



The State of the Columbia River Basin



Northwest Power and Conservation Council
FISCAL YEAR 2012 ANNUAL REPORT

To Congress and Citizens of the Pacific Northwest
October 1, 2011 – September 30, 2012



Submitted to the
Committee on Energy and Natural Resources
United States Senate

Committee on Energy and Commerce
United States House of Representatives

and

Committee on Natural Resources
United States House of Representatives

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The Northwest Power and Conservation Council was established pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501) by the states of Idaho, Montana, Oregon, and Washington. The Act authorized the Council to serve as a comprehensive planning agency for energy policy and fish and wildlife policy in the Columbia River Basin and to inform the public about energy and fish and wildlife issues and involve the public in decision-making.

This annual report has been developed pursuant to Section 4(h)(12)(A) of the Northwest Power Act. The Council's bylaws, which include its organizational structure, practices, and procedures, are available to the public at the Council's website as Document 2003-19.

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Chair
Oregon

Henry Lorenzen
Oregon

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February 2013

To Congress and citizens of the Pacific Northwest:

This document is the annual report of the Northwest Power and Conservation Council to Congress for Fiscal Year 2012, Oct. 1, 2011 through September 30, 2012. The annual report is required by the Northwest Power Act of 1980, the federal law that authorized the states of Idaho, Montana, Oregon, and Washington to create the Council.

The report provides an overview of the Council's plans and actions regarding electricity in the Northwest and fish and wildlife in the Columbia River Basin in Fiscal Year 2012, as well as information about salmon and steelhead returns in calendar year 2011 and the effectiveness of the Council's Columbia River Basin Fish and Wildlife Program.

Guided by the Council's Sixth Northwest Power Plan, the Northwest increased its energy-use efficiency by 280 average megawatts in 2011. Expressed as generated power, that would be enough for 189,000 Northwest homes. It was a one-year record achievement, and the average cost of the efficiency was about 1.8 cents per kilowatt-hour. That is about half the cost of power from the most efficient natural gas-fired power plant using the least-expensive natural gas.

The Council's Fish and Wildlife Program directed \$311 million for projects to boost fish and wildlife survival and abundance in the Columbia River Basin in Fiscal Year 2012. The largest share — \$141 million — was for habitat-improvement efforts.

Thank you for your interest in the Council and its work. The Council's Fish and Wildlife Program and Northwest Power Plan, and other information including publications, reports, videos, and a blog, are on the Council's website, www.nwcouncil.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen L. Crow".

Stephen L. Crow,
Executive Director

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Energy, Fish, and Wildlife: The State of the Columbia River Basin in 2012

The Columbia River Basin is a critically important ecosystem with populations of fish and wildlife that have helped define the character of the Pacific Northwest for centuries. It is also a vital economic asset in the form of a hydropower system that provides clean, low-cost electricity to homes and businesses throughout the region.

Energy

The Northwest's energy system remains the cleanest in the nation. Over 70 percent of the region's energy supply, including energy efficiency, is carbon neutral. Hydropower provides about 56 percent the region's electricity generating capacity.

Energy efficiency is currently the region's third largest energy resource, contributing 16 percent to supply. In 2011, according to a survey by the Council's Regional

Technical Forum, the Northwest increased its energy-use efficiency by 280 average megawatts. Expressed as generated power, that would be enough for 189,000 Northwest homes. It was a one-year record achievement, and its average cost was about 1.8 cents per kilowatt-hour, or about half the cost of power from the most efficient natural gas-fired power plant using the least-expensive natural gas currently available.

Coal-fired power plants contribute about 18 percent of the region's power supply, but as the Northwest continues acquiring efficiency in the coming years and more coal-fired power plants are displaced with lower cost natural gas-fired plants, energy efficiency may overtake coal as the region's second-largest resource.

Using natural gas to generate electricity will reduce the region's carbon emissions to levels once thought achievable only through legislation or regulation. For example, both the Boardman and Centralia coal-fired power plants will be retired in 2020 and 2025, respectively, and that almost certainly will open the door to building new resources that emit less carbon.

While the region's economy continues to be hampered by sluggish employment numbers, electricity demand has begun to rebound to pre-recession levels. Most notably, 81 percent of the demand growth in 2010-11 was met

with new energy efficiency resources. The region's pace of acquiring energy efficiency has exceeded the Sixth Power Plan's expectations — by 27 percent in 2011 alone — and if it continues, the region will be closer to reaching the plan's high-end target of 1,400 average megawatts at the end of the five-year action plan period in 2015.

One bright spot in the region's economy, especially for some rural communities, is the construction of data centers. Google, Microsoft, and Facebook all have taken advantage of the region's mild climate and low electricity prices to build facilities in the Northwest. Amazon recently built data centers in Umatilla Electric's service territory, substantially increasing its load.

