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

October 1, 2024

MEMORANDUM

TO: **Council Members**

FROM: **Kym Buzdygon, Lead Communications Specialist**

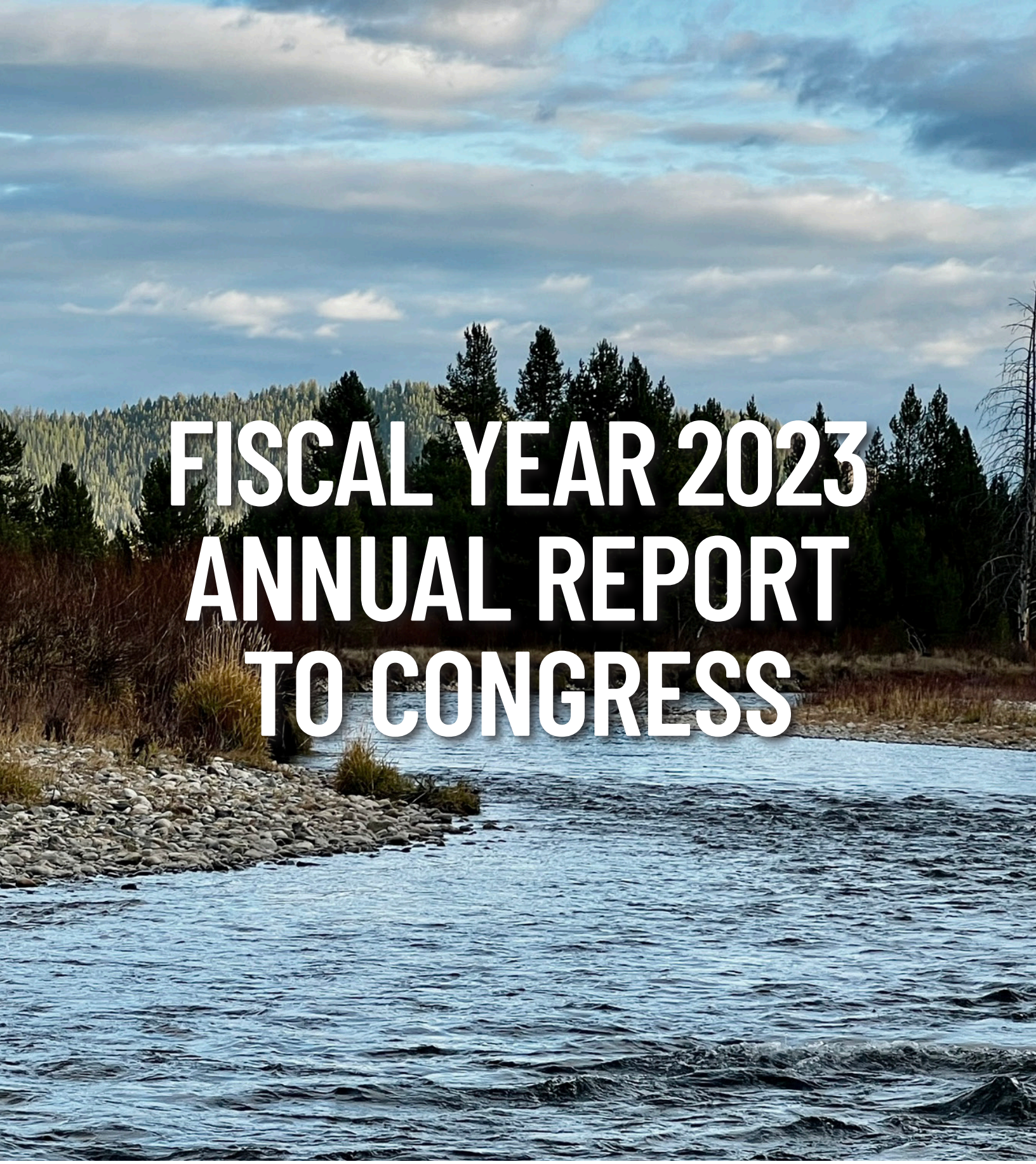
SUBJECT: **Draft annual report to Congress for Fiscal Year 2023**

BACKGROUND:

Summary: Approve draft report for 90 days of public comment

Relevance: Section 4(h)(12)(A) of the Northwest Power Act requires the Council to report annually to Congress and to make the draft report available for at least 90 days of public comment prior to submission. The draft report is for Fiscal Year 2023, which ended on September 30, 2023.

