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September 1, 2026

MEMORANDUM

TO: Council Members

FROM: Kris Homel, Biologist for Program Performance, and Maureen Hess, Fish and Wildlife Program Scientist

SUBJECT: Changing Themes in Pacific Salmon Research and Conservation

BACKGROUND:

Presenter: Dr. Tom Quinn, Professor Emeritus at the University of Washington

Summary: Dr Quinn will present an overview of his 2025 paper on Changing Themes in Pacific Salmon Research and Conservation, published in Reviews in Fisheries Science & Aquaculture.

Relevance: The Council recently adopted the 2026 Fish and Wildlife Program, which includes an established set of Program measures along with emerging mitigation needs. The themes reviewed in Dr Quinn's 2025 paper parallel many of the topics discussed in the F&W Program and can provide valuable insight as the Council and region move from planning to implementation of the Program.

Background: The Northwest Power and Conservation Council's Fish and Wildlife Program represents a 45+ year effort to mitigate for the effects of the hydropower system on fish and wildlife in the Columbia Basin (see Retrospective link below). The Program is developed by drawing on regional expertise on a range of topics and across the large expanse of habitats required to complete the life cycles of anadromous and resident species. Program development and implementation are also influenced by the dynamic backdrop of the Columbia Basin, including prevailing environmental conditions, increases in the human population, ongoing

degradation from a variety of sources, diverse efforts to improve survival and abundance of native species and their habitats, and other elements.

Over the history of the Program, there have been substantial advances in the underlying science, which is responsive to evolving paradigms in fisheries management and ecosystem function. For example, in the early 1980s, Program measures focused on direct threats to salmon (Habitat, Hydro, Harvest, and Hatcheries). In the 2026 Program, measures also focus on how the ecosystem has shifted in response to the physical and biological changes in the basin, resulting in cascading effects. These advances in science shape implementation of the Program and ultimately move the needle toward achieving mitigation targets. The history and context around these evolving paradigms are valuable for understanding not only where we are today, but where we may be headed in the future and how we can recognize and respond to emerging issues that have the capacity to affect progress.

Dr. Quinn will present his recently published paper on changing themes in Pacific Salmon conservation and research. The topics in this paper will be familiar to the Council, as they have been core issues considered in the Fish and Wildlife Program over time and during the recent amendment process. Dr. Quinn reviews the arc of major issues relevant to Pacific salmon, along with progress on those issues, and then introduces emerging concerns that could exert significant pressure on Pacific salmon. As described by Dr. Quinn in his abstract:

“This paper reviews some of the key themes in salmon conservation research in the 1970s and considers to what extent those issues have been resolved or remain pressing. The paper then considers some of the many topics that were of less concern five decades ago such as net pen aquaculture, chemical contaminants, effects of invasive species, the ecology of transplanted salmon populations, and others. These topics reveal changing conservation themes in fisheries science and the social systems in which science is practiced. The goal is to alert readers to the surprises that the future may bring and encourage optimism that salmon will persist.”

Dr. Tom Quinn is a professor emeritus with the University of Washington and has built his academic career around the behavior, ecology, evolution, and conservation of Pacific salmon, trout, and char. He has published hundreds of papers on these topics, including the definitive book on Behavior and Ecology of Pacific Salmon and Trout. Dr. Quinn recently served on the Council’s ISAB and ISRP.

More info: Quinn, T. P. 2025. [Changing Themes in Pacific Salmon Research and Conservation](#). Reviews in Fisheries Science & Aquaculture, 1–25.
Homel, K. and L. Bach. 2024. [A Retrospective of the Council’s Fish and Wildlife Program, 1980 – 2022](#).