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September 1, 2011

DECISION MEMORANDUM

TO: Council members

FROM: Mark Fritsch, project implementation manager

SUBJECT: Follow-up RME/AP review action for Project #1998-007-04, *Grande Ronde Spring Chinook on Lostine/Catherine Creek/ Upper Grande Ronde Rivers*.

PROPOSED ACTION: Council staff recommends that the Council support this project for implementation as follows - *Implement with conditions through 2016: Implementation subject to Lower Snake Comp Review process and the hatchery effects evaluation process described in programmatic recommendation #4* - as defined in the review of research, monitoring and evaluation and artificial production projects recommendations of the Council, June 2011.

SIGNIFICANCE: The proposed action will provide a recommendation for this project as part of the RM&E/AP category review.

BUDGETARY/ECONOMIC IMPACTS

The Council confirms the recommended expense budgets for the project as defined in Bonneville's implementation plan for Fiscal Year 2012¹.

BACKGROUND

On June 8, 2011, as part of the Council decision for projects in the categories of research, monitoring and evaluation, and artificial production (RME/AP Review), the Council did not provide a recommendation for Project #1998-007-04, *Grande Ronde Spring Chinook on Lostine/Catherine Creek/ Upper Grande Ronde Rivers*.

The purpose of this project is to integrate the Program's artificial production activities with the Lower Snake River Compensation Plan (LSRCP) program in the Grande Ronde subbasin, utilizing Lookingglass Hatchery to create an integrated supplementation program. These activities include holding and spawning adults, rearing juveniles, monitoring fish health, and

¹ Bonneville's Funding decision (July 15, 2011) reflects \$212,016 in Fiscal Year 2012.

contributing toward monitoring natural production using redd counts of Catherine Creek (150,000 smolts), Lostine River (250,000 smolts), and Upper Grande Ronde (250,000 smolts) stocks.

The project proposal originally was submitted as part of the category review. The ISRP requested a response as part of its preliminary review (ISRP document 2010-33). Due to personnel changes at Oregon Department Fish and Wildlife (ODFW), a response was not received in time for the review deadline for the RME/AP Review. On February 18, 2011 the ISRP provided its review (ISRP document 2011-3). The ISRP found that the proposal did not meet scientific review criteria.

Because no response or information was received, the Council on June 8, 2011 provided a “no recommendation” determination for the project and the following comments as part of the RME/AP Review:

On February 18, 2011 the ISRP found that this project did not meet science review criteria (ISRP document 2011-3). Sponsor did not provide a response during the categorical review

On June 10, 2011 the Council received a submittal from ODFW intended to address the issues and concerns raised by the ISRP (ISRP document 2011-3). On July 20, 2011 the ISRP provided its follow-up review (ISRP document 2011-20) stating that the project “*Meets Scientific Review Criteria (Qualified).*”

While the ISRP determined that the project met scientific criteria, the panel commented that the following three qualifications should be addressed by the co-managers of the artificial production projects in the Grande Ronde subbasin (i.e., LSRCP and Fish and Wildlife Program) prior to the next project review:

- Develop an experimental design to evaluate whether supplementation is providing an increase in natural-origin adults in treatment streams
- Develop a design to evaluate whether there is a “cost” to population productivity from supplementation, including the evaluation of possible density-dependent effects, and
- Develop a decision framework to guide efforts to recover these populations and to develop alternative strategies if supplementation is not working in order to provide fish for harvest obligations

On August 9, 2011 the Council staff presented the information regarding the ISRP review to the Fish and Wildlife Committee. Based on this presentation and the discussion the Fish and Wildlife Committee requested that ODFW provide a letter that provides a better understanding on how they are addressing the three issues raised by the ISRP. The intent of the requested letter is to ensure that the sponsor understand the complexity of the issues raised, provides some assurance that these issues are being addressed and that the integrity of the wild fish are being protected within the basin.

On August 26, 2011 the Council received a letter from ODFW (Attachment 1). The letter provides better understanding and detail regarding the three issues raised by the ISRP that are being addressed by the co-managers.

ANALYSIS

The letter received from ODFW provides thorough responses to the three issues raised by the ISRP, and demonstrates that the project's actions are aligned with the ongoing evaluations in the Grande Ronde and Imnaha subbasins. As evident from the responses and the proposal, the comprehensive monitoring and evaluation program in the Grande Ronde is appropriate and the resource managers will be prepared to address the ISRP issues in future reviews as requested.

It is important to note that the ISRP found that the reviewed project met scientific review criteria and specifically directed the qualifications to the "co-managers," not the sponsors, as follows.

