-level productivity improvements as suggested as necessary in the Snake River Salmon Recovery Plan. It is not our desire to select individual projects based on expected or modeled improvement at a specific location but rather to embrace a new paradigm where we are restoring properly functioning conditions at a large enough scale to affect productivity at the population-scale.

The ISRP seeks to know how the proposed projects (deliverables) will contribute to the objectives (targets). It is perplexing that the relationship between properly functioning conditions and known limiting factors is difficult for the ISRP to understand. Their comment is precisely the rationale for the proposed approach. What is meant by this statement is that for more than a decade we have implemented site specific projects to address one or two limiting factors. Nearly every technical review of previously proposed projects concluded that it would be better to treat “the problem” not “the symptom.” Those reviews suggested that projects be

informed by reach-scale assessments and that any proposed action/project be large enough to affect the mechanisms that are causing the limiting factor(s). Perhaps this confusion is an artifact of reviewers wanting to attribute specific improvements to specific actions so that they can evaluate actions against one another for relative benefit analysis. Crediting individual actions for improvements to specific limiting factors is simply not possible with the approach that is proposed for this program because each action/project spans several thousand feet to more than a mile and addresses the known suite of limiting factors. It is the collection of all actions/projects across the entire project area that will significantly improve conditions; no single project or handful of specific projects will be sufficient to improve watershed conditions to the magnitude needed under the commitments and time frame of the BiOp.

We absolutely concur with the ISRP that the use of fixed habitat standards as an overarching objective for a relatively large project is not appropriate. This is the basis for much of the confusion addressed above. However, the proposal format requires that objectives for each project be stated and then the contribution towards the objectives be provided. If it is agreed that the objectives are fixed/static for the MSA and they are based on an average with ranges over the entire MSA, then perhaps this issue is resolved. The ISRP suggests that in addition to definition of a range of target conditions, the means by which this range of conditions was established and how progress towards this desired state will be tracked following project implementation should be described. The approach will be addressed in the following RMIE section.

3. RM&E

The ISRP rightfully noted that the RM&E effort associated with this project lacks sufficient detail. They go on to say that the proposal notes that RM&E will be coordinated with ISEMP, but no specifics on the relationship between this project and ISEMP are provided. Chris Jordan with NMFS has submitted an ISEMP sampling plan for BPA funding consideration and the plan is to overlap ISEMP with a sub-set of monitoring sites with the restoration action sites proposed by this project. The site selection process will occur in the spring of 2011, and is coordinated with proposed habitat actions identified for the Tucannon as approved in the 2010-2013 FCRPS BiOp Implementation Plan and by criteria to address priority limiting factors identified by the ESA Recovery Plans and FCRPS BiOp expert Panels (<http://www.salmonrecovery.gov/BiologicalOpinions/FCRPS/BiopImplementation.aspx>). In addition to the ISEMP protocols, site-scale or reach-scale physical habitat sampling will be conducted to better understand local responses of habitat to the project. Fish response will be assessed only with the fish in/fish out data under the ISEMP project. The CHaMP protocol proposed in the ISEMP proposal used for data collection and assessment will support the Action Agency, NOAA, and NPCC FCRPS BiOp RM&E RPA workgroup in development of models to inform survival benefits through increases in juvenile production and project prioritization and planning efforts in the future, as described in the July 2010 "Recommendations for Implementing Research, Monitoring and Evaluation for the 2008 NOAA Fisheries FCRPS BiOp" (May 2010) (<http://www.salmonrecovery.gov/ResearchReportsPublications.aspx>) for RPA's 56

and 57 and in more detail in the ISEMP Proposal. This guidance was also provided to ISRP members in the RM&E/AP Categorical review to provide programmatic monitoring context.