Background: Staff requests that you approve the draft report for public comment at this meeting, with any additional edits. The comment period would begin Friday, October 11, 2024 and end Friday, January 10, 2025.



FISCAL YEAR 2023 ANNUAL REPORT TO CONGRESS

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

As Executive Director of the Northwest Power and Conservation Council, I'm pleased to share the Council's **Fiscal Year 2023 Annual Report to the United States Congress**.

The Council's 2021 Power Plan was adopted as major shifts in the Northwest power system were underway. The decreasing cost of wind and solar made renewables more competitive, ambitious clean energy and decarbonization policies and goals were set at federal, state, and local levels, and utilities made plans to retire or convert coal plants across the West. These trends continued in FY 2023, with additional challenges including increased forecasts for load growth driven by data centers and electric vehicles, climate change and extreme weather events, and transmission system constraints.

Maintaining resource adequacy in the Northwest power system in the face of these changes required a new, cutting-edge approach to the Council's adequacy standards. In FY 2023, the Council became one of the first power planners in the country to adopt a multi-metric approach to gauge adequacy. This more sophisticated approach is a major advancement in helping the Council and the region plan for the future. The approach was developed in collaboration with our regional partners, including utilities, Bonneville Power Administration, energy providers, regional organizations, tribes, and public utilities commissions. Staff will continue to refine these methods in the upcoming ninth Power Plan, which is expected to be adopted at the end of 2026 or early 2027.

The Council's Columbia Basin Fish and Wildlife Program is one of the largest fish and wildlife mitigation efforts in the world. Ongoing staff work has focused on understanding and assessing the investments made over the last 40 years of the Program, no small feat given the breadth and diversity of projects and partnerships. We look forward to seeing reports on implementation, progress, and challenges, as well as key questions for the region to consider as the next year leads us into preparation for the next Program amendment process. While the challenges have been considerable and varied, and there is still much to be done, the Basin would no doubt have looked very different without the Council's Program and decades of dedication and hard work from federal, state, and tribal fish and wildlife managers.

Finally, Congress gave us a third charge in the Northwest Power Act: to inform and involve the public in our decision-making processes in each of our four states – Oregon, Washington, Idaho, and Montana. In FY 2023, meetings were held in Corvallis, OR, Coeur d'Alene, ID, Victor, MT, and Wenatchee, WA in addition to the Council's main office in Portland, OR. All meetings are open to the public and can be accessed via webinar.

I invite you to review this report on our past year's work to protect fish and wildlife while ensuring a reliable, adequate, efficient, and economical power system.