..... the ISRP has three qualifications that the co-managers of the spring Chinook production projects in the Grande Ronde subbasin funded through the LSRCP and the Fish and Wildlife Program need to address by the next project review

It is also important to note that these qualifications complement the intent and principles of the Council's Programmatic Issue #4, *Monitoring and evaluating the effectiveness and effects of artificial production actions* as part of the June 2011 RME/AP Review decision. The Council RME/AP Review decision recommends, as defined in the programmatic issue, that the federal agencies design and implement an umbrella approach to monitoring and evaluation of artificial production effectiveness and effects². The Council outlines the need for a regionally coordinated umbrella project for the ongoing collection of monitoring information and the evaluation and reporting on hatchery effects and effectiveness. Multi-agency efforts appear to be underway to respond to the Council's request with the Anadromous Salmonid Monitoring Strategy (ASMS), and the newly defined Bonneville/NOAA project aimed precisely at this need, consistent with the ASMS (i.e., Columbia River Hatchery Effects Evaluation Team (CRHEET), Project #1993-056-00). Unfortunately, the CRHEET project³ is still under development and not enough is known yet of the details to be able to assess whether and how it will serve the need. The federal agencies sponsoring the CRHEET project are deferring the beginning of this effort until Fiscal Year 2013 giving the Council and others time to participate in an effort to define expectations associated with this hatchery-evaluation project.

In addition, the U.S. Fish and Wildlife Service (USFWS) and the co-managers are conducting species-specific reviews of the LSRCP over the next three years. The ISRP is serving as the LSRCP science review body during this three-year rolling review of each species of anadromous

² As defined, one of the principles for the implementation of Project #1993-056-00 in the RME/AP Review decision states: *In a second main focus for this effort, the Team should be clear about what analytical techniques it will use or suggest be used to evaluate this information, as well as any large-scale experimental designs that the team recommends as necessary to address critical uncertainties. The team should also develop and recommend a clear approach for how the evaluation results should be regularly reported and used to guide production reform and improvement activities.*

³ As part of the RME/AP Review the Council provided a "no recommendation" recommendation for this project with the following comment - *Council believes this is the process described in programmatic recommendation #4 for hatchery effects evaluation. Council may recommend this work once the process is fully developed and reviewed by ISRP and Council.*

fish produced by the LSRCP program. The production addressed through this project (i.e., #1998-007-04) is integrated with the spring Chinook hatchery program of the LSRCP, and was reviewed as part of the LSRCP spring Chinook program review that occurred late last year. As you are aware the ISRP provided their review (ISRP document 2011-14) on May 27, 2011 and presented their findings to the Council at the June 2011 meeting in Whitefish Montana. As part of this review, the ISRP noted that the efforts in the upper Grande Ronde and Catherine Creek *are comprehensive research programs with appropriate monitoring and adaptations as required that are managed effectively, with good reporting, and require continuation.* The efforts in the Lostine acknowledge the good reporting of the results to date, but also provided guidance for additional information and clarification. The ISRP noted that the main benefit of the Lostine River program was the harvest opportunities it has provided. The USFWS expects to incorporate the ISRP findings as part of the final proceedings document for the spring Chinook program review and it is anticipated that when the other species specific reviews (i.e., steelhead and fall Chinook) are complete in 2012/2013 the program as a whole will address any outstanding issues raised during the reviews.

As recognized in the letter received from ODFW, the three issues raised by the ISRP are important and the co-managers are addressing them through their comprehensive monitoring program. As mentioned, this approach is quite extensive and involves several Program projects, LSRCP actions, the Bureau of Reclamation and other contributing entities. That said, it is critical that Bonneville and NOAA ensure that the principles outlined in Programmatic Issue #4, reference above in footnotes 2 and 3, are going to be addressed. This is especially true for the principle that defines the need for - *large-scale experimental designs that the team recommends as necessary to address critical uncertainties* associated with supplementation. It would be logical that the efforts within the Grande Ronde Subbasin would be an appropriate choice to include for a large scale experimental design as would the already recognized efforts within the Yakima River and the Salmon River subbasins.

ALTERNATIVES

I. No Action

The Council could choose to not act on this review at this time until further detail is available from Bonneville and NOAA regarding the implementation of the Council's Programmatic Issue #4, *Monitoring and evaluating the effectiveness and effects of artificial production actions.*

II. Staff Preferred

The Council staff recommends that the Council support this project for implementation based on the ISRP review, LSRCP review (i.e., Lower Snake Comp Review), and the understanding that the implementation of Programmatic Issue #4 will address the qualification as raised by the ISRP. Based on this condition, the recommendation should read similar to the other artificial production projects in the RME/AP Review decision, as follows.

