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February 7, 2017

MEMORANDUM

TO: Council members

FROM: Erik Merrill and Nancy Leonard

SUBJECT: Discuss Request for ISAB to Review Upper Columbia River Spring Chinook Recovery Analyses and Strategies

BACKGROUND:

Presenters: Erik Merrill (ISAB and ISRP manager) and Nancy Leonard (ISAB Ex Officio, Council staff)

Summary: Attached is a draft request to the Independent Scientific Advisory Board (ISAB) to assist with a review to inform recovery and research efforts related to Upper Columbia River spring Chinook, which were listed as endangered in 1999. Despite implementation of actions guided by the 2007 [Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan](#) and some improvement in abundance and productivity, NOAA has found that Upper Columbia River spring Chinook populations remain at high risk of extinction. The draft request letter is being considered for approval by the ISAB's Administrative Oversight Panel.

Relevance: The ISAB review should inform Council decisions on Fish and Wildlife Program planning and restoration and monitoring projects intended to protect and enhance Upper Columbia River spring Chinook. The review will also inform efforts of Upper Columbia River recovery planners and restoration practitioners, including refinement of project prioritization and monitoring frameworks. NOAA also intends the review to generally inform

approaches to recovery planning and analyses across the Basin, using the Upper Columbia review as an example.

Workplan: The 2014 Fish and Wildlife Program and the ISAB's Terms of Reference call for the ISAB to review aspects of NOAA recovery planning and issues critical to fish recovery and conservation in the Columbia River Basin when requested.

Background: After a [panel presentation](#) to the Council in September 2016 on the Upper Columbia River spring Chinook ESU, Washington Council members Guy Norman and Tom Karier expressed continued concern with the status of the ESU and thought that an ISAB review could help inform recovery and research efforts related to the ESU. The draft letter was developed with feedback from Council members Karier and Norman, Council staff, the ISAB Executive Committee, and Upper Columbia River recovery planners.

More Info: See the attached draft letter.

February 6 Draft letter to ISAB requesting review of Upper Columbia spring Chinook recovery: limiting factor analyses, recovery strategies and actions, and monitoring frameworks

Dear ISAB Chair Alec Maule,

We request the Independent Scientific Advisory Board's (ISAB) assistance with a review to inform recovery and research efforts related to Upper Columbia River spring Chinook, which were listed as endangered in 1999. The Upper Columbia River spring Chinook evolutionary significant unit (ESU) includes three extant populations for the Wenatchee, Entiat, and Methow subbasins as well as one extinct population for the Okanogan subbasin. In 2007, the Upper Columbia Salmon Recovery Board (UCSRB) working with the National Marine Fisheries Service (NOAA Fisheries) staff developed an [Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan](#). For the past nine years, this plan has guided habitat restoration actions to address key factors limiting the populations' recovery. NOAA Fisheries recently completed a [report](#), *2016 5-Year Review: Summary and Evaluation of Upper Columbia River Steelhead, Upper Columbia River Spring-run Chinook Salmon*. Despite implementation of actions guided by the Recovery Plan and some improvement in abundance and productivity, the 2016 5-Year Review (pp. 15-16) states that Upper Columbia River spring Chinook populations remain at high risk of extinction.

We ask the ISAB to review existing information, plans, and analysis to provide their expertise regarding the following questions as they relate to Upper Columbia River spring Chinook salmon recovery:

1. Is the identification of limiting factors for Upper Columbia River spring Chinook based on sound scientific principles and methods? Are the most important survival bottlenecks or factors limiting this ESU's recovery identified? Where and when do the most important limiting factors occur? Are the necessary data available to identify the limiting factors? Are assumptions, data gaps, and key uncertainties identified?
 - a) Based on recent status reviews and other relevant assessments, are Snake River spring Chinook doing better than Upper Columbia spring Chinook, in terms of abundance, diversity, spatial structure, and productivity? If so, do we know why? Do limiting factors and life histories differ between Snake River and Upper Columbia spring Chinook? For example, are there key limiting factors for Upper Columbia spring Chinook upstream of Priest Rapids dam?
 - b) Pinniped predation appears to be increasing rapidly in the lower Columbia River. Are pinnipeds potentially a significant source of mortality for Upper Columbia spring Chinook? Can the effect of this predation on Upper Columbia spring Chinook be quantified?
2. Are habitat recovery actions being prioritized and sequenced strategically, given existing knowledge and data gaps? Is there evidence that past projects have improved habitat for this ESU? How should habitat projects be prioritized and what types of habitat projects should be prioritized in the future? Why? How well are actions in other management sectors (H's) aligned with recovery efforts? Specific input to inform development and refinement of the Upper Columbia's proposed prioritization framework for projects would be much appreciated.