Bill

Bill Edmonds

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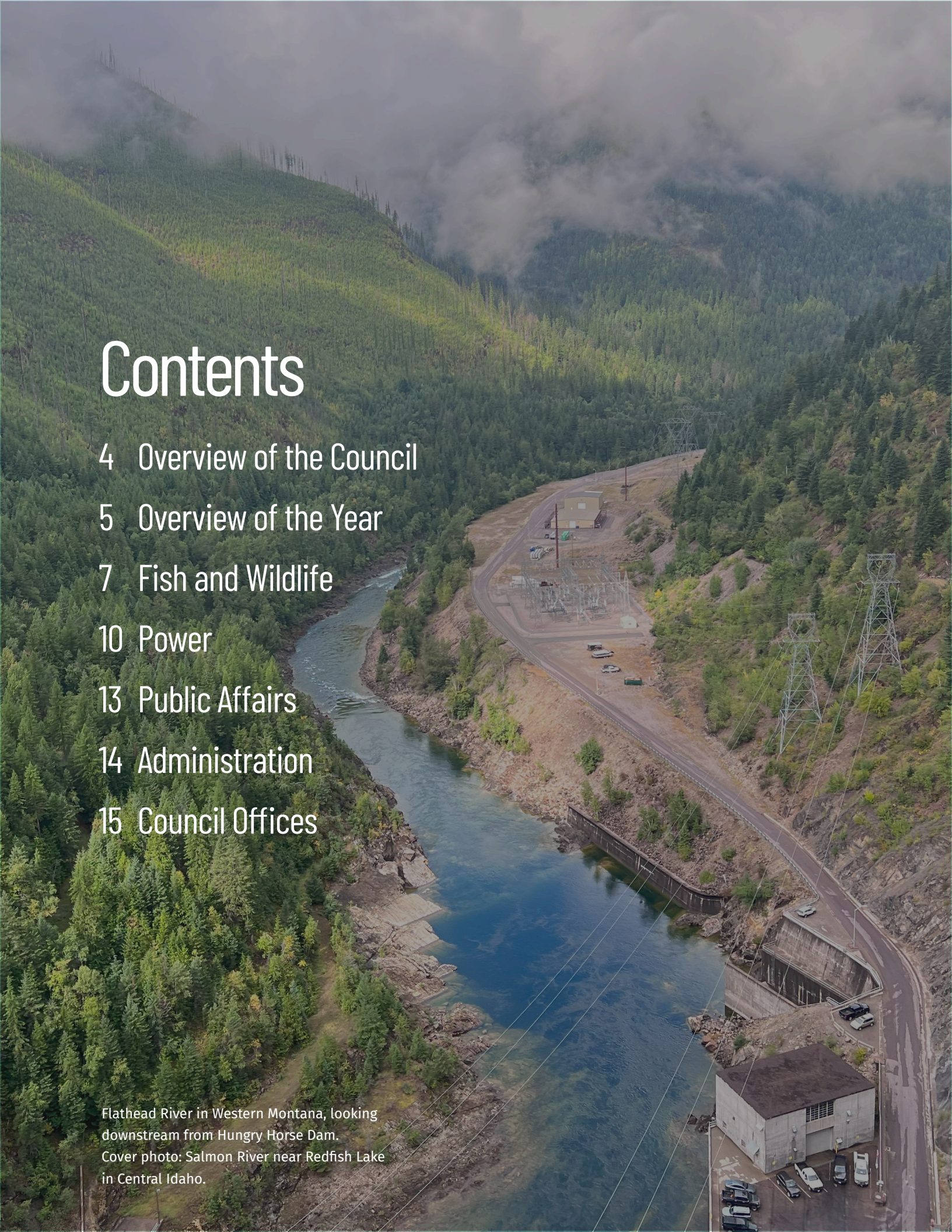


Flathead River in Western Montana, looking downstream from Hungry Horse Dam.
Cover photo: Salmon River near Redfish Lake in Central Idaho.

Overview of the Council

The Council was authorized by Congress in 1980 when it passed the Northwest Power Act, giving the states of Idaho, Montana, Oregon, and Washington a greater voice in how the region plans its energy future and manages natural resources in the Columbia River Basin. The Council is responsible for developing a program to protect fish and wildlife adversely affected by the hydrosystem and a 20-year regional power plan to ensure an adequate and affordable power supply. Both the program and power plan are revised every five years. The governor of each state appoints two members to serve on the Council.

Columbia Basin Fish and Wildlife Program

In addition to developing and supporting a regional Fish and Wildlife Program with a comprehensive set of provisions to address the impacts of the hydrosystem on Columbia River Basin fish and wildlife, the Council also recommends funding for projects to the Bonneville Power Administration, directing more than $280 million annually to over 300 projects throughout the basin. The Council, tribes, state and federal fish and wildlife agencies, and the public participate in the review and selection process, which also includes analysis by an independent science panel to inform the Council's decisions.

Through the program, a wide variety of projects are implemented: habitat restoration; land acquisition to preserve stronghold areas; hatcheries to rebuild naturally spawning populations of salmon and steelhead; improvements to passage at the dams; fencing and fish screen investments; and programs to aid resident fish.

Regional Power Plan

The Act directs the Council to give priority to cost-effective energy efficiency, followed by cost-effective renewable resources. Since the release of the Council's first Northwest Power Plan in 1983, the region's utilities have acquired the equivalent of more than 7,600 average megawatts of electricity, enough savings to power seven cities the size of Seattle.

The Power Plan includes several key provisions: an electricity demand forecast; electricity and fuel price forecasts; an assessment of the amount of cost-effective energy efficiency that can be acquired over the life of the plan; and a least-cost generating resources portfolio. Under the Northwest Power Act, Bonneville Power Administration must acquire resources consistent with the Council's Power Plans.

Overview of the Year

Major changes are sweeping the energy sector as new state and federal policies decarbonize the power system and increase use of clean energy resources, including the Inflation Reduction Act (IRA). The IRA as well as the CHIPS and Science Act have fueled new and growing demand on the power sector.

