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January 4, 2008

## DECISION MEMORANDUM

**TO:** Council Members

**FROM:** Kerry Berg, Montana State Council staff  
Mark Fritsch, project implementation manager

**SUBJECT:** Step Review for Sekokini Springs Isolation Facility, Hungry Horse Mitigation Program, Project 1991-019-03

**PROPOSED ACTION:** Recommend that the project proceed to NEPA (Step 2) and final design, and proceed with facility maintenance and renovation not to exceed \$117,040 of the existing project budgets to facilitate experiments needed to complete Step 3. This is conditioned on the understanding that the sponsor continue to address the issues raised by the ISRP (ISRP document 2007-16) and submit for review prior to the final step submittal.

**SIGNIFICANCE:** The Sekokini Springs Isolation Facility is proposed to aid in the recovery of genetically pure westslope cutthroat trout (WCT) populations in the Flathead River drainage.

## BUDGETARY/ECONOMIC IMPACTS

The total of estimated construction costs for the new and modified facilities \$1,627,630. This estimated cost does not include costs over the next year associated with the existing facility for exterior maintenance and renovation of the interior at \$117,040<sup>1</sup>. Planning since 1997 has cost \$203,094. In addition, costs to date have addressed capping three wells to prevent contaminating the artesian water source (\$57,000), and maintenance and upgrading the existing on-site facility (\$27,188), and general site improvements (\$78,000).

The total construction cost estimates includes construction, construction management, and inspection. The budget estimate has an accuracy of +/- 10 to 15 percent, but will need to be confirmed as part of the next submittal (Step 3, final design). Cost of the final design for the Sekokini Springs Isolation Facility is estimated to be about \$95,000.

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<sup>1</sup> This includes \$46,000 for renovations of existing building interior and \$71,040 for exterior maintenance needs.

Annual operation and maintenance costs for the Sekokini Springs Isolation Facility after it is fully developed are estimated at \$150,000 for the first year and \$100,000 after initial start up.

Annual monitoring and evaluation costs of completed by the Hungry Horse Mitigation Program are estimated at \$150,000. Assuming that the existing Hungry Horse Mitigation Program and all of its existing work elements are funded, the monitoring and evaluation for the Sekokini Springs component would not require additional funding for Sekokini Springs.

The following cost figures are based on estimates from Montana Fish, Wildlife & Parks.

Costs to Date<sup>2</sup>

FY	97	98	99	00	01	02	03	04	05	06	07
Planning	\$2.5		\$2.9	\$23	\$129	\$2.5			\$30	\$2	\$11.2
Land Purchase		\$78 <sup>3</sup>									
Construction					\$57	\$23		\$48			\$71
O&M	\$5.6	\$2.4			\$7.8	\$18.4					
M&E											

Future Costs<sup>2</sup>

FY	08	09	10	11	12	13	14	15	16	17
Construction	\$46	\$1,627.6								
O&M		\$150	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
M&E		\$150 <sup>4</sup>	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150

**BACKGROUND**

The master plan, submitted by Montana Fish, Wildlife & Parks (MFWP), proposes to use the Sekokini Springs site to aid in the recovery of genetically pure westslope cutthroat trout (WCT) populations in the Flathead River drainage. The Sekokini Springs site will provide rearing areas for wild donor WCT whose progeny will be released to targeted restoration areas. Additionally, the site will provide isolation facilities within which wild spawners can be held for collection of milt for infusion into the existing state broodstock to introduce additional genetic complement (i.e., additional genetic variation and reduced domestication) into targeted restoration streams and lakes.