Implement with conditions through 2016: Implementation subject to Lower Snake Comp Review process and the hatchery effects evaluation process described in programmatic recommendation #4.

III. Request Specifics from Bonneville and NOAA

The Council could ask Bonneville and NOAA to assure that the ISRP's three qualifications will be addressed before the next project review. Implicit in this alternative is the understanding that Bonneville and NOAA are responsible for addressing the ISRP's qualifications, not ODFW. The Council would ask Bonneville and NOAA to:

- Provide additional understanding and detail regarding the adequacies of the experimental design currently being conducted in the Grande Ronde Subbasin and explain why the previously identified "enhancements" and other improvements (e.g., hatchery genetic management plans) have not been prioritized through the FCRSP BiOp. This request is intended to provide some assurance that the current artificial production and monitoring in the Grande Ronde Subbasin is adequate to evaluate hatchery actions and that the integrity of the wild fish is being protected within the basin.
- Provide detail and specific deliverables on how they will conduct and implement Programmatic Issue #4, *Monitoring and evaluating the effectiveness and effects of artificial production actions*, and
- Provide additional information and detail regarding NOAA's developing Snake Recovery Plan and how this effort will address the third qualification raised by the ISRP regarding a decision framework.

This response needs to be provided to the Council no later than May 2012.

Attachment 1: Letter received from ODFW on August 26, 2011.



Oregon

John A. Kitzhaber, MD., Governor

Department of Fish and Wildlife

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August 26, 2011

Mr. Bill Booth
Fish and Wildlife Committee Chair
Northwest Power and Conservation Council
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Thank you for providing the opportunity to further clarify issues associated with the Grande Ronde Spring Chinook on Lostine/Catherine Creek/Upper Grande Ronde Rivers Project (199800704) and to directly respond to the three qualifications provided by the Independent Scientific Review Panel (ISRP). The Oregon Department of Fish and Wildlife (ODFW) believes concerns regarding this project arose because the original proposal did not sufficiently describe integration between this project and other projects in the Grande Ronde subbasin that together function to supplement spring Chinook salmon. This project is primarily a hatchery operations and maintenance project that is one small part of a large integrated multi-agency Chinook salmon supplementation and evaluation program in the Grande Ronde River subbasin (i.e. Upper Grande Ronde River, Catherine Creek, and Lostine River). Following are specific responses to the three ISRP qualifications.

ISRP Qualification (1) “develop an experimental design to evaluate whether supplementation is providing an increase in natural origin adults in treatment streams.”

The current Chinook salmon supplementation evaluation is guided by the Northeast Oregon Hatchery (NEOH) experimental design developed by ODFW and the Nez Perce Tribe. The Nez Perce Tribe and ODFW completed an extensive experimental design to evaluate Chinook salmon supplementation programs in the Grande Ronde and Imnaha subbasins as part of the NEOH Project development and approval process. The “Monitoring and Evaluation Plan for the Northeast Oregon Hatchery Imnaha and Grande Ronde Subbasin Spring Chinook Salmon” (Hesse, Harbeck and Carmichael 2004) was submitted to the ISRP for review on March 1, 2004. The ISRP completed their review and issued the report “ISRP Step Two Review of the Northeast Oregon Hatchery (NEOH) Spring Chinook Master Plan: Monitoring and Evaluation Plan.” Although the NEOH Monitoring and Evaluation (M&E) was never fully funded, the experimental design is being implemented through a co-manager coordinated effort of the Lower Snake River Compensation Plan and Bonneville Power Administration (BPA) funded Fish and Wildlife Program projects.

In summary, the ISRP review concluded *“The ISRP’s overall response is that this document is an excellent working draft of a stand-alone M&E Plan for the NEOH hatchery Imnaha and Grande Ronde subbasin spring Chinook salmon program. The NEOH core team was successful in collating a single integrated document, describing general methods and data to be collected, and explaining how these data would be used as an evaluation of the NEOH program. The ISRP appreciates the effort that has gone into planning for M&E in the face of numerous ongoing projects, the need to meet 2000 BiOp directives, and the need to evaluate the effectiveness of the supplementation project, harvest, escapement, spawning success, etc.*

The ISRP further compliments the authors for being among the first to bring the modern EMAP probabilistic sampling procedures into the Columbia Basin. For example, in so far as we are aware, this plan is to be the first used in the Columbia Basin of a rotating panel design to balance the needs of status (more random sites) and trend (more repeat sites) monitoring. The ISRP strongly endorses the authors’ development of the EMAP-type probabilistic sampling scheme for redd counts to complement current surveys. The plan appropriately calls for selection of random sites outside the traditional survey areas to be surveyed for redds in each subbasin. In summary, although the ISRP raises several yet-to-be-fully-resolved issues and offers other comments for consideration, this Plan provides a good example of a monitoring program that could be used as a model for program development throughout the basin.”

