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



March 3, 2026

**DECISION MEMORANDUM**

**TO:** Council Members

**FROM:** Erik Merrill, Independent Science Manager, and Kris Homel, Biologist for Program Performance and ISAB Ex Officio

**SUBJECT:** ISRP Member Appointments, Term Renewal, and Peer Review Group Decision and ISAB Member Appointment and Renewal Discussion

**PROPOSED ACTION:** **ISRP Decision:** Council staff asks that the Council:

- approve a final four-year term to the Independent Scientific Review Panel (ISRP) for Yolanda Morbey through September 30, 2030.
- appoint Leslie Bach, Steven Lindley, Tracie-Lynn Nadeau, William Pine, Cisco Werner, and Michael Young to the ISRP to begin service in April 2026.
- appoint Michael Ford and Kerry Naish to the ISRP to begin service on October 1, 2026, the start of Fiscal Year 2027.
- appoint 19 scientists listed in Table 3 to the pool of ISRP Peer Review Group members.

**ISAB Discussion:** Staff will discuss with the Council term renewals for two ISAB members and appointment of five new Independent Scientific Advisory Board (ISAB) members – the individuals are listed in the background section below. This discussion should assist Chair Michael Milburn in his capacity as the Council's representative on the ISAB's Administrative Oversight Panel, which will make the final ISAB appointment decision. The other Administrative Oversight Panel

representatives are Donella Miller (Fishery Science Department Manager, Columbia River Inter-Tribal Fish Commission) and Jeremy Rusin (Science Director, NOAA-Fisheries Northwest Fisheries Science Center). A separate decision memo was sent to the Administrative Oversight Panel for their consideration of the ISAB member term renewals and appointments.

**SIGNIFICANCE:** The ISRP provides recommendations to the Council on the scientific soundness and benefits to fish and wildlife of projects funded by the Bonneville Power Administration. The ISAB provides the Council, NOAA Fisheries, Columbia River Indian Tribes, and the region with independent reviews of critical scientific issues facing Columbia River Basin fish and wildlife mitigation and recovery efforts. These ISRP and ISAB member term extension and renewals should maintain the groups' expertise and ability to effectively review the science pertaining to fish and wildlife projects and topics continuing from this year and likely to arise in the next few years.

## BUDGETARY/ECONOMIC IMPACTS

The ISRP and ISAB operate on an annual budget, independent of the Council's budget, funded by the Bonneville Power Administration through the Fish and Wildlife Program. No additional funds are requested.

## BACKGROUND

### The Appointment Process

The ISRP and ISAB 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.

ISRP and ISAB members are selected from a list of scientists that are nominated in response to a widely shared nominations solicitation announcement (see November 2024 announcement) and evaluated for their qualifications and recommended by the National Academies of Sciences, Engineering, and Medicine (2026, 2026 Supplement, 2019 and 2014 memos). From the list of recommended candidates, the ISAB Administrative Oversight Panel appoints ISAB members and the Council appoints ISRP members.

**Membership Recommendations**

The ISAB and ISRP are multi-disciplinary groups with members providing a broad array of scientific expertise (see the tables below). With these recommendations, we strive for the ISRP and ISAB to have a balance of 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. The recommended scientists do not have direct, current financial conflicts of interest with projects funded by the Bonneville Power Administration. But they do have a variety of relationships with fish and wildlife agencies and Tribes, researchers, and restoration practitioners who develop and implement Columbia Basin projects and programs. For example, relationships include past employment at NOAA Fisheries, U.S. Environmental Protection Agency, U.S. Geological Survey, and the Council. In particular, we discussed and recognize that several former NOAA Fisheries scientists are recommended for appointment. We are fortunate to have such highly qualified scientists and leaders with experience within and outside the basin who are interested in serving on the ISRP and ISAB. We will take steps to avoid introducing the appearance of conflict or bias into reviews, including the recusal of panel and board members on reviews of specific proposals or analyses where appropriate.