<sup>2</sup> Costs in thousands

<sup>3</sup> site improvements only

<sup>4</sup> RM&E will be carried out by the ongoing Hungry Horse Mitigation Program

This project is part of the Hungry Horse Mitigation Program (HHMP) funded by Bonneville Power Administration (Bonneville). In 1991, the *Fisheries Mitigation Plan for Losses Attributable to the Construction and Operation of Hungry Horse Dam* (Mitigation Plan) was prepared by MFWP and the Confederated Salish and Kootenai Tribes (CSKT). This Mitigation Plan provided the Council with documentation of fisheries and habitat losses associated with construction and operation of Hungry Horse Dam (HHD) and a flexible strategy to mitigate for those losses. It addressed six specific program measures identified in the 1987 Columbia River Basin Fish and Wildlife Program and subsequent program amendments. The Council approved the loss statement, including annual fisheries losses of 250,000 juvenile bull trout and 65,000 migratory WCT from the Flathead Lake populations. In addition, an estimated 175,483 adfluvial WCT juveniles were lost in tributary reaches of the Hungry Horse Reservoir (HHR) and Flathead Lake due to construction of the HHD. The Mitigation Plan identified 77 miles (124 kilometers (km)) of critical, low gradient spawning and rearing habitat in streams that were inundated and lost when HHR filled.

The *Hungry Horse Dam Fisheries Mitigation Implementation Plan* (Implementation Plan) was adopted by the Council in 1993 and funded by the Bonneville. The Implementation Plan describes specific measures to protect and enhance resident fish and aquatic habitat affected by HHD that do not require changes in dam operation. The hatchery portion of the HHMP is transitioning to experimental culture of native species as directed by the Mitigation Plan and the Implementation Plan. The Council approved the plan and amended it into the 1994 Fish and Wildlife Program (Measure 10.3A).

The effort proposed at Sekokini Springs is a component of Project 1991-019-03 (*Hungry Horse Mitigation*), which addresses fishery losses caused by the construction and operation of HHD in the Flathead Basin. This project implements habitat restoration, fish passage improvement, off-site mitigation and monitoring pertaining to Hungry Horse mitigation and includes enhancement and restoration at numerous tributaries in the basin. In association with this effort, Project 1991-019-01 (*Research, Monitoring, and Restore Native Species*) included stream and lake restoration projects and monitoring within the Flathead Basin to verify responses of native fish communities, including WCT, to HHD mitigation measures. The Flathead Subbasin Plan calls for renovating the Sekokini Springs facility.

The proposed action has an extensive history of reviews, including:

- On April 10, 1998, the Council staff met by phone with USFWS, MFWP, CSKT, and Bonneville staff to discuss the status of the Hungry Horse Mitigation Project with regards to the Three-Step Review process.
- On June 27, 2001, the Council approved funding recommendations for the Mountain Columbia provincial review. Included in the Council's decision was approval of the Hungry Horse Mitigation Project 1991-019-03. The Council decision regarding the project stated that activities at Sekokini Springs would trigger a Three-Step Review process. The review process is intended to address artificial production activities at Sekokini Springs and the subsequent stocking of WCT produced at the facility.

- On November 3, 2004, the Council received a master plan for the Sekokini Springs Natural Rearing Facility and Educational Center from the MFWP. This plan was submitted to the ISRP on November 18, 2004, for review.
- On February 4, 2005, the Council received the ISRP's preliminary review (ISRP document 2005 - 4) of the MFWP's master plan for the Sekokini Springs Natural Rearing Facility and Educational Center. The ISRP review focused on the responses to the Council's step review elements. The ISRP stated that the Sekokini Springs program appears to be an integral part of a multi-faceted program to mitigate Hungry Horse/Flathead Lake cutthroat trout losses and would be a proactive step to bolster cutthroat numbers, helping avoid the need for ESA listing. The mitigation need is well demonstrated and ties are made to the Council's Fish and Wildlife Program. The science seemed to be sufficient, but reviewers raised several questions and concerns that needed a response before the Council could make a final recommendation on the master plan. The concerns centered on the following themes.
  - Broader and stronger biological justification of the proposed initiative
  - More thorough consideration of alternatives
  - Link hatchery production initiative to habitat activities
  - Further develop the monitoring and evaluation plan
  - Westslope cutthroat trout biology and reintroduction strategies
  - Aquaculture effects on wild fish

In addition, the ISRP questioned the project's goals and the project's ability to achieve them in a timely and cost effective manner by alternative means that focus on population transplants and habitat restoration activities rather than the proposed artificial production initiative.