This comprehensive M&E Plan was later approved by the Northwest Power and Conservation Council (Council) as part of the NEOH approval process. Although the NEOH was never funded in full, ODFW and other co-managers have been using this experimental design to guide the assessment of Chinook salmon supplementation programs in the Grande Ronde and Imnaha subbasins. The ODFW Lower Snake River Compensation Plan (LSRCP) Evaluation project serves as the central coordination project for the supplementation evaluations. We previously provided to the Council and the ISRP a schematic that shows how Fish and Wildlife Program projects and the ODFW LSRCP project integrate for the coordinated assessment of supplementation in the Grande Ronde subbasin. Oregon’s LSRCP Chinook salmon supplementation evaluation studies were reviewed by the ISRP in late 2010 and 2011. Separate reviews were provided for the upper Grande Ronde River, Catherine Creek, Lostine River, and Imnaha River supplementation programs. The ISRP issued their review report in May 2011, “Review of the Lower Snake River Compensation Plan’s Spring Chinook Program,” ISRP 2011-14. Following are excerpts from the ISRP review for each of the supplementation evaluation programs.

Upper Grande Ronde Supplementation

ISRP Comments. “Objectives were clearly laid out. History and data trends were presented and interpreted. This was a good background description and listing of program objectives, including research and monitoring objectives. This, and Catherine Creek, are comprehensive research programs with appropriate monitoring and adaptations as required that are managed effectively, with good reporting, and require continuation. The ISRP was pleased to see the summary section stating that research has been initiated to better understand habitat characteristics that are affecting Chinook productivity.”

Catherine Creek Supplementation

ISRP Comments. *“We compliment the presenters on the excellent work. There was good background description and listing of program objectives, including research and monitoring objectives. Based on the evidence presented, the supplementation program has not been successful and shows little sign of leading to increased abundance of natural fish. The decline in smolts per spawners as number of spawners (mostly hatchery fish) has increased suggesting that habitat in the river for this species is very limited even at low densities of fish present, and that recovery is predicated on increasing instream production. The causes of this apparent density relationship were not explored and should be.”*

Lostine Supplementation

ISRP Comments. *“The introduction is clear in explaining the project relationship with the LSRCP, the watershed characteristics, and the use of artificial production technologies to increase adult spring Chinook abundance first by efforts to develop a Captive Brood Program to protect the stock from extirpation, and then shifting to a conventional hatchery program designed ultimately through supplementation to increase the number of natural spawners. There is good presentation of SAR’s, SAS’s, spawner abundance. Natural smolts per spawner, recruits per spawner results to date, including graphs”* Suggestions for improvement included; *“An analysis evaluating the supplementation similar to the Imnaha program analysis is required. No analyses of natural production in response to the supplementation treatment and this is required to assess benefits.”*

The ISRP also reviewed the Imnaha River supplementation program and provided strong support for this evaluation.

We believe we have a high quality functional experimental design for the Grande Ronde supplementation evaluations that has been extensively peer reviewed by the ISRP and that is nearly identical to the Imnaha design. We have also completed numerous reports that highlight the results of the Grande Ronde supplementation evaluations. The recent ISRP review conclusions from the LSRCP supplementation review, along with the recent RM&E/AP categorical review of all the projects that contribute data to this assessment, provide additional support for our conclusion.

As explained, we believe our BACI design to assess natural population response is sound and will provide the information needed to assess the effectiveness of these programs. Unlike the Imnaha, where we have over 20 years of supplementation evaluation data, we are early in the implementation of and evaluation of supplementation in the Grande Ronde Subbasin. We do not believe it is necessary to develop another experimental design to evaluate these supplementation programs. The review input we received from the ISRP will strengthen and improve the evaluations. There are some enhancements that could be made to the evaluation efforts, particularly to improve data quality and variance for abundance and productivity estimates in reference populations in the Minam and Wenaha rivers. These enhancements to improve the studies have been identified in the HGMPs as well as in the NPT–ODFW NEOH M&E 2011 project proposal (2007-13200).

This ISRP qualification is somewhat confusing to us given the extensive interactions and reviews we have completed with the ISRP associated with this issue as well as the review comments that we have received from the ISRP in the NEOH process and recent LSRCP review. We believe

the lack of clear articulation in the original proposal of how this specific project fits into the comprehensive Grande Ronde Chinook supplementation evaluations contributed.

