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December 2, 2010

MEMORANDUM

TO: Fish and Wildlife Committee Members

FROM: Mark Fritsch, project implementation manager

SUBJECT: Council decision on Project #2009-005-00, *Influence of Environment and Landscape on Salmonid Genetics*, a Columbia River Fish Accord project

PROPOSED ACTION: The Council staff recommends that the Fish and Wildlife Committee support the implementation of this project.

BUDGETARY/ECONOMIC IMPACTS

The total amount associated with this Accord project equals \$1,736,257 (e.g., approximately \$140,000 to \$288,601 per year) in expense funds for Fiscal Year 2008 through 2017. To date, two contracts totaling \$486,124 have been issued. The current contract has a performance period of July 1, 2010 to June 30, 2011 with a contracted value of \$197,523.¹

BACKGROUND

On November 4, 2008, the Council received from Bonneville a set of 11 Columbia Basin Fish Accords proposals. Included in this set was a proposal from the CRITFC for Project #2009-005-00, *Influence of Environment and Landscape on Salmonid Genetics*. The proposal was submitted to the ISRP for review, and on December, 12, 2008 the ISRP provided a review (ISRP document 2008-15). The ISRP members requested additional information before they could determine if the proposal met scientific criteria.

The objectives of this project are twofold. The first is to determine the effects of watershed/landscape characteristics (e.g., elevations and barriers) to the genetic structure of Chinook and steelhead populations, and the second is to evaluate how environmental conditions influence the phenotypic and genetic expression of traits (e.g., smoltification, thermal tolerance, and disease resistance) as they relate to the recovery of salmonid populations. The project has the potential to contribute to the understanding of how and why life-history adaptive variation of

¹ Costs to date reflect project planning and purchase of equipment needed for the project.

Chinook salmon and steelhead/resident rainbow trout populations is distributed as they are in the Columbia River Basin. This information is expected to influence the designation of ESU's in the Columbia River Basin and could provide information that would be helpful to the recovery of listed species. For example, this project could identify stocks or individual fish with high potential for anadromy that could be used to increase steelhead abundance in specific drainages.

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On January 28, 2009 the ISRP and the Council received a response from the CRITFC, and on February 19, 2009 the Council received the final review from the ISRP (ISRP document 2009-3). The ISRP found that the proposal "Does Not Meet Scientific Review Criteria" because it lacked adequate detail to meet certain review standards.

The ISRP found that the proposed project did not meet review criteria, but appreciated the sponsor's effort and the information provided to date. In both the preliminary and final review provided by the ISRP, it was noted that this proposal, as combined, is large and complex. The ISRP found that the proposed project needs additional detail to meet review criteria and recommended that the sponsor provide a study design with the clarity and detail needed for such a progressive and innovative research study.

Based on the need to gather additional details, the Council recommended on March 11, 2009 that the project sponsor continue to design the project for implementation. This recommendation was conditioned on the understanding that the structure and detail associated with the implementation of this project is dependent on a review by the ISRP and Council.

On May 11, 2010 the Council received a submittal intended to address the conditioned place on the project by the Council action on March 11, 2010. The submittal received included a cover letter and a revised narrative.

On June 18, 2010 the ISRP provide their follow-up review and found that the revised narrative was an improvement, but additional detail is needed before a technical review could occur. The ISRP found the submittal not meeting scientific review criteria (ISRP document 2010-21). The ISRP requested a point-by-point response to the items raised in their previous review, and requested consideration for further development of the investigation supported by relevant literature review.

On September 7, 2010 the ISRP had a teleconference with the CRITFC. The teleconference included a power point presentation. Based on this interaction the CRITFC provided a response report on September 23, 2010 to the Council intended on providing the detail as requested by the ISRP.

On November 12, 2010 the ISRP provided their second follow-up review (ISRP document 2010-36) that found the project meeting scientific review criteria (qualified). As noted by the ISRP they are not expecting a response to these qualifications.

ANALYSIS

Though the ISRP found the project met review criteria they expressed concerns about the application of the project (qualification #1) to the region and that in future reviews CRITFC take into account the suggestions offered as part of this most recent review (qualification #2). These suggestions are intended to benefit this project and the use of identifying adaptations of salmon and steelhead to the Columbia River environment and possible selection to improve fitness as a possible recovery action (e.g., focus on biogeographic sampling of steelhead, population selection, and detail associated with laboratory experiments).

Based on the ISRP reviews of this project the Council staff is recommends that the Fish and Wildlife Committee support this project for implementation and that all science review criteria have been met.