- On March 31, 2005, the Council received from the MFWP responses to the ISRP's questions. The response was provided to the ISRP on April 6, 2005.
- On May 13, 2007, the Council received notice from the ISRP, via an "interim reply" from the ISRP (ISRP document 2005 -10) stating that the MFWP did not provide "*sufficient justification relative to apparent alternatives, or eliminate critical uncertainties regarding the project.*" This response basically stated that the response received did not meet scientific and biological elements requested in the Council's step review process. As part of this reply the ISRP suggested that a conference call be convened to provide the MFWP an opportunity to assemble its technical team (including genetics experts) to have an opportunity to present evidence or information not included in the proposal as well as an interactive feedback loop to clarify any of potentially mistaken conclusions. Moreover, the ISRP suggested, such interplay may overcome any of the critical uncertainties or concerns that the panel had identified.
- On July 19, 2005, the ISRP and MFWP held a teleconference<sup>5</sup> to clarify a number of issues raised in the ISRP's interim reply (ISRP document 2005-10) and to allow MFWP to respond to those issues. An outcome of the call provided the MFWP the understanding that the Master Plan needed to be revised to address the ISRP criticisms or uncertainties

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<sup>5</sup> John Epifanio, Rick Williams, Eric Loudenslager, Jack Griffith, and Lyman McDonald participated on behalf of the ISRP; Brian Marotz, Bob Snyder, Robb Leary, and Paul Suek participated for MFWP; Joe DeHerrera for Bonneville; and Kerry Berg for Montana Council representatives.

(e.g., M&E activities tied to the project's outcome). In addition, the parties discussed the value of redrafting the plan to accommodate the evolution of ideas and strategies emerging from previous reviews as well as the teleconference discussion. On August 9, 2005, the Council received the ISRP's their final thoughts regarding its interim reply and the teleconference (ISRP document 2005-10). This response confirmed the understanding that the Master Plan should be updated and revised.

- On October 25, 2005, the Council sent to MFWP a letter confirming that the Master Plan should be updated and revised. The letter stated that it is critical to address the questions asked by the ISRP (ISRP documents 2005-4 and 2005-10). In addition, the letter stated that the master plan also needed to be revised to reflect the original scope of the artificial production activities and to state that stocking of westslope cutthroat trout produced at Sekokini Springs would be maintained and any other intentions of the Sekokini site would be clearly distinguishable in the revised plan. The letter also stated that with the upcoming solicitation and review process associated with Fiscal Year 2007-2009, that it would seem more appropriate to acknowledge that the master plan was currently being revised and that any additional step review activities would be defined and prioritized as part of the Fiscal Year 2007 - 2009 project selection process.
- In October 2006 the Council transmitted project-specific recommendations to Bonneville as part of the Fiscal Year 2007 - 2009 project selection process. As part of these recommendations the Council provided the following specific comment regarding Hungry Horse Mitigation, Project 1991-019-03.
  - *Master Plan to be submitted no later than May of 2007. The master plan needs to detail the designs to ensure that the original scope of the artificial production activities associated with westslope cutthroat trout produced at Sekokini Springs is maintained and that any other intentions of the Sekokini site are clearly distinguishable in the revised plan*
- On June 22, 2007, the revised master plan was received by the Council, and on July 16, 2007, the submittal was sent to the ISRP. On October 23, 2007, the Council received the ISRP review (ISRP document 2007-16). The ISRP provided a "Does Not Meet Scientific Review Criteria" recommendation stating that the current master plan does not propose benefits to fish and wildlife that are unquantifiable - *"specifically, the plan does not establish what success is or describe a timeline for achieving it. As a result, M&E is only broadly described and thus ill-defined relative to a specific set of measurable objectives. Consequently, the project and facility have an undefined period of operation."* Basically the ISRP was unable to follow the path proposed by the project to re-establish non-hybridized populations of WCT in locations where existing hybrid populations are expanding their range and, therefore threatening non-hybridized fish. In addition, the ISRP provided feedback on several issues identified in previous reviews.