This project also will have an RM&E element to assess trends for site specific habitat conditions separate from ISEMP, modeled after Crawford, 2008. More details on the Crawford methods may be found at the WA State Recreation and Conservation Office at <http://www.rco.wa.gov/monitoring/protocols.shtml>. This protocol is consistent with the F&W Program guidance to support a coordinated project/site specific action effectiveness program coordinated with the PNAMP Action Effectiveness Strategy cited in the June 1st RM&E/AP Categorical Review guidance packet to the sponsors found at <http://www.pnamp.org/PEM> & <http://www.rco.wa.gov/monitoring/protocols.shtml>. This information was also provided to ISRP members in the RM&E/AP Categorical review and should be further addressed by the ISRP's programmatic response to action effectiveness monitoring across the Pacific Northwest. The data collection protocols for Crawford 2008 were provided to the ISRP in the Taurus form and are available at www.monitoringmethods.org. If the ISRP cannot find the protocol documents in the Taurus program they may also be found at http://www.rco.wa.gov/doc_pages/other_pubs.shtml#monitoring. The CHaMP protocol is described in full detail in the updated ISEMP proposal reviewed September 15th. Site selection methodology will also coordinate with the Pacific Northwest Aquatic Monitoring Partnership's Integrated Status and Trend Monitoring tools to support implementation of a Generalized Random Tessellation (GRTS) Master Sample. More details on this project may be found in the PNAMP project (2010-082-00) proposal to the ISRP (<http://www.cbfish.org/Proposal.mvc/Summary/194>).

Habitat conditions will be measured at 3 to 5 project reaches and 2 yet-to-be identified control reaches periodically over the next 10 years. Control reaches will be those adjacent mainstem reach(es) that are physically, biologically and ecologically similar to the treatment reaches, which will not be treated for a minimum of ten years or until major flow events validate that the treatment effect was discernable from the control reaches. The control reaches will be identified prior to implementation of any of the restoration actions.

4. Overall Comments – Benefit to F&W

The ISRP noted that insufficient information was provided to determine whether or not this location is actually critical for Tucannon River spring Chinook salmon. The project location is clearly identified as the highest priority for spring Chinook in the Tucannon Subbasin Plan, the Snake River Salmon Recovery Plan, and the 2008 FCRPS BiOp. The assessment used to prioritize the area and actions for Tucannon River spring Chinook was a combination of EDT, empirical data, ICTRT analysis including identification of MaSA and MiSAs, and professional knowledge.

The ISRP noted that the proposal provides essentially no justification for the process to select future projects, so it is impossible to judge the significance of this aspect of the proposal to fish and wildlife populations in the Tucannon River watershed. It is our intent to implement the

projects identified in the proposal, but we recognize that future projects, not identified in the proposal, may emerge as high priorities. We intentionally provided little process-based information about how future projects will be selected because the existing plans and regional knowledge have identified the pre-identified projects as having the greatest near-term and sustainable improvements to habitat conditions for spring Chinook in the Tucannon River. However, there are likely to be new projects identified that will need to be reviewed by the RTT. As stated in the proposal and expanded on earlier in this memo, the RTT, comprised of regional salmon recovery experts, will review and recommend additional projects based on their consistency with the salmon recovery plan and existing project evaluation criteria.

The project evaluation criteria were described on page 2 of this letter but due to ISRP interest to better understand the process to select and prioritize projects, including those identified in the proposal and any potential future project(s), we provide the following details.

Projects will be annually selected for funding from those identified in the proposal and any new projects submitted to the Snake River Salmon Recovery Board, based the project's readiness to proceed (designs, permits, and landowner support are completed or highly certain) and cost share (if necessary) is secure. The selected projects will then be prioritized by the RTT based on the criteria described on page 2. Recognizing limited funding for this program, the projects will be ranked in order from highest to lowest based on two factors, (1) score from the ranking criteria, and (2) RTT opinion about the ability of a project to meet its intended outcome. This second factor is important because a project can score relatively high solely based on the objectives stated in the proposal but occasionally local technical knowledge and familiarity with project outcomes warrants a professional technical recommendation to fund a project that happened to score lower. A project that meets the three requirements, (1) ready to proceed, (2) highest score based on criteria, and (3) strong RTT support, will be selected for funding.

Links to documents:

Tucannon Subbasin Plan: <http://www.nwcouncil.org/fw/subbasinplanning/tucannon/plan/>

Snake River Salmon Recovery Plan: http://www.snakeriverboard.org/recovery_plan/plandec06.html

2008 FCRPS BiOp: <http://www.salmonrecovery.gov/BiologicalOpinions/FCRPS/2008Biop.aspx>

2010-2013 FCRPS BiOp Implementation Plan: <http://www.salmonrecovery.gov/BiologicalOpinions/FCRPS/BiOpImplementation.aspx>

Interior Columbia Technical Recovery Team Working Draft, Tucannon Spring/Summer Chinook Population. http://www.nwfsc.noaa.gov/trt/trt_documents/tucannon_river_chinook2007.pdf