Furthering the trajectory of recent years, Fiscal Year 2023 (October 1, 2022 to September 30, 2023) saw more transformation in the generation and sale of electricity on the West Coast. The accelerating adoption of renewable power and storage, particularly in California and the Southwest, continued to drive changes in the wholesale power market, including putting downward pressure on prices and shifting price patterns.

At the same time, a record heat wave that hit California in September 2022 highlighted the importance of greater regional coordination, reciprocity, and cooperation within the market, as Northwest utilities and Bonneville Power Administration were able to sell surplus power that helped the California Independent System Operator (CAISO) avoid major outages during the event. This was one example of several regarding increasing regional coordination: BPA and other Northwest utilities actively engaged in FY 2023 in the early-stage development of two day-ahead markets in the West, Southwest Power Pool's Markets+ initiative and CAISO's Extended Day-Ahead Market initiative. Work also continued on the development of the Western Resource Adequacy Program, including program design and non-binding participation by BPA and Northwest utilities, as well as FERC's approval of its tariff in February 2023.

The Council's Power Division staff closely tracked each of these developments because the 2021 Power Plan emphasized the importance of regional coordination and the short-term need to maintain sufficient balancing reserves to ensure an adequate power system. Resource adequacy remains a critical issue as more renewable sources, like wind and solar, are added to the grid and existing resources such as coal plants retire. To better address how these changes – along with many others – would affect the future of the Northwest power system, in FY 2023 the Council adopted a new, more sophisticated way to test whether the region's power grid has adequate resources by using multiple metrics. The Council used this approach to test the 2021 Power Plan's resource strategy, given the changes that have occurred in the power system since the plan was adopted. Power Division staff also closely tracked the region's implementation of this strategy. One key component included acquisition of 750-1,000 MW of cost-effective energy efficiency – the Northwest grid's second-largest energy resource – a low cost resource to help ensure resource adequacy from expected load growth.

The Council's Columbia River Basin Fish and Wildlife Program is one of the largest fish and wildlife mitigation efforts in the world and a significant part of the tapestry of mitigation and restoration efforts in the Columbia Basin.

Implementation of the Program continues through the actions of the Bonneville Power Administration, the Bureau of Reclamation, the Corps of Engineers, and the Federal Energy Regulatory Commission. The Council appreciates and values the work on the ground from the federal and state agencies, tribes, local conservation districts, utilities, recovery boards, NGOs, watershed councils, fish conservation groups, Canadian entities, local governments, landowners, and others. The coordination, collaboration, and commitment from our regional partners is essential to the success of our mitigation program.

The Council and staff continue to work on assessing the implementation of the Program over the last 40 years through a variety of methods, including a historical retrospective of the Program, categorical assessments that group the Program's measures into broad themes, and analysis of data sets from across the region as they relate to Program Indicators identified in the 2020 Addendum. This Program performance work is ongoing and will help inform the next amendment cycle. Significant portions of work on the Program Retrospective and the hydro operations categorical assessment were completed in FY 2023.

In fall 2023, Upper Columbia River tribes and the federal government announced a historic agreement on a 20-year plan to reintroduce salmon in the Upper Columbia that could garner up to $300 million in federal funding. At the recommendation of the Upper Columbia tribes, the Council's Fish and Wildlife Program has included a provision calling for the consideration of reintroduction of anadromous fish into blocked areas since 2000. The Council continues to recognize the complexity of these efforts and the importance of a science-based, phased approach.

