Northwest **Power** and **Conservation** Council

November 5, 2019

TO: Council Members

FROM: Erik Merrill, Independent Science Manager, and Nancy Leonard, ISAB Ex Officio

SUBJECT: ISRP Appointments Decision and ISAB Appointments Discussion

PROPOSED ACTION: Council staff asks that the Council appoint Josh Korman, Kurt Fresh, and Richard Carmichael to the Independent Scientific Review Panel (ISRP).

Staff also asks that the Council discuss with Chair Jennifer Anders, in her capacity as the Council's representative on the Independent Scientific Advisory Board's (ISAB) Administrative Oversight Panel, appointment of Courtney Carothers, John Epifanio, Dana Infante, Kenneth Rose, and Thomas Wainwright to the ISAB.

BACKGROUND

The Appointment Process

The ISAB and ISRP each have 11 members who are eligible to serve two terms of normally three years per term. Term limits and new appointments are staggered to ensure continuity of membership and regular infusion of fresh perspectives. Each group needs five new members for this round of appointments.

The ISRP and ISAB appointments process follows three steps, of which the first two are complete for this ISRP and ISAB appointment decision. First, in October 2018, the Council, NOAA Fisheries, and Columbia Basin Indian Tribes invited the region to nominate scientists to be considered for service on the ISAB and/or the ISRP (see

invitation). Second, the National Academies of Science, Engineering, and Medicine evaluated the list of nominees based on their scientific credentials and recommended a pool of 33 candidates for potential ISRP and ISAB appointment (see the National Academies' February 1, 2019 memo). These candidates augment an existing pool of over 50 highly qualified ISAB and ISRP candidates who were evaluated by the National Academies in 2014, 2011, 2008, and 2005. The National Academies' list of candidates is intended to be robust enough to last through several appointment processes. Third, from the list of recommended candidates, the ISAB Administrative Oversight Panel appoints ISAB members and the Council appoints ISRP members.

Member Qualifications

The ISAB and ISRP's governing documents call for membership to include expertise in anadromous and resident fish ecology, statistics, modeling, wildlife ecology, genetics, fisheries, fish passage/bioengineering, fish husbandry, marine ecology, geomorphology, and socio-economics. Pacific Northwest scientists with expertise in Columbia River anadromous fish and non-anadromous fish must be included. All of the scientists recommended by the National Academies meet the criteria of membership to the ISAB and ISRP. Specifically, they have demonstrated high achievement in a relevant discipline; a strong record of scientific accomplishment documented by contribution to peer-reviewed literature or other evidence of creative scientific accomplishment; high standards of scientific integrity, independence, and objectivity; ability to forge creative solutions to complex problems; and interest in and ability to work effectively in an interdisciplinary setting. ISAB and ISRP members participate as independent scientists and are not selected to represent the views of any organization or interest group. In fact, the scientists' reputation of providing sound independent advice is an important factor considered in the member selection process. In addition, all appointees must confirm their ability to commit sufficient time to effectively participate in review activities and to comply with the ISAB/ISRP conflicts of interest standards for the duration of their appointment.

Appointment Recommendations

The ISAB and ISRP are multi-disciplinary groups with members providing a broad array of scientific expertise (see the tables below). With many long-term ISAB and ISRP members and former chairs completing their terms, the ISRP and ISAB lose significant leadership and expertise. In developing these recommendations for appointment, we considered the expertise lost, the expertise and interests of continuing members, and the expertise needed for anticipated future assignments. We also thought it was important to bolster the ISAB's expertise in social sciences to more fully consider the role of the Basin's varied cultures and ecological and political boundaries in mitigation and restoration efforts. In addition, we sought to balance the group with scientists who spent their careers in the Pacific Northwest and offer institutional and local knowledge, with those whose work has been primarily outside the Columbia River Basin and can provide a fresh perspective.

Each of the eight recommended scientists was screened for conflicts of interest and potential bias. Several of the scientists participate in research grants that are conducted

and funded outside the Columbia River Basin, including federal agency grants from NOAA Fisheries, US Fish and Wildlife Service, and US Geological Survey. Because their research is conducted and funded outside the Basin and is not likely to be the subject of ISAB and ISRP reviews, we believe these grant relationships would not interfere with the scientists' ability to impartially conduct reviews and would not jeopardize the ISAB or ISRP's independence. Additionally, some of the scientists worked for Columbia River Basin fish and wildlife agencies during their careers. Although they are now retired and do not have financial ties to those agencies, their review roles on agency projects will be managed to avoid the appearance of bias and ensure independent reviews.