ISRP Qualification (2) “develop a design to evaluate whether there is a “cost” to population productivity from supplementation, including the evaluation of possible density-dependent effects.”

The Chinook salmon supplementation programs in the Grande Ronde Subbasin are designed to address natural population demographic risks while minimizing genetic and ecological risks of supplementation. Complex sliding scale management plans have been developed and implemented that guide broodstock management and composition of natural spawning to address risks and maximize benefits. These sliding scale frameworks contain criteria to manage the proportion of the natural run that can be collected for broodstock, the proportion of natural spawning fish that are hatchery origin, and the minimum proportion of broodstock that are natural origin fish. The purpose of these criteria is to minimize the risk of reducing fitness, altering genetic characteristics, and altering life history characteristics of the natural population while increasing the total number of natural spawners. The extensive coordinated monitoring and evaluation efforts that are underway are designed to assess the effectiveness of the supplementation programs in meeting all management objectives and to assess benefits and risks to the natural populations.

The NEOH supplementation experimental design for each Grande Ronde supplementation program includes a BACI design to assess changes in population productivity in response to supplementation. This design has proven to be effective for evaluating supplementation in the Imnaha River subbasin. We are evaluating density-dependent effects by assessing productivity for multiple life stages, including parr per spawner, smolts per spawner and adult recruits per spawner. Results to date for density-dependent effects were presented to the ISRP at the LSRCP Chinook salmon program review.

We believe that our results along with the ISRP review comments demonstrate that we have an adequate experimental design in place which is producing results that meet the intent of this ISRP Qualification. Again, we are uncertain why this qualification was provided given the extensive review and interaction we have had with the ISRP as well as their supportive comments regarding our design and results associated with these issues.

ISRP Qualification (3) “develop a decision framework to guide efforts to recover these populations and to develop alternative strategies if supplementation is not working in order to provide fish for harvest obligations.”

One of the greatest challenges facing development and implementation of a decision framework to guide recovery is the extensive number of organizations that implement actions across the life cycle as well as the complexity in jurisdictional and management decision authority. There are many different organizations including state agencies, tribes, county irrigation districts, agriculture and private forest land managers, NOAA Fisheries, BPA, Council, US Forest Service, Bureau of Land Management, other federal agencies, citizen groups, non-governmental organizations, utilities and others that implement actions. Along with this complexity in implementation is a parallel level of jurisdictional, management decision authority and process

complexity. There is no single decision framework or body that holds management authority for management actions across all the H's. It is unreasonable to expect centralization and integration of all authorities and decision processes into a single framework.

Co-managers that are responsible for the management of Grande Ronde and Imnaha Chinook salmon participate in numerous management—policy decision frameworks and forums including:

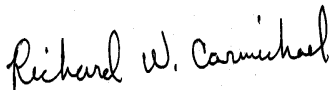
- U.S. v Oregon
- Columbia River Compact
- Federal Columbia River Power System Biological Opinion
- Council Fish and Wildlife Program
- Pacific Coastal Salmon Recovery Fund
- Regional Implementation and Oversight Group
- Endangered Species Act Hatchery and Genetic Management Plans and Fishery Management and Evaluation Plans
- Grande Ronde Model Watershed
- Oregon Watershed Enhancement Board

It is through these frameworks and decision processes that management action and adaptive management are implemented.

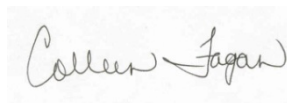
In addition, NOAA Fisheries and Snake River basin co-managers are in the process of completing a Snake River Recovery Plan. In concept the recovery plan will serve as a blueprint and a road map to recovery of all listed Snake River salmonids. The plan will identify priority management actions across all H's, monitoring and evaluation, adaptive management, and implementation and decision frameworks required to fulfill ESA recovery mandates. ODFW has played a key role in development of the Snake River Recovery Plan. It is our belief that this recovery plan will fulfill the need identified in ISRP Qualification 3).

ODFW recognizes the importance of the ISRP's Category Review for research, monitoring, and evaluation and artificial production programs to implementing the Columbia River Fish and Wildlife Program. We also recognize the complexity of issues associated with management and recovery of Columbia Basin fishery resources. Therefore, ODFW is committed to and looks forward to participating in future reviews. Please call Rich Carmichael (541) 962-3754 or Colleen Fagan (541) 962-1835 with any questions on the information provided.

Sincerely,



Richard W. Carmichael
Program Director, NE-Central Oregon
Fish Research & Monitoring



Colleen Fagan
NE Region Hatchery Coordinator

Cc: Ms. Rhonda Whiting, Council
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