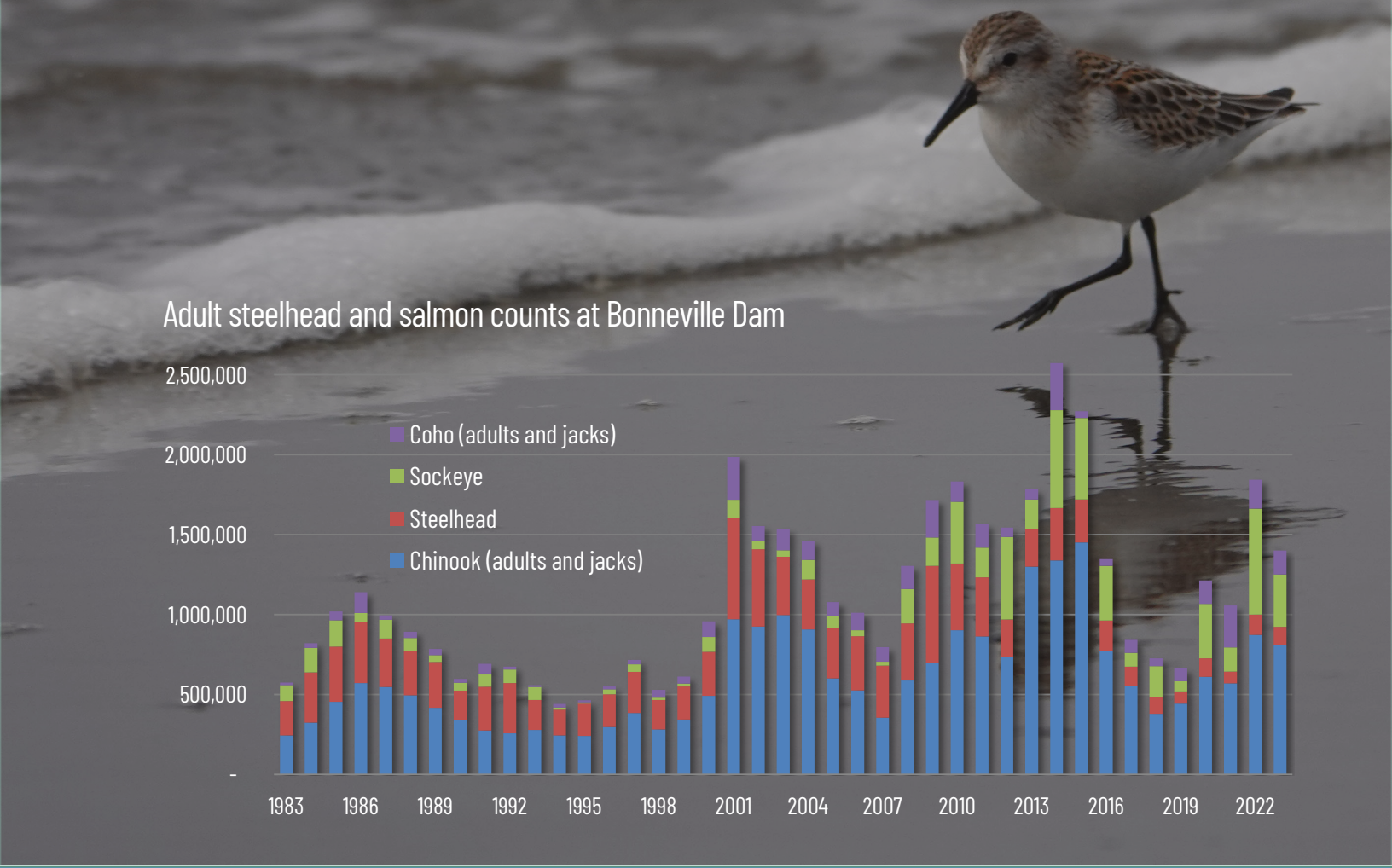
Finally, the Council prioritizes holding meetings in communities both large and small located throughout its four-state region. This provides the public in each state with opportunities to learn about Council activities and processes, and to have their voices heard in key decisions on power planning and fish and wildlife in the Columbia River Basin. Although the Covid-19 pandemic required Council processes to be conducted virtually in 2020-2021, the Council has been able to resume hosting in-person meetings in each of the four states.

Fish and Wildlife

The Council's Columbia Basin Fish and Wildlife Program represents a 40-year effort to mitigate the effects of the hydropower system on fish and wildlife in the basin. The Program includes stocks listed under the Endangered Species Act, but encompasses all fish and wildlife and associated habitat impacted by the hydrosystem.

As a new amendment cycle approaches in 2025, the Council has been focused on understanding and assessing how the Program has been implemented over the last 40 years.

In FY 2023 staff completed extensive work on a retrospective of the Program and an assessment of hydro operations, and made significant progress on additional assessments of broad categories of the Council's work, including artificial production, habitat restoration (a broad category that also includes wildlife, predator management, and invasive species), and Program goals, objectives, and tracking, that will be completed in 2024.