ISRP Appointments Recommendation

Josh Korman, Ph.D., is President of Ecometric Research and an Adjunct Professor, Institute of Oceans and Fisheries, University of British Columbia. He is a fisheries scientist, quantitative ecologist, and modeler with extensive experience studying the effects of dams on fish populations and harvest on exploited populations. He also develops novel approaches to the analysis of ecological data. He has conducted research regarding salmon, steelhead, sturgeon and other species that are the focus of the Fish and Wildlife Program. He also has considerable experience in adaptive management, specifically regarding dam operations and fish responses in the Grand Canyon, Colorado River. His experience and expertise make him very well suited for the ISRP to review statistical designs, life-cycle models, interpretation of results, and program performance of restoration, production, and passage projects.

Kurt Fresh, M.S., retired in 2017 from his role as Program Manager for the Estuary and Ocean Ecology Program at the Northwest Fisheries Science Center, NOAA Fisheries. He directed research activities involving salmon and their ecosystems, focusing on the science to support salmon conservation and management, especially recovery of endangered and threatened salmon populations along the West Coast of the United States. He was an insightful participant in the Council's Ocean Forum. His estuary, plume, and ocean expertise is needed on the ISRP, and his leadership experience with a wide range of salmon research topics, fisheries management issues, and Columbia Basin institutions ensure that he would be a thoughtful and effective ISRP member.

Richard Carmichael, M.S., is a Consulting Fisheries Scientist, working out of La Grande, Oregon. In 2015, he retired from the Oregon Department of Fish and Wildlife, where he served as the Program Director for Northeast-Central Oregon Fish Research and Monitoring. His work focused on directing a complex research and monitoring program to evaluate the success of and develop strategies for protecting, reestablishing, and restoring Endangered Species Act-listed and non-listed anadromous fish populations and fisheries. He also served as an agency representative in regional research and recovery planning forums including the Interior Columbia River Basin Technical Recovery Team, the Recovery Implementation Science Team, and the Supplementation Technical Workgroup. His in-depth involvement with recovery and mitigation efforts on the eastside of the Cascades, participation in regional forums, and experience having his projects and analyses reviewed by the ISAB and ISRP would provide needed

perspective on the ISRP to effectively evaluate project performance and constructively communicate reviews to project sponsors as well as decision makers.

These scientists would fill three of the five open positions on the ISRP. We plan to recommend two additional scientists for ISRP appointment at the Council's December meeting. We do not have two recommended scientist now because we were hoping that two of the scientists recommended for ISAB appointment would also agree to be considered for ISRP appointment, but they felt serving on one of the groups was all they could manage, given their current work schedules.

ISAB Appointments Discussion

As noted above, Staff also asks that the Council discuss with Chair Anders, in her capacity as the Council's representative on the Independent Scientific Advisory Board's (ISAB) Administrative Oversight Panel, appointment of Courtney Carothers, John Epifanio, Dana Infante, Kenneth Rose, and Thomas Wainwright to the ISAB

Courtney Carothers, Ph.D., is Professor, Department of Fisheries, College of Fisheries and Ocean Sciences, University of Alaska Fairbanks. She is an environmental anthropologist with broad interests in human-environment relationships, particularly in marine and fisheries systems. Her work includes partnering with indigenous communities in the Arctic to study social-ecological change and traditional ways of life. She has served on numerous scientific groups that do similar work to the ISAB and ISRP, including the Science Panel for the North Pacific Research Board. Her expertise in anthropology is currently not included on the ISAB, and thus she would expand the ISAB's perspective. Her work on salmon fisheries and engaging in science with indigenous communities and across a broad spectrum of audiences should be very valuable on the ISAB.

John Epifanio, Ph.D., recently retired as Principal Scientist with the Illinois Natural History Survey and as a Research Professor with the University of Illinois. His expertise spans fishery resource management, conservation genetics, and aquatic and terrestrial resource policy and planning. He has worked extensively on warm water fish, salmon, trout, and invasive species ecology and interactions. He also has served details with the national headquarters for the USDA Forest Service as Assistant Leader for Fisheries and with the US Geological Survey as Leader for Fisheries and Aquatic Endangered Species bridging the roles of federal research and resource management. He served two full terms on the ISRP from 2004-2010, participated as an ISRP peer review group member after his ISRP term ended, and has assisted the ISAB as an ad hoc member. He was a productive and influential member of the ISRP. His ability to communicate scientific finding to policy makers was instrumental to the ISRP's effectiveness. He led ISRP reviews of hatchery master plans and participated in reviews of subbasin plans and the full set of Fish and Wildlife Program projects. His institutional knowledge will be invaluable during this significant transition of new members onto the ISAB.

Dana Infante, Ph.D., is Associate Professor and Associate Chair of Research in the Department of Fisheries and Wildlife, Michigan State University. She has expertise in

river ecology and management, landscape ecology, and environmental assessment. She takes an interdisciplinary approach linking landscape ecology with traditional objectives of aquatic ecology, conservation biology, and fisheries management. She has done extensive work on developing ecological indicators for dam impacts and managing comprehensive databases for the Great Lakes region and other large systems. Her interdisciplinary experience and quantitative approach make her especially well qualified to serve on the ISAB and examine the full spectrum of Fish and Wildlife Program, mitigation, and recovery efforts, and associated performance.