## ANALYSIS

The review by the ISRP was very extensive. The panel's primary concern seemed to be the need for additional information or clarity regarding certain issues. The ISRP appreciated the goal of the reintroduction of genetically pure westslope cutthroat trout propagated at Sekokini Springs, but seemed to need detail regarding the tasks to get from the current status of WCT to the desired future state. In addition, the ISRP raised questions regarding the following.

- More thorough description of lakes that have been treated, chemically or mechanically, to remove non-native threats to the westslope cutthroat trout in the recent past, levels of success, multiple treatments that may be needed, and how actions are determined
- Additional detail of the genetic structure of the introgressed populations to better understand the chances for success of the removals
- The need for evidence of the success of using the M012 stock
- Additional concerns regarding the efficacy of “gene swamping”
- M&E (see above)
- The need for rotating basis for creating distinct local populations at the proposed facility
- Understanding the use of the facility to achieve program goals in a realistic time period (see above)

As the Council is aware, taking genetically pure WCT into captive propagation is controversial. In addition, the reintroduction of these fish and the strategy outlined by MFWP also raised concerns regarding the removal of the non native fish and the ability to achieve success. For these reasons the ISRP has had a difficult time in providing a favorable review.

It is important for the Council to weigh the risk inherent in no action. Currently, WCT populations have declined due to hybridization with rainbow trout, genetic introgression with Yellowstone cutthroat trout, and competition with introduced species. This decline is estimated to have reduced the remaining pure populations to only 9 percent of their native range in Montana. To avoid the possibility of losing the last of these wild populations the most conservative approach for genetic conservation is to develop within-drainage stocks. If wild donors can be reared at Sekokini Springs by 2009, the first within-drainage stock could be replicated by 2012 and begin attempting to turn the decline around. That was why the MFWP did not establish measurable success criteria or a timeline for specific tasks to meet their goals, but instead provided a logic pathway to achieve the project’s purpose to conserve non-hybridized populations of WCT.

Based on information received from the sponsor, the issues raised by the ISRP can be addressed. Council staff concurs with this understanding because many of the issues raised by the ISRP are not critical, but are detail-orientated due to the nature, but unprecedented approach being used by MFWP to aid in the recovery of genetically pure WCT populations in the Flathead River drainage (i.e., genetic conservation through the development of within-drainage stocks).

In addition, MFWP has proposed experiments, based on ISRP comments, to assess the relative survival and performance of WCT reared at varying rearing densities, water temperature regimes and naturalized habitats. Initial renovation of the building (i.e., estimated to cost \$117,040) will facilitate experiments needed to assure that the Step 3 design reduces or eliminates these potential behavioral deficits.

The Council staff feels that the concept and the goals of the Sekokini Springs Isolation Facility warrants the environmental review process that is part of a Step 2 review. Because this facility is not a large capital investment or an engineered design, it only needs to return to the Council for a final (Step 3, final design and construction costs) review that would be based on the sponsor addressing the issues raised by the ISRP and the final construction costs.

Therefore, the Council staff recommends that this project proceed to NEPA and final design, based on the understanding that facility maintenance and renovation monies not to exceed \$117,040, and costs associated with the Step 2 NEPA process and final design are derived from the recommended project budgets<sup>6</sup>. This is conditioned on the understanding that the sponsor continue to address the issues raised by the ISRP (ISRP document 2007-16) and submit a response for review prior to final step submittal (i.e., construction costs). Construction of the Sekokini Springs Isolation Facility will be dependent on Council approval of the Step 3 submittal.

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<sup>6</sup> NWPCC and Bonneville Recommended budgets: FY07: \$1,655,000 FY08: \$1,719,000 FY09: \$1,809,000