Adult steelhead and salmon counts at Bonneville Dam

Reintroduction efforts continue in the upper Columbia

Chinook and sockeye salmon, steelhead, and other migratory fish species were historically abundant in the Upper Columbia but have been blocked from accessing thousands of miles of habitat since 1938 when Grand Coulee Dam was built. Since 2000, the Council's Fish and Wildlife Program, at the recommendation of Upper Columbia tribes, has included a provision calling for consideration of the feasibility of reintroducing anadromous fish into areas where they had been blocked by dams. Over the next two decades, with continued support from the tribes, the Council's Program reiterated calls for a science-based, phased approach to reintroduction.

The ISAB toured Grand Coulee and Chief Joseph dams and the blocked areas above them, where they heard from Tribal leaders about the loss of salmon from their homelands and the healing power of the reintroduction process

In the fall of 2022, as part of the phased approach, the Upper Columbia tribes requested that the Council's Independent Scientific Advisory Board review their Phase 2 Implementation Plan: Testing Feasibility of Reintroduced Salmon in the Upper Columbia Basin.

In September 2023, the Upper Columbia United Tribes – which includes the Confederated Tribes of the Colville Reservation, the Coeur d'Alene Tribe, and the Spokane Tribe of Indians – and the U.S. government struck a historic, 20-year agreement to reintroduce salmon in the Upper Columbia that could garner up to $300 million in federal funding. BPA committed $200 million over 20 years to the plan, while other federal agencies committed to seeking an additional $100 million from Congress.

Fish and Wildlife Program Retrospective: 1980-2022

The Program Retrospective was developed as part of the ongoing performance assessment of the Council's Fish and Wildlife Program. It helped contextualize how the program has grown and changed over time and identified themes and strategies that could be used to evaluate implementation. Programs call for both on-site actions (designed to protect fish at the dams) and off-site actions (like habitat restoration) to protect, mitigate, and enhance all fish and wildlife affected by the hydrosystem.

In addition to Program elements, the Retrospective shows how federal and regional events like the passing of federal environmental laws, the listing of certain fish stocks, and changes in how ecosystems are understood and studied have impacted the Program. Over the last 40 years, there have been 7 Programs and 10 amendments or addendums.

Power

Council becomes national leader in adopting multi-metric adequacy standard

Historically in the Pacific Northwest, the biggest risk for power system adequacy was having a bad water year coincide with high loads. That is no longer the case. Planning for the future grid is becoming more complex with the changing resource mix, increased load growth from electrification, periods of extreme weather, and additional uncertainties.

To better address these challenges, in FY 2023 the Council's Power Division staff adopted a new, more sophisticated way to test whether the region's power grid has adequate resources by using multiple metrics. The Council was among the first power planners in the U.S. to move to a multiple metric approach.

The Council's previous adequacy metric of Loss of Load Probability (LOLP) focused on identifying the probability of a year with one or more simulated shortfalls from modeling that tested a range of hydropower, load, and wind conditions. The LOLP metric was effective for a power system heavily reliant on hydropower, thermal plants, and energy efficiency, where generation uncertainty was minimal and revolved around the coincidence of high loads and low water.

The Council evaluates shortfalls as a signal for needing emergency measures, such as a utility

Transmission lines run downstream of Bonneville Dam in the Columbia River Gorge. Credit: Getty Images

buying amounts of power from wholesale markets that are above market-import caps to meet peak demand. A multi-metric adequacy framework provides insights into the frequency, duration, and magnitude of potential shortfall events. **An adequate system means all metrics stay within their respective thresholds.**

The previous LOLP approach didn't offer insights into how large the shortfall would be, how long it would last, or what month or season it would occur in.

With a multi-metric approach, it is now possible to fully understand the shape and size of adequacy issues. This is a major advancement in helping the Council and the region plan for needed solutions.

The process to develop the multi-metric adequacy standard featured working with utilities and energy providers, including Bonneville Power Administration, throughout the region. Staff consulted with regional organizations such as the Western Power Pool, Pacific Northwest Utilities Conference Committee, Pacific Northwest Generating Cooperative, and the Columbia River Inter-Tribal Fish Commission. Finally, staff interviewed representatives and technical staff from public utilities commissions in Idaho, Oregon, and Washington.

Multiple metrics

Following an extensive public engagement and research process, the Council adopted the following adequacy metrics in FY 2023:

- **Frequency – Loss of load events (LOLEV)** is used to prevent overly frequent use of emergency measures.

