

Guy Norman
Chair
Washington

KC Golden
Washington

Jim Yost
Idaho

Jeffery C. Allen
Idaho



**Northwest Power and
Conservation Council**

Doug Grob
Vice Chair
Montana

Mike Milburn
Montana

Ginny Burdick
Oregon

Louie Pitt, Jr.
Oregon

Council Meeting Summary October 11, 2022 at Corvallis, Oregon and via Webinar

This a summary of the agenda items that came before the Council at its October 11, 2022, public meeting and, where appropriate, the actions the Council decided upon. The summary is intended to provide a general synopsis only for each agenda item. For further details, the complete set of information for the meeting includes the meeting agenda, the packet and presentation material for each item, the recording of each agenda item during the meeting, and subsequent documentation of any decisions by the Council. These meeting materials are posted with this summary at <https://www.nwcouncil.org/meeting/council-meeting-october-11-2022/>.

October 11, 2022

Council Chair Guy Norman brought the meeting to order at 9:02 a.m. Council Members Jeffery Allen, Ginny Burdick, KC Golden, Doug Grob, Mike Milburn, and Jim Yost were in attendance in Corvallis, Oregon. Member Louie Pitt Jr was not in attendance. The next Council meeting is scheduled for November 15-16, 2022, in Portland, Oregon and via webinar.

Council Meeting Agenda Items

1. Remarks by Curt Melcher, Director, Oregon Department of Fish and Wildlife

Member Burdick introduced Curt Melcher, director of the Oregon Department of Fish and Wildlife (ODFW), to give an update on the organization and discuss recent highlights from divisions and projects. Melcher advised the Council on the agency's organization, number of employees, and regional programs. ODFW 2021-23 biennium's current budget includes \$488.9M in revenues and total expenditures of \$442.4M. Melcher explained that ODFW is focused on the national R3 movement - recruitment, retention, and reactivation of participants to maintain the funding that allows the organization to continue its conservation. Melcher emphasizes that their largest growing demographic is female participants, and the organization is doing a lot of work with minority communities.

Melcher explained that the legislature directed significant investments from state general funds to support the land resources program, water program, and regional habitat programs in 2021, reestablishing ODFW's habitat division, which had been absent since 2001. ODFW's mission is to protect and enhance Oregon's fish and wildlife and their habitats for the use and enjoyment of present and future generations. Melcher stated the primary challenge for fish and wildlife agencies has historically been to reduce the overexploitation of land, wildlife, and resources. The future challenge is habitat change, whether caused by climate change or new development.

The habitat division includes the water quality and quantity program, the hydropower program, and the land resource program. Melcher further reported an increase in proposals for renewable energy development, primarily wind and solar. The habitat division is working with other organizations on this issue because many solar project proposals are in big game winter range and will impact mule deer populations. Grob asked about new small hydropower development. Melcher responded that new hydropower development is considered a triggering event, and the law in Oregon states that a fish passage must be created. The ODFW has retrofitted some hatcheries with micro-hydro, which generates electricity via gravity conduits.

Melcher provided details on the ODFW Regional Habitat Program, including the Willamette Wildlife Mitigation Project in collaboration with the Bonneville Power Administration, requiring the conservation of over 26,000 acres in the Willamette Valley to compensate for habitat loss due to dam construction. The 15-year program is ending; according to Melcher, it has been very successful. Melcher detailed that one of the division's highest priorities is climate change and its associated effects, including drought. He emphasized the need for proactive, prioritized action to protect and restore

land and water, given the declining conditions. Melcher provided an overview of the fish division, which included hydro system management, predation, fisheries, and the operation of 32 fish hatcheries. Melcher also detailed the wildlife division programs and conservation strategies.