Kenneth Rose, Ph.D., is the France-Merrick Professor in Sustainable Ecosystem Restoration at Horn Point Laboratory of the University of Maryland Center for Environmental Science. Prior to his position at the University of Maryland, he was a professor at Louisiana State University and a research staff member at Oak Ridge National Laboratory. His research on mathematical and computer simulation modeling of fish population and food web dynamics in estuaries, lakes, reservoirs, and oceans is directly applicable to Columbia River Basin fish and wildlife management. His expertise should be especially useful for reviewing fish passage and life cycle models. He also has a long history of effectively serving on scientific advisory committees, including the National Academies of Science, California Delta Science Program, United States GLOBEC Program, and US Army Corps of Engineers. The American Fisheries Society gave him the Award of Excellence for lifetime achievement. He is abundantly qualified to immediately contribute to the ISAB.

Thomas Wainwright, Ph.D., is a quantitative ecologist with interests in population and ecosystem dynamics. He lives in Bend, Oregon. In 2016, he retired from NOAA Fisheries where he conducted research on marine climate variation and salmon production and led risk assessments for many Pacific salmon populations as part of Endangered Species Act status reviews. Before joining NOAA in 1992, he worked on a wide variety of scientific topics including forest and range ecology, plant and animal endangered species assessments, and natural resource inventories. His ocean and plume expertise is needed on the ISAB, and his quantitative ecology background and work with forest and range ecology should help the ISAB review a wide range of restoration strategies and analyses. His local knowledge and familiarity with NOAA, the Council, and Tribes' programs will also provide context for other new members whose experience is primarily outside the Columbia Basin.

Table of Current ISRP Members

ISRP Member	Affiliation	Expertise	Term
Alec Maule	Formerly with United States Geological Survey	Fisheries - physiological ecology of salmonids (mainstem fish passage)	2020, 2nd
Desiree Tullos	Oregon State University	Ecohydraulics, river engineering, and restoration	2021, 2nd
Wayne Hubert	Consultant, formerly with Wyoming Cooperative Fish and Wildlife Unit, University of Wyoming	Fisheries, ecology, and habitat	2021, 2nd
Stan Gregory	Oregon State University, emeritus	Fisheries, ecology, and habitat	2023, 2nd
Kurt Fausch	Colorado State University, emeritus	Fisheries - population and stream ecology	2021, 1st
Thomas Quinn	University of Washington	Fisheries - salmonid ecology, behavior, and artificial propagation	2022, 1st (term began October 2019)
David Heller	Aquatic Habitat Management and Restoration Consultant, formerly with U.S. Forest Service, Oregon	Aquatic habitat management, restoration, and monitoring	Complete
Carl Schwarz	Simon Fraser University, Canada	Statistics and actuarial science	Complete
Greg Ruggerone	Natural Resource Consultants, Washington	Fisheries - ocean and freshwater salmon ecology	Complete
Steve Schroder	Fisheries Consultant, formerly with Washington Department of Fish and Wildlife	Fisheries - artificial production, freshwater and estuarine salmon ecology	Complete
Chris Wood	Formerly with Department of Fisheries and Oceans, Canada, BC	Fisheries - genetics and ecology of salmon	Complete
Robert Naiman	University of Washington, emeritus	River ecology	Complete

Table of Current ISAB Members

ISAB Member	Affiliation	Expertise	Term
William Jaeger	Oregon State University	Economics and policy	2021, 2nd
Cynthia Jones	Old Dominion University	Biometrics, fisheries and population dynamics	2021, 2nd
Thomas Turner	University of New Mexico	Fisheries - genetics	2021, 2nd
Peter Moyle	University of California, Davis, emeritus	Fisheries, ecology, and habitat	2022, 2nd
Stan Gregory	Oregon State University, emeritus	Fisheries, ecology, and habitat	2023, 2nd
Thomas Quinn	University of Washington	Fisheries - salmonid ecology, behavior, and artificial propagation	2021, 1st
Kurt Fausch	Colorado State University, emeritus	Fisheries - population and stream ecology	Complete
Kate Myers	University of Washington, emeritus	Fisheries - ocean and salmon ecology	Complete
Carl Schwarz	Simon Fraser University, Canada	Statistics and actuarial science	Complete
Alec Maule	Formerly with United States Geological Survey	Fisheries - physiological ecology of salmonids (mainstem fish passage)	Complete
Steve Schroder	Fisheries Consultant, formerly with Washington Department of Fish and Wildlife	Fisheries - artificial production, freshwater and estuarine salmon ecology	Complete