The next three metrics are designed to protect against extreme shortfall events 39 out of 40 years. It means adequacy events do not last too long or have large magnitudes.

- **Duration – Value at Risk** sets a limit to protect against prolonged use of emergency measures. This helps to capture the risk of a summer heatwave or a winter storm.
- **Magnitude – Peak Value at Risk** protects against large magnitude emergency measure use.
- **Magnitude – Energy Value at Risk** protect against large aggregate use of emergency measures during a year.

The Council continues to refine these metrics by developing provisional thresholds, and will further evaluate them in advance of the next power plan process.

THE 2021
NORTHWEST
POWER PLAN

FOR A SECURE & AFFORDABLE
ENERGY FUTURE

2021 Power Plan implementation gains momentum

Across the region, taking action to implement the resource strategy in the 2021 Power Plan garnered steam throughout FY 2023. The 2021 Power Plan analysis showed a need for significant resource development and recommended at least 3,500 MW of renewables. This was driven by low costs and a regional commitment to greenhouse gas emission reductions. Energy efficiency, demand response (lowering consumer energy use at peak times), and balancing reserves were also core components of the plan strategy.

The Council's adequacy study looking out to 2027 was published in January 2023, and found the region needed to develop new resources and acquire robust energy efficiency – consistent with the recommendations in the 2021 Power Plan – to remain adequate.

Council staff also continued to monitor progress on implementing the plan strategy. They found good news to report on the pace of the minimum renewable build called for by the 2021 Power Plan, implementing demand response programs, achieving the cost-effective efficiency identified in the plan (including Bonneville's energy efficiency acquisition) and keeping sufficient balancing reserves available in the short-term. Over the long-term, the Western Resource Adequacy Program and markets should send the signals necessary to ensure sufficient reserves.

The Regional Technical Forum (RTF) advises the Council on energy efficiency and plays a critical role in the region's success in acquiring this key resource. The group worked to lay the groundwork for key directives from the 2021 Power Plan including energy efficiency and demand response, and continuing to build on the Council and the region's impressive legacy of being a national leader on energy conservation. Since 1983, the RTF reported over 7,600 average megawatts in savings from energy efficiency. This avoided more than 24 million metric tons of CO2 – equivalent to the amount of carbon sequestered in 29 million acres of U.S. forestland annually.

Public Affairs

The Northwest Power Act directs the Council to ensure widespread public involvement in its decision-making. The Council's website, nwcouncil.org, is a hub of its outreach efforts, providing news, documents, databases, and other forms of information.

The 2021 Northwest Power Plan, the 2014 Columbia River Basin Fish and Wildlife Program and 2020 Addendum, as well as press releases, Council white papers, official public comment on Council documents, PowerPoint presentations, videos, Council newsletters, photos, and the Council's social media platforms are available for the public. The monthly Council Spotlight newsletter covers Council meetings, site visits, technical explanations, advisory committees, and more.

Since 2008, the Council has hosted an annual field trip for staff members of the Northwest congressional delegation during the August congressional recess. After a pause during the pandemic, the Council resumed these tours with a trip to Kalispell, Montana in August 2023. The tour provided an opportunity for staff from our regional Congressional delegation along with House and Senate professional committee staff to meet with Council members, staff, and regional partners to hear first-hand about the work they are doing and the key issues they want to highlight.

Highlights from the tour included:

- Seeing net fishing on Flathead Lake and learning more about the Confederated Salish and Kootenai Tribes's program to protect native cutthroat and bull trout by reducing non-native lake trout
- Hearing about Flathead Electric's impressive and challenging growth as new customers move to the Flathead Valley from all over the West
- Touring Hungry Horse Dam, including the largest "morning glory" in the world – a cement funnel available as an overflow option in an emergency
- Rafting on the Middle Fork of the Flathead River