Member Golden asked for clarification regarding the loss of hatcheries due to wildfire. Melcher explained that due to wildfires, the ODFW lost Rock Creek Hatchery and significant portions of Klamath Hatchery, in addition to structures in other hatcheries. Melcher indicated that ODFW is working with FEMA to rebuild Rock Creek Hatchery. Member Yost asked if the information is segregated between hunting and shooting licenses. Melcher explained that no one has to buy a license to go recreational shooting; ODFW gets revenue from the federal Pittman-Robinson Act, a tax on arms and ammunition for wildlife conservation. Chair Norman mentioned that he is encouraged by the habitat program and asked if Melcher is satisfied with the program. Melcher explained that ODFW is currently in the 2023-2025 biennium budget development progress, and the agency has submitted the budget to the governor. Melcher added that the budget request has several policy option packages related to expanding the habitat work.

Presentation materials are at: https://www.nwcouncil.org/f/18060/2022_10_1.pdf.

Reports from Committees

Fish and Wildlife Committee

Member Allen, Fish and Wildlife Committee Chair, reported on the Fish and Wildlife Committee Meeting held on October 4, 2022.

1. Update on Genetic Monitoring Tools

Council staff introduced Dr. Shawn Narum, Senior Scientist at the Columbia River Inter-Tribal Fish Commission, Dr. John Hess, Senior Fisheries Geneticist at the Columbia River Inter-Tribal Fish Commission, and Matt Campbell, Fisheries Genetics Program Coordinator of Idaho Department of Fish and Game. The presenters updated the Committee on genetic monitoring tools and applications that provide critical information to assist fisheries management and conservation efforts in the Columbia River Basin, focusing on the importance of parentage-based tagging and genetic stock identification tools to the region. The projects funded by BPA and approved by the Council help assess the strength of run, which helps the management of fisheries.

For the report and the presentation materials, see https://www.nwcouncil.org/fs/18051/2022_10_f1.pdf

2. Emerald Ash Borer arrives in Oregon

Chris Benemann, Interim Director, Plant Protection and Conservation Programs, Oregon Department of Agriculture, presented to the Committee information on the invasive, non-native emerald ash borer beetle found in Oregon. The beetle is considered the most destructive and costliest pest insect introduced to the United States because infestations cannot be prevented or eradicated with current management tools. The presenter explained how natural resources agencies and tribes are focusing on slowing its spread and reducing damage to fish, plant, and wildlife habitats.

For the report and the presentation materials, see https://www.nwcouncil.org/fs/18052/2022_10_f2.pdf.

Power Committee

Member Yost, Power Committee Chair, reported on the Power Committee Meeting held on October 5, 2022.

1. Update on Hydro Operations in GENESYS

Staff presented in an effort to revisit feedback from stakeholders and assumptions in the GENESYS model to better understand the limitations and capabilities of the regional hydro system. The presentation provided information on the process of working with hydro project operators and planners to improve modeling of operations in GENESYS. This work is leading towards the upcoming adequacy assessment.

For the report and the presentation materials, see https://www.nwcouncil.org/f/18054/2022_10_p1.pdf.

2. Primer on Adequacy Metrics and Assessment Update

John Fazio, Senior Power System Analyst, presented options being considered to improve how resource adequacy is assessed. It introduced the concept of using multiple metrics to measure adequacy, including a magnitude, frequency, and duration. The presentation included feedback from the Resource Adequacy Advisory Committee,

whose members reviewed the proposal in September. The committee was also updated on the current resource adequacy assessment status.

For the report and the presentation materials, see https://www.nwcouncil.org/f/18053/2022_10_p2.pdf.

Public Affairs Committee

There was no Public Affairs Committee update.

Council Meeting Agenda Items

2. Opening the Oceanic Black Box: Highlights From the 2022 International Year of the Salmon, High Seas survey.

Patty O'Toole, Fish and Wildlife Division Director, introduced Dr. Laurie Weitkamp, Research Fisheries Biologist, NOAA's Northwest Fisheries Science Center, Newport Research Station. Dr. Weitkamp presented on the largest pan-Pacific research expedition to study the winter ecology of salmon in the North Pacific Ocean known as 2022 International Year of the Salmon (IYS). The North Atlantic Salmon Conservation Organization and the North Pacific Anadromous Fish Commission organized the initiative, which brought together scientists from the United States, Canada, Japan, the Republic of Korea, and the Russian Federation.

