February 6, 2018

MEMORANDUM

TO: **Council Members**

FROM: **Erik Merrill, Manager, Independent Scientific Review**

SUBJECT: **Independent Scientific Advisory Board (ISAB) Review of Spring Chinook for the Upper Columbia River**

BACKGROUND:

Presenters: Stan Gregory and Steve Schroder, ISAB members

Summary: In April 2017, the ISAB's Administrative Oversight Panel with representatives from the Council, NOAA Fisheries, and the Columbia River Inter-Tribal Fish Commission noted that despite a decade of habitat restoration actions guided by the 2007 Recovery Plan, Upper Columbia River spring Chinook populations remain at high risk of extinction. The Panel asked the ISAB to conduct a review to inform Upper Columbia River spring Chinook recovery and research efforts and to address four questions (simplified for memo):

1. Is the identification of limiting factors for Upper Columbia River spring Chinook based on sound scientific principles and methods?
2. Are habitat recovery actions being prioritized and sequenced strategically, given existing knowledge and data gaps?
3. Is a research, monitoring, and evaluation (RME) framework in place that can adequately address the questions above?
4. Are the life-cycle and habitat models in development for the Upper Columbia Evolutionarily Significant Unit (ESU) useful for identifying, prioritizing, and evaluating restoration actions?

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Restoration practitioners from the Upper Columbia led a field tour of the Wenatchee and Entiat basins and provided technical presentations for the ISAB in July 2017. Regional scientists presented additional information at ISAB meetings in September, October, and December 2017.

As part of the analysis of limiting factors, the ISAB evaluated whether Snake River spring Chinook are doing better than Upper Columbia spring Chinook in terms of abundance, diversity, spatial structure, and productivity. The ISAB also compared the life histories and status of spring and summer Chinook in the Upper Columbia and examined whether recent increases in pinniped predation could be a significant source of mortality for Upper Columbia spring Chinook. The ISAB reviewed available studies for evidence that past projects have improved habitat for this ESU. The ISAB evaluated current processes for prioritization of habitat projects, based on both anticipated ecological outcomes and cost effectiveness. Additionally, the ISAB examined whether hydrosystem, hatchery operations, and harvest management were coordinated with habitat actions to achieve recovery goals.

A major aspect of the ISAB review of the RME program was the extent to which fitness of Upper Columbia spring Chinook has been affected by historical and current hatchery programs, including evidence for demographic benefit to the natural populations by contemporary supplementation programs. The ISAB recently reviewed NOAA Fisheries' life-cycle models in the interior Columbia basin (ISAB 2017-1) and specifically examined the life-cycle models in the Wenatchee, Entiat, and Methow basins. The ISAB described strengths and limitations of these models and identified future directions and applications as these models evolve.

The ISAB's presentation will highlight the report's conclusions and recommendations.

Relevance: The ISAB report will inform the Council's Program amendments and project reviews for the Upper Columbia, NOAA recovery planning, and Upper Columbia project prioritization processes and monitoring study designs.

Workplan: Scientific reviews are an integral part of the Fish and Wildlife Program's work plan.

More Info: The ISAB report is not complete at time of this memo but will be finalized and posted by February 12, 2018: www.nwcouncil.org/fw/isab.