Administration

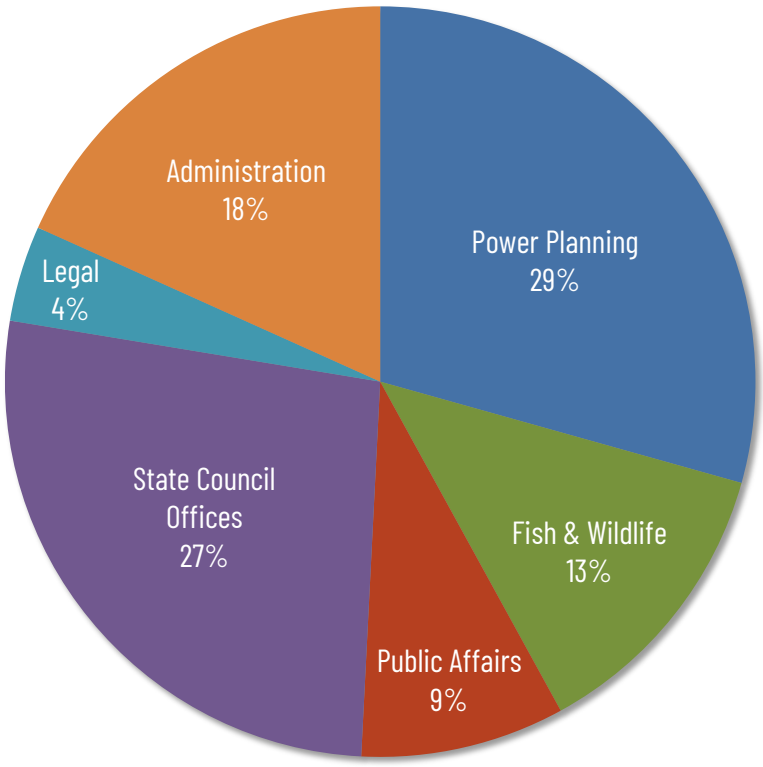
Budget Overview

The Bonneville Power Administration funds the Council as prescribed in the Northwest Power Act. Bonneville is a self-financing power marketing authority under the U.S. Department of Energy. The Act establishes a funding mechanism for the Council based on an estimate of Bonneville's forecast annual firm-power sales. Funding for the Council does not come from annual federal appropriations or from state governments.

Budget for Fiscal Year 2024 (revised)

The Council has managed its budget and finances in a responsible and conservative manner since Congress authorized the Council's formation in 1980. The Council's budget has grown at an average rate less than inflation over the past 40 years, and has remained relatively flat. The Council has even historically underspent its budget and returned unspent funds to Bonneville at the end of some fiscal years.

However, despite the Council's prudent management of funds, its budget is beginning to bump up against the cap. The Act envisioned that Bonneville's firm power sales would increase as the region's electric utilities were allowed to place additional loads on Bonneville. Bonneville's funding threshold for the Council would then similarly increase. However, over the last 20 years, Bonneville's forecast for firm power sales has not increased significantly, and has even declined in some years, due in part to the Council's energy efficiency work authorized and required by the Act. The fact that Bonneville's firm power sales have not increased as envisioned when the Act was passed in 1980 means the Council's funding base has remained relatively flat and has not kept pace with inflation. The Council is engaging with Bonneville in mutually identifying and developing a path forward that will allow the Council to carry out its responsibilities as mandated by Congress.



Council Offices and Members

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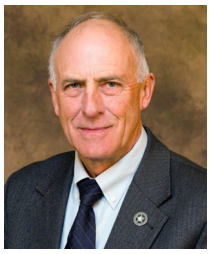

Douglas Grob, Member
Mike Milburn, Member

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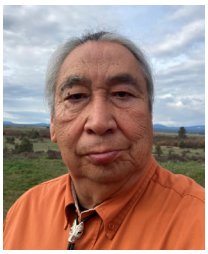

Ginny Burdick, Member
Louis Pitt, Member

Washington

Vancouver, Washington
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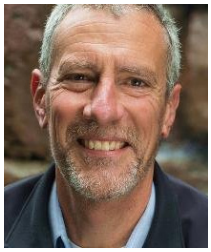

KC Golden, Vice-Chair
Thomas L. (Les) Purce, Member

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Headwaters of the Columbia River
in British Columbia, Canada

In 1980, Congress passed the Northwest Power Act, authorizing the states of Idaho, Montana, Oregon, and Washington to form the Northwest Power and Conservation Council, an interstate compact, giving the region a greater voice in how we plan our energy future in the Pacific Northwest and manage natural resources in the Columbia River Basin.

The Act requires the Council to develop, with broad public participation, a regional power plan and a fish and wildlife program.

Northwest **Power** and
Conservation Council

nwcouncil.org