Weitkamp provided an overview of the IYS, indicating that it was a well-publicized international multi-ship survey of high seas Pacific salmon habitat conducted in the winter of 2022. Weitkamp indicated that the research expeditions included five ships and sampled 131 stations across 2.5M km². The expedition's goal included knowing which part of the ocean the salmon is using to allow prediction of impacts of unusual conditions like marine heat waves and improved understanding of high seas ecology to provide increased insight into factors affecting the survival of Columbia River salmon and steelhead. Weitkamp explained that studies conducted on juvenile Pacific salmon in coastal waters have significantly increased the understanding of initial marine ecology. Still, once salmon leave the coastal areas for the high seas, they enter the "black box" where far less is known.

Weitkamp explained the standard research methods used across ships, including physical oceanography like environmental DNA, biological oceanography, and fishing. With the expedition observations, a map of the salmon counts was created and included

chum, pink, sockeye, coho, and chinook salmon. Weitkamp indicated that they were able to compare the distribution of salmon they caught in 2022 versus 2019 and 2020 in various water temperatures. Weitkamp stated that detailed analyses are just starting to emerge from the thousands of samples collected. Weitkamp explained to the Council that the expedition would provide a deeper understanding of the entire ecosystem, including species, stock, condition, and growth rates. Weitkamp concluded with their future plans, including examining samples and analyzing more data, and the plans for another expedition in Fall 2023.

Member Grob asked if there was more data in correlation to the good salmon return this year. Weitkamp indicated that there had been dramatic changes in the temperatures and food-web energy in the Bering Sea, benefiting salmon populations. Weitkamp also suggested that because the lakes are warmer, the fish are getting more productive and growing faster, so they go out to the sea at a larger size, benefitting their survival. Member Allen asked whether the problems in Alaska are inland or at the high seas. Weitkamp explained that with the current knowledge they are unable to understand the reason for the changes but hopes that this research will help to answer some of the questions.

Presentation materials are at: https://www.nwcouncil.org/f/18059/2022_10_2.pdf.

3. Update on Program Hatchery Assessments per Council's Asset Management Strategic Plan

Council staff Mark Fritsch, Project Review and Implementation Manager, introduced Andy Traylor, a Fish and Wildlife Administrator at Bonneville Power Administration. Fritsch explained that the presentation provides an overview of the effort to update the Fish and Wildlife Programs hatchery assessments associated with the Asset Management Strategic Plan.

Traylor provided an overview of the content, history, and scope of the asset management performed at 40 individual facilities, representing non-routine, non-recurring maintenance or replacement of assets. A summary of the initial hatchery condition assessment conducted in 2016 and 2017 produced 42 individual reports with significant asset summaries. Traylor explained that the evaluation provided baseline data for asset inventory, condition, approximate replacement cost, and life expectancy. Furthermore, the 2022 assessment update included updating the facility list, physical site visits for new facilities, and virtual site inspections for facilities with existing assessments.

Traylor pointed out that the typical asset life expectancy is 30 years and several hatcheries are in the 25-30 year range and need attention immediately. Traylor mentioned that proactive asset management enables the Council and Bonneville to address maintenance issues before they become critical and identify areas for cost savings, efficiency, and update facilities to make them more resilient to climate change. The 2022 hatchery condition assessment will be used by Council staff to prioritize funds for 2024 hatchery maintenance needs, which the Council will review in the spring of 2023.

Presentation materials are at https://www.nwcouncil.org/f/18061/2022_10_3.pdf.