3. Is a research, monitoring, and evaluation (RME) framework in place that can adequately address the questions in #2 above? Can this RME framework provide suitable data to test and validate hypotheses, inform management decisions, and confirm that limiting factors were correctly identified and are being addressed effectively? If not, what changes need to be made to the RME Framework and what critical uncertainties ([ISAB/ISRP 2016-1](#); [draft Research Plan](#)) and hypotheses should be investigated to provide the answers? Do we know how to test these hypotheses?

Specific questions associated with uncertainties regarding hatchery fish interactions and research in the Upper Columbia include:

- a) To what extent has the fitness of the Upper Columbia spring Chinook ESU been negatively or positively affected by historical and current hatchery programs in this ESU?
 - b) To what extent have contemporary supplementation programs provided a demographic benefit to the natural populations?
 - c) Is the current methodology in the PUD hatchery monitoring and evaluation program (see Appendix C) sufficient to answer the questions above (a and b)?
4. Are the life-cycle and habitat models in development for the Upper Columbia ESU useful for informing the identification, prioritization, and evaluation of restoration actions? At what resolution scale can this guidance be applied, for example, watershed, population, or reach scale? Are there other approaches that would be useful, such as the Ecosystem Diagnosis and Treatment model?

We understand that the questions posed above are complex and that fully addressing these could result in several extensive standalone reports. For this review, we seek a high-level evaluation by the ISAB that will inform the Council and recovery planners and practitioners generally about aspects that need further refinement, suggested improvements or alternatives, and current understanding based on available information. We encourage the ISAB to work with its *ex officio* members to identify the most relevant documents to review. These would include the Upper Columbia River spring Chinook and steelhead recovery plan, the 2016 ESA status review update from NOAA fisheries, recent habitat assessments and reports from the [Upper Columbia River Salmon Recovery Board](#), recent hatchery assessments prepared for the Recovery Board and the Upper Columbia River Public Utility Districts, plans and analyses by the Yakama Nation and the Confederated Tribes of the Colville Reservation, and any other relevant limiting factors-specific reports (see [review materials](#)). We also encourage the ISAB to organize a meeting with researchers and restoration practitioners involved with Upper Columbia spring Chinook recovery including NOAA Fisheries, the Upper Columbia Salmon Recovery Board, Washington Department of Fish and Wildlife, the Tribes including the Upper Columbia United Tribes and the Yakama Nation, and Grant, Chelan, and Douglas County Public Utility Districts. To help refine and inform the ISAB's review, we suggest that the ISAB ask the Upper Columbia researchers and restoration practitioners to develop presentations that address the four questions in this letter posed to the ISAB.

Several upcoming ISRP and ISAB reviews are related to restoration and monitoring efforts in the Upper Columbia. The ISAB's upcoming review of NOAA's Life Cycle Model will cover the Upper Columbia (May-August 2017) and particularly the Wenatchee component. The ISRP will review the UCSRB's umbrella habitat restoration project (February-May 2017) and is tentatively scheduled to review habitat

effectiveness monitoring programs that collect and evaluate data from the Upper Columbia (ISEMP, CHaMP, AEM; April-September 2017). The reviews will be coordinated to efficiently share information and develop consistent recommendations.

We request that the ISAB complete this Upper Columbia recovery review by December 1, 2017. We understand that the ISAB's review approach and product will reflect the time available. If there is anything we can do to help facilitate this review, please let us know.

Sincerely,

[ISAB Administrative Oversight Panel]