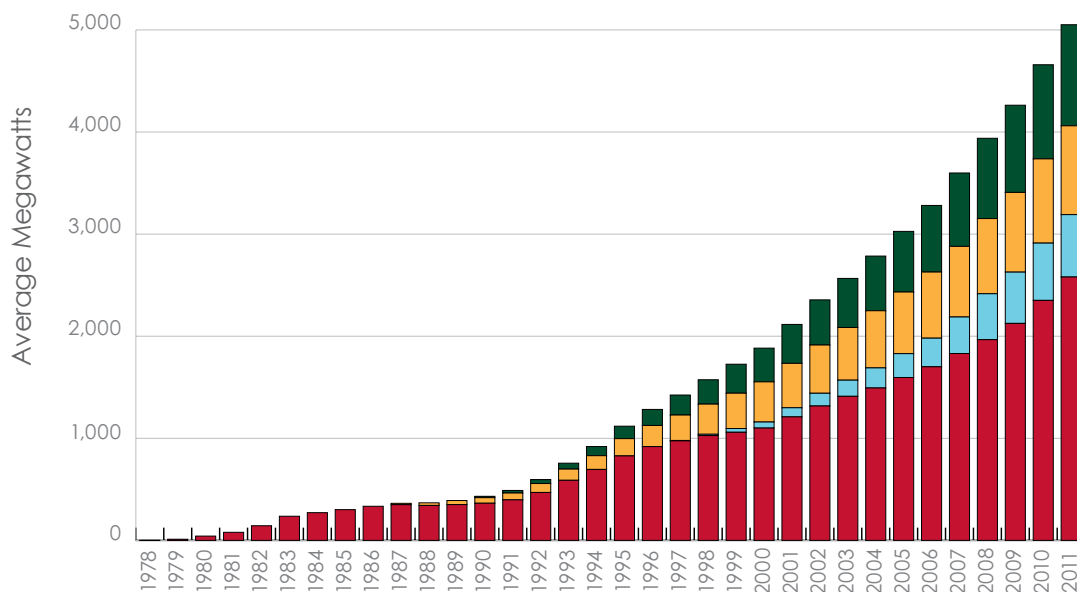
During the last several years, development of wind-

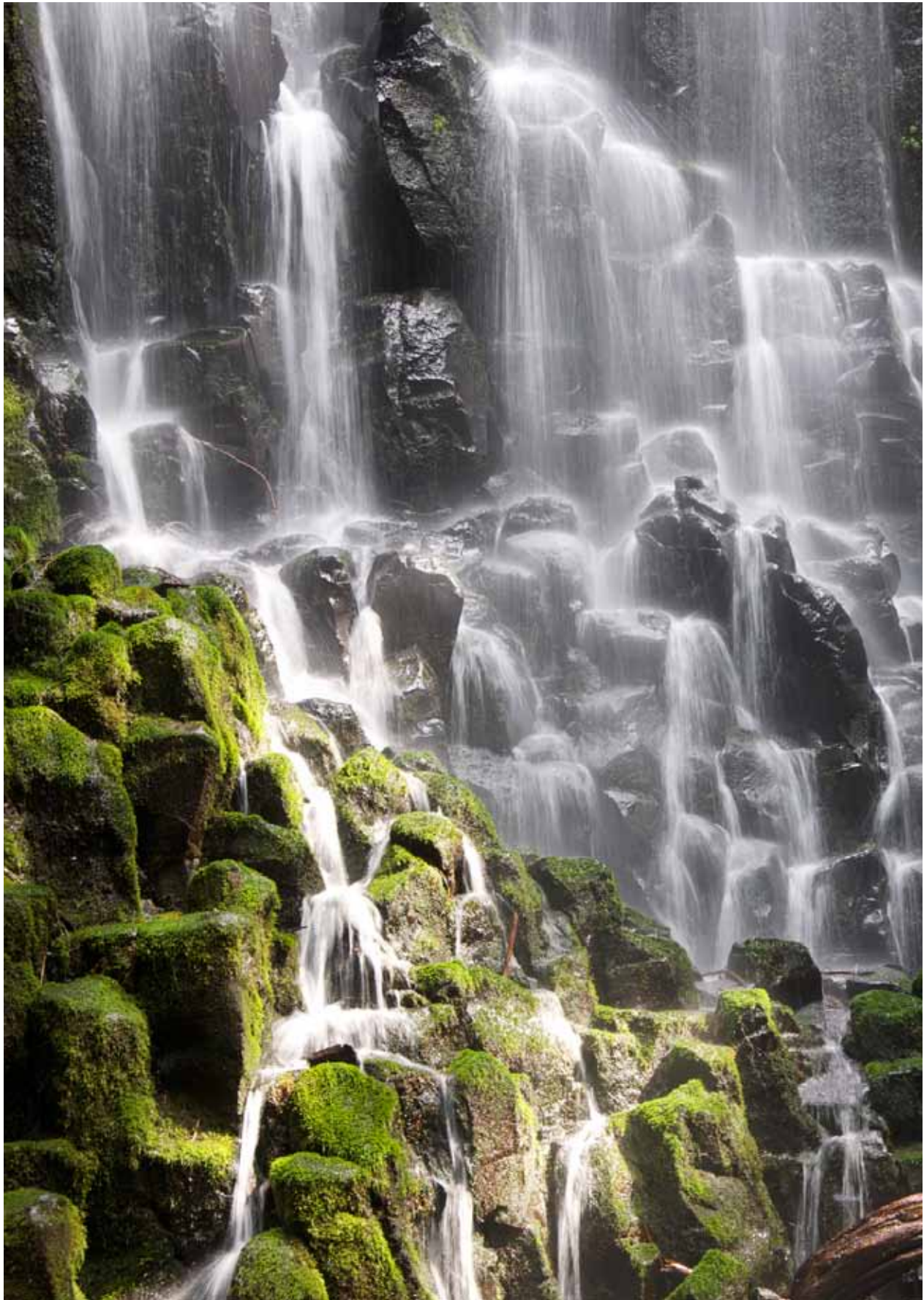
power generating facilities has continued at a rapid pace, with regional capacity expected to reach more than 7,300 megawatts by the end of 2012. Development has been almost entirely due to state-mandated renewable portfolio standards and to a