The ISRP and ISAB each have an additional membership opening beginning October 1, 2026. We will likely not have an additional recommended candidate for your consideration by the March meeting. Over the next month, we will discuss candidates who best fit expertise needs and bring a recommendation forward when ready.

***ISRP Term Renewal Recommendation***

- **Yolanda Morbey**, Ph.D., is a Professor, Department of Biology, Western University, Ontario, Canada and an evolutionary movement ecologist and current joint member of the ISAB and ISRP. She teaches in the areas of ecology, evolution, and biostatistics. Her experience and expertise have focused on avian and salmon migratory behavior and ecology in the Pacific Northwest and the Great Lakes ecoregions. This combination of topical and geographic experience has brought a fresh perspective to ISAB and ISRP reviews. She began service on the ISAB in 2022 and is serving her second term, currently approved through 2028. She began service on the ISRP in 2023, her first term runs through 2026, and we recommend her for a second ISRP term through 2030. See Dr. Morbey's Lab website for more details.

***ISRP Appointment Recommendations***

- **Leslie Bach, Ph.D.,** retired in 2023 from her position as a Council staff member in the Fish and Wildlife Division. At the Council, she focused on streamflow protection, habitat restoration, fish passage at dams, water quality, water transactions, and monitoring to inform each of those topics. She also served as the Council's Ex Officio representative on the ISAB and provided invaluable context and

insights to improve the relevancy and ensure the accuracy of ISAB report findings. Before her work at the Council, she was the Director of Freshwater Programs at The Nature Conservancy of Oregon, where she provided technical expertise to river protection and restoration projects across Oregon, the United States, and Latin America. With a high turnover of ISRP members, her expertise across mitigation strategies and familiarity with the Fish and Wildlife Program and its implementers would be invaluable to effectively continue the ISRP's work to improve projects and thus Program implementation. She is available for an abbreviated term through 2027. See Dr. Bach's CV for more details.

- **Michael Ford, Ph.D.,** retired in April 2025 after a thirty-year career at NOAA's Northwest Fisheries Science Center, including 18 years as Director of the Conservation Biology Division. His research focused on salmon genetics, local adaptation in salmon, hatchery and wild salmon interactions, killer whale ecology, marine mammal predation on salmon, recovery planning, and the status of ESA-listed salmon and killer whales on the West Coast and Puget Sound. He also served as NOAA Fisheries Ex Officio representative on the ISAB, providing two decades of guidance improving ISAB reports and learning about the F&W Program and Tribal mitigation efforts. He and scientists in his Science Center division also had F&W Program-funded projects reviewed by the ISRP, so he would review projects understanding the process from the project proponent's perspective. He would start his term on October 1, 2026. See Dr. Ford's CV for more details.

- **Steven Lindley, Ph.D.,** is a researcher at the Institute of Marine Sciences, University of California, Santa Cruz. From 2011 to 2025, he was director of the National Marine Fisheries Service's Southwest Fisheries Science Center's Fisheries Ecology Division and Santa Cruz Laboratory, where he oversaw about one hundred people working across many scientific fields, including fish ecology, aquatic habitats, climate, oceanography, hydrology, geomorphology, genetics, and economics. His own research has focused on connections among these fields and the population dynamics of salmon and sturgeon. He has developed and applied quantitative integrated models to guide decision-making around water management, habitat restoration, and conservation of anadromous fishes, including for ESA-listed species. Throughout his career, he has served on a variety of review and advisory panels, and he currently serves on California's Delta Independent Science Board that works on many parallel issues to those in the Columbia River Basin. We recommend him for joint appointment to the ISRP and ISAB because of his highly relevant quantitative modeling skills, interdisciplinary leadership experience, and marine and freshwater ecological expertise. See Dr. Lindley's CV for more details.

- **Tracie-Lynn Nadeau, Ph.D.,** is an aquatic ecologist, who retired from the U.S. Environmental Protection Agency, Region 10, Portland, Oregon, after a 25-year career at the agency focused on stream and wetland assessment, aquatic resource mitigation, water quality, and watershed protection planning. This experience and

expertise would apply well to ISRP reviews of F&W Program habitat protection and restoration projects. In addition, she has decades of team and leadership experience working at the science-policy interface, synthesizing state of the science information on aquatic resource issues, and developing applied research projects. All of which would translate well to ISRP work. The NASEM evaluators identified her expertise fit as best for the ISAB, but we believe her qualifications also fit well with the ISRP, where she would fill a needed expertise. See Dr. Nadeau's CV for more details.

- **Kerry Naish, Ph.D.,** is director of the University of Washington's College of the Environment's Marine Biology program and is part of the UW Molecular Ecology Research Lab (MERLAB). As an evolutionary geneticist, she uses genetic approaches to study the fitness of fish populations and to explore how humans influence the evolution of certain traits. She mainly studies Pacific salmonids but has studied everything from Cape horse mackerel to invasive mussels to leatherback sea turtles. Her work is designed to inform the conservation and management of aquatic populations in changing environments. This applied research experience is highly useful on ISRP reviews. She also had a Fish and Wildlife Program-funded study of hatchery and wild fish interactions reviewed by the ISRP, giving her an understanding of the review process from the project proponent's perspective. She would start her term on October 1, 2026. See Dr. Naish's CV for more details.

- **William Pine, Ph.D.,** is a fisheries consultant and is a retired professor from the University of Florida's Department of Wildlife Ecology and Conservation. His areas of expertise are highly applicable to project and program reviews in the Columbia River Basin and include restoration design and evaluation, ecosystem modeling, and species population assessment and risk analysis. His research has focused on riverine and marine ecosystems across the United States including long-term adaptive management studies of various flow and restoration strategies in the Colorado River and studies in the Eastern United States of fish responses to changes from river management, harvest, and species introductions. He has worked with multiple species that are relevant to the Columbia, including various sturgeon, mollusk, shad, and bass species. We recommend him for joint appointment to the ISRP and ISAB. He lives in Huntsville, Alabama. See Dr. Pine's CV for more details.

- **Francisco "Cisco" Werner, Ph.D.**, is retired from NOAA Fisheries, where he served as Director of Scientific Programs and Chief Science Advisor from 2017-2025, and Science and Research Director, Southwest Fisheries Science Center from 2011-2017. In his decade-plus of leadership at NOAA, he managed multi-hundred-million-dollar budgets, oversaw a staff of over a thousand, and directed national and international science programs to advance sustainable fisheries, species recovery, and ocean health. In addition to his science leadership work, he has extensive research and academic experience. Before joining NOAA, he held faculty

and directorial roles at Rutgers University and at UNC-Chapel Hill. His work has focused on research topics and analytical tools that apply to scientific and management issues in the Columbia River Basin including ocean physics, ecosystem dynamics, and innovative modeling approaches that inform fisheries and marine ecosystem management. Ocean expertise is required on the ISRP, and Dr. Werner is a foremost ocean expert, as well as having an outstanding record of interdisciplinary science leadership. We recommend him for joint appointment to the ISRP and ISAB. He lives in Silver Spring, Maryland. See Dr. Werner's CV for more details.

- **Michael Young, Ph.D.**, is an Emeritus Research Fisheries Biologist, Rocky Mountain Research Station, U.S. Forest Service, Missoula, Montana, and has served on the ISAB since 2023. His research focus has been two-fold, involving (1) broad-scale sampling, primarily using eDNA, to answer ecological questions about—and develop species distribution models for—native and nonnative fishes, amphibians, and mollusks in western North America, and (2) using molecular phylogenetic and population genetic methods to understand the distribution, diversity, origins, and status of a suite of aquatic taxa, including cutthroat trout, sculpins, freshwater lamprey, springsnails, and capniid stoneflies. He also has extensive experience working on salmonid ecology and conservation. His genetic expertise fills an important need on the ISAB, and his fish ecology expertise and Columbia Basin multi-species research experience (e.g., lamprey, sculpin, bull trout) has been widely applicable across ISAB review topics. This expertise and experience would be equally useful for ISRP reviews. See Dr. Young's CV for more details.

***Pool of Potential ISRP Peer Review Group Members***

The 1996 amendment to the Power Act provides for the ISRP to be assisted by Peer Review Groups. Over the past two decades, the Council has appointed a Peer Review Group pool of over 100 scientists, a subset of whom are used on an ad hoc basis to provide specific expertise and augment the capabilities of the ISRP. While not members of the ISRP, Peer Review Group members are active and essential contributors to the review process. During the past three decades, over 50 Peer Review Group members have participated in ISRP project reviews.

Council staff recommends that the 19 scientists listed below (Table 3) be appointed to the ISRP's Peer Review Group. These scientists would bolster the ISRP's expertise and workforce and thus ability to participate in large-scale reviews with dozens of projects to evaluate. The scientists are from those recommended for qualification to serve as Peer Review Group members by the National Academies of Sciences, Engineering, and Medicine (2026 memo and Supplement).

This large pool of potential Peer Review Group members is needed because additional reviewers covering a wide range of expertise are sometimes needed on short notice to participate in time-intensive reviews. In addition, some of these scientists, at times, propose or have ongoing BPA funded projects, which constitutes a conflict of interest disallowing their participation in reviews. Finally, enlisting potential future ISAB and ISRP members as Peer Review Group members for

discrete, temporary review roles allows the scientists to gauge their interest in these groups and for the ISRP and Council to gauge the scientists' suitability for full ISRP or ISAB membership.

***ISAB Membership Discussion***

As noted above, staff will also discuss ISAB term renewals and appointments with the Council to inform Chair Milburn in his capacity as the Council's representative on the Independent Scientific Advisory Board's (ISAB) Administrative Oversight Panel. These recommendations were developed by the ISAB's Ex Officio representatives: Kris Homel, Council; Bob Lessard, CRITFC; and Chris Jordan, NOAA Fisheries.

*Term Renewals*

- **Patrick Connolly, Ph.D.**, is an Emeritus Research Fish Biologist with the U.S. Geological Survey's Columbia River Research Laboratory in Cook, Washington. His expertise spans multiple topics that are highly relevant to ISAB and ISRP reviews including food web dynamics, fish sampling surveys, PIT tag technology, salmonid life history, non-native predator research and management, and fish response to restoration efforts and climate change. His experience with Columbia River Basin ecosystems and institutions has added needed context to ISAB and ISRP reviews. He currently shares ISRP Co-chair duties with Tom Turner. He began service on the ISRP in 2020, and his second term is approved through 2026. He began service on the ISAB in 2023, his first term runs through 2026, and we recommend him for a second ISRP term through 2030. See Dr. Connolly's CV for more details.

- **Michael Young, Ph.D.**, see summary bio above. He began service on the ISAB in 2023, his first term runs through 2026, and we recommend him for a second ISAB term through 2030.

*ISAB Appointments*

- **Phaedra Budy, Ph.D.,** is the Leader of the U.S. Geological Survey, Utah Cooperative Fish and Wildlife Unit, and a Professor of Fisheries Management and Aquatic Ecology in the Department of Watershed Sciences at Utah State University and a faculty member of The Ecology Center at the university. She does research focused on factors that structure and limit fish populations, and she also works broadly in conservation biology, adaptive stream restoration, large river management, invasive species ecology, and food web dynamics of aquatic systems. Her current work covers a wide geographical range including Utah, Nevada, Arizona, California, and northern, arctic Alaska and includes many species of salmonids, imperiled native desert fishes, and numerous warm water fishes. She is currently assessing state of science topics related to long-term operations of California's Central Valley Project. Over 25 years ago, she gained valuable Columbia River Basin experience evaluating Snake River-based recovery options as well as ocean harvest management for

salmon and steelhead while working for the U.S. Fish and Wildlife Service. Her breadth of expertise and experience in and outside the Columbia River Basin would be very useful for ISAB reviews. See Dr. Budy's CV for more details.

- **Kailin Kroetz, Ph.D.,** is an Assistant Professor of Environmental and Resource Economics in the School of Sustainability at Arizona State University. She is a natural resource economist and interdisciplinary sustainability scientist whose research focuses on improving the management of renewable natural resources – such as fisheries, water, and wildlife habitats – to better support biodiversity and sustainable food systems. She collaborates closely with ecologists, policymakers, and practitioners to develop new datasets, apply quantitative models, and evaluate environmental and natural resource policies across topics including sustainable fisheries, wildlife migration, and invasive species management. Her natural resource economics expertise and collaborative, interdisciplinary approach would expand the ISAB's perspective on fish and wildlife mitigation strategies and complement the biological focus of most ISAB members. See Dr. Kroetz's CV for more details.

- **Steven Lindley, Ph.D.,** also recommended for ISRP appointment; see summary bio above.

- **William Pine, Ph.D.,** also recommended for ISRP appointment; see summary bio above.

- **Cisco Werner, Ph.D.**, also recommended for ISRP appointment; see summary bio above.

**ALTERNATIVES**

The Council can request further consideration of alternative National Academy of Sciences, Engineering, and Medicine's recommended candidates than those recommended in this memo for some or all of the open positions. Alternative candidates were identified during our recommendation deliberations and can be brought forward if deemed necessary**.**

**Tables 1 and 2. ISRP and ISAB Members**

The tables include current members and those who recently completed their terms (see shaded rows). Different term dates reflect that ISRP and ISAB members are appointed at different times. Members are eligible to serve two terms.

| ISRP Members | Affiliation | Expertise | Term (FY) |
|---|---|---|---|
| Patrick Connolly | Consultant, formerly with United States Geological Survey, Washington | Fisheries, ecology, and habitat | 2026, 2nd |
| Dana Infante | Michigan State University | Hydrology and ecosystem modeling | 2026, 2nd |
| Kenny Rose | University of Maryland | Biometrics and modeling | 2026, 2nd |
| Thomas Turner | University of New Mexico | Fisheries - genetics | 2028, 2nd |
| Yolanda Morbey | Western University, Ontario, Canada | Fisheries, avian and salmonid ecology | 2026, 1st (renewal recommended through 2030) |
| Ellen Wohl | Colorado State University | Hydrology, river restoration | 1st Term complete (too busy now but eligible in future for 2nd term) |
| Richard Carmichael | Consultant, formerly with Oregon Department of Fish and Wildlife | Fisheries, management, research, and recovery science | Terms complete |
| Kurt Fausch | Colorado State University, emeritus | Fisheries - population and stream ecology | Terms complete |
| Kurt Fresh | Consultant, formerly with National Marine Fisheries Service | Fisheries, ocean and salmonid ecology | Terms complete |
| Josh Korman | Ecometric Research, Consultant, Vancouver, Canada | Biometrics and modeling | Terms complete |
| Thomas Quinn | University of Washington | Fisheries - salmonid ecology, behavior, and artificial propagation | Terms complete |

| ISAB Member | Affiliation | Expertise | Term (FY) |
|---|---|---|---|
| Dana Infante | Michigan State University | Hydrology and ecosystem modeling | 2026, 2nd |
| Kenny Rose | University of Maryland | Biometrics and modeling | 2026, 2nd |
| James Irvine | Department of Fisheries and Ocean, Canada, Nanaimo, Emeritus | Fisheries, ocean and salmonid ecology | 2028, 2nd |
| Yolanda Morbey | Western University, Ontario, Canada | Fisheries, avian and salmonid ecology | 2028, 2nd |
| Desiree Tullos | Oregon State University | Ecohydraulics, river engineering, and restoration | 2028, 2nd |
| Patrick Connolly | Consultant, formerly with United States Geological Survey, Washington | Fisheries, ecology, and habitat | 2026, 1st (renewal recommended through 2030) |
| Michael Young | Emeritus, U.S. Forest Service, Rocky Mountain Research Station | Fisheries, genetics and ecology | 2026, 1st (renewal recommended through 2030) |
| Ellen Wohl | Colorado State University | Hydrology, river restoration | 1st Term complete (too busy now but eligible in future for 2nd term) |
| Courtney Carothers | University of Alaska, Fairbanks | Social sciences, environmental anthropologist, marine and fisheries systems | Terms complete |
| John Epifanio | Consultant, formerly Illinois Natural History Survey | Fisheries, genetics and hatcheries | Terms complete |
| Thomas Quinn | University of Washington | Fisheries - salmonid ecology, behavior, and artificial propagation | Terms complete |

**Tables 3. Recommended Peer Review Group Candidates**

These 19 scientists are those recommended for qualification to serve as Peer Review Group members by the National Academies of Sciences, Engineering, and Medicine (2026 memo and Supplement). Many of these scientists are also recommended for appointment to the ISAB or ISRP. Resumes (CVs) are available on request.

| Name | Affiliation | Expertise |
|---|---|---|
| Joshua Abbott | Arizona State University | Social sciences; natural resource economics |
| Adell Amos | University of Oregon | Legal framework and governance for water resource management |
| Leslie Bach | Former staff, Northwest Power and Conservation Council, Oregon | Hydrology, habitat restoration, hydrosystem passage, invasive species, policy |
| Brian Beckman | Former NOAA Fisheries, Northwest Fisheries Science Center, Washington | Fisheries, salmon physiology, ocean ecology |
| Phaedra Budy | USGS, Utah Cooperative Fishery Research Unit, Utah State University | Ecology, aquatic, hydrosystem passage |
| Chip Corsi | Former Idaho Department of Fish and Game | Fisheries, resident fish, management and policy leadership |
| Mike Ford | Former NOAA Fisheries, Northwest Fisheries Science Center, Washington | Fisheries, genetics, conservation biology |
| Steve Haeseker | Former U.S. Fish and Wildlife Service, Washington | Biometrics and modeling, fish passage, life cycle models |
| Erich Hester | Virginia Tech | Ecohydraulics, river engineering and restoration |
| Kailan Kroetz | Arizona State University | Social sciences; natural resource economics |
| Sarah Kruse | AMP Insights Consulting, Netherlands | Social sciences, resource economics |
| Steven Lindley | University of California, Santa Cruz | Biometrics and modeling, landscape, population, ocean ecology, and science leadership |

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|---|---|---|
| Tracie Nadeau | Former U.S. Environmental Protection Agency, Region 10, Oregon | Ecology, aquatic, microbial and molecular genetics, wetlands, assessment methods, policy, regulations |
| Kerry Naish | University of Washington | Fisheries, genetics, conservation biology |
| George Pess | Former NOAA Fisheries, Northwest Fisheries Science Center, Washington | Fisheries, ecology and habitat |
| William Pine | Consultant, Alabama; Retired University of Florida | Aquatic ecology, modeling, restoration design and evaluation |
| Martin Smith | Duke University, North Carolina | Social sciences; natural resource economics |
| Cisco Werner | Former NOAA (Chief fisheries scientist), Maryland | Fisheries, oceanography, modeling, and science leadership |
| David Young | Consultant, Western EcoSystems Technology, Inc., Wyoming | Wildlife, species and habitat assessments, ESA and NEPA consultations and compliance |