4. Regional Technical Forum 2023 Work Plan Approval

Jennifer Light, Council's Director of Power Planning, presented background on the Regional Technical Forum's (RTF) core activities, long-term funding agreement, and key initiatives that the RTF will focus on in 2023 and asked for Council's decision on the 2023 RTF Work Plan and Budget. Light reminded the Council that the primary role of the RTF is to develop and maintain a library of energy efficiency measures with savings, lifetime costs, and estimated value to power systems. Light indicated that the RTF has expanded to include analysis of the potential for technologies that provide energy efficiency and demand response, support analysis of the Council's work, and track regional progress toward targets. The RTF uses a transparent public process by bringing together thirty unbiased technical experts to analyze data and provide recommendations that help leverage the work across the region by reducing the individual burden on any one utility.

Light explained the RTF is funded by Bonneville, the Energy Trust of Oregon, investor-owned utilities, and several large consumer-owned utilities with in-kind support from the Council. 2023 represents year four of a five-year funding agreement; RTF started with \$1.8M in funding in 2020 and increased with inflation. Light indicated that the proposed 2023 RTF budget is \$2.19M leveraging unspent funds from earlier in the planning cycle. Light presented a high-level overview of the 2023 project; they include measure maintenance and development, updates to standard information workbook and guidelines, enhanced residential model, enhancements to commercial building models, continued efforts on the energy efficiency and demand response, creating and improving savings shapes to inform on timing of savings, and exploring potential framing of an EV efficiency measure.

Member Golden inquired whether demand response and storage would be covered by the EV study. Light indicated that although the RTF already contains a demand response measure for an EV charger, this scoping study could delve deeper into the

potential for energy efficiency and its interaction with demand response. Member Grob asked if the RTF is tracking new battery technology efficiency. Light noted that while storage is not addressed in the RTF charter, understanding improvements to battery technology as they relate to EV efficiency would be part of the work.

Presentation materials are at https://www.nwcouncil.org/f/18063/2022_10_4.pdf.

Motion to approve the 2023 RTF Work Plan and Budget

Vice-Chair Grob moved that the Council approve the 2023 RTF Work Plan and Budget as presented by staff.

Member Yost seconded.

No discussion.

Voice vote – all in favor, none opposed.

Motion was approved.

5. Oregon State University Study on Hydro Efficiency

Jennifer Light, Council's Director of Power Planning, introduced Dr. Ted Brekken, Professor in Energy Systems at Oregon State University. Dr. Brekken discussed with the Council the university's research into integrating fast-acting energy storage into traditional hydroelectric units for improved response and stability. The \$2.4M funded research is aimed at improving hydroelectric unit system performance for increased operational flexibility, particularly regarding integration with renewable power.

Dr. Brekken set the stage by explaining how traditional hydropower works, including its advantages and disadvantages. Dr. Brekken indicated that traditional hydropower units are limited in response time by the inertia of water and non-minimal phase characteristics. To meet the challenges, Dr. Brekken proposed a hybrid hydropower-storage unit that augments existing hydroelectric units with a parallel energy storage path. The benefits of the hybrid model include improved power quality and increased active and reactive power control for better frequency and voltage regulation. The project plan provides the development and testing of experimental model at the WESRF lab at Oregon State University and the integration of the experimental model to large scale grid model with the University of Utah. Dr. Brekken explained that the study's goal is to ascertain whether a hybrid hydropower storage unit can respond to and smooth out short-term variations in solar and wind generation, offer better active and reactive power control for improved frequency and voltage regulation, and improve power quality. The next year will see the release of the study's findings.

Dr. Brekken responded to Member Grob's question on switching from alternating current to direct current by saying that a hybrid hydropower storage unit's round-trip efficiency would probably be 80 - 90%. Dr. Brekken added that using energy storage is costly, and the value of time shifting the energy must be greater than what is lost. The study's results will be used to assess the project's economic viability. Member Yost commented on the demand response. Member Golden asked how the project started and if there was interest from hydro operators. The US Army Corp of Engineers was involved in the conversations that led to this notion, according to Dr. Brekken, who also mentioned that other people are looking into ways to increase the use of conventional hydro units. Member Norman questioned the potential benefits of this hybrid technology for fish operations, Dr. Brekken acknowledged that he hadn't yet given them any thought. Dr. Brekken raised the prospect of temporarily isolating the dam's power output from its flow, giving room for better fish passage.

Presentation materials are at https://www.nwcouncil.org/f/18062/2022_10_5.pdf.

6. Bradshaw's Lomatium: A Conservative Success Story

Council's Oregon Fish and Wildlife Policy Analyst, Cathy P. Kellon, introduced Tom Brumbelow, Ecologist from U.S. Fish and Wildlife Service, regarding the success of once-endangered Bradshaw's lomatium, thanks in part to the Willamette Wildlife Mitigation Program, supported under the Council's Fish and Wildlife Program. The Willamette Wildlife Mitigation Program is a fifteen-year agreement to permanently settle wildlife mitigation responsibilities under the Northwest Power Act for the federal Willamette River Basin Flood Control and Hydroelectric Project. Properties are prioritized for acquisition under WWMP using an ecosystem-based approach whereby sites are expected to provide benefits for targeted wildlife species and may also address other species and resources of interest, such as insects or plants. For example, lands with threatened and unique habitats like wet prairie are high priority because they can benefit multiple species of concern. As a result, individual properties acquired under the WWMP are host, or potential hosts, to several at-risk species.

Brumbelow educated the Council about the plant's habitat and life cycle. Brumbelow commented that Bradshaw's lomatium is endemic to wetland prairies of the Willamette Valley, Oregon, and Southwest Washington. The plant was first collected in 1916 and was presumed extinct starting in 1942, it was listed as endangered in 1988 due to habitat loss and invasive species. Brumbelow indicated that the reason for the plant's disappearance is that historically wet prairies covered approximately 10% of the valley; as of 2011 wet prairies made up only 1.5% due to ecological succession in the absence of disturbance and conversion to agriculture.

Brumbelow explained that the First Recovery Plan was published in 1993, and the updated Recovery Plan was finalized in 2010. Through research, propagation, land and easement purchase, and habitat restoration, numerous public and private groups, landowners, and volunteers have worked together in the decades since the plant was listed to bring it back to the Willamette Valley. As a result, Bradshaw's lomatium are once again abundant throughout their historical range. Brumbelow shared that the USFWS declared the species recovered in April 2021, which was delisted as a result. The decision to delist the plant and the plant's rehabilitation depended heavily on land acquisition and conservation. Brumbelow indicated that in the Willamette Valley, more than 99% of Bradshaw's lomatium plants are located on land that has some guarantee of protection, such as conservation easements or being owned by a public or nonprofit conservancy. Brumbelow iterated on the importance of shared resources and partnerships in a fragmented landscape for the plant's success. Brumbelow ended the presentation by explaining the delisting timeline to the Council, explaining the benefits of the habitat focus beyond the individual species, and highlighting the continued restoration work.

Presentation materials are at https://www.nwcouncil.org/f/18065/2022_10_6.pdf.

7. Council Business

Approval of September 2022 Council Meeting Minutes

Vice-Chair Grob moved that the Council approve for the signature of the Vice-Chair the minutes of the September 13-14, 2022, Council Meeting held at Portland, Oregon and via webinar, as presented by staff.

Member Allen seconded.

No discussion.

Voice vote – all in favor, none opposed.

Motion was approved.

The approved minutes of the August 2022 Council meeting and other materials from that meeting are at https://www.nwcouncil.org/f/18064/2022_10_7minutes.pdf.

Public Comment on any issue before the Council

No Public Comments.

Chair Norman adjourned the meeting at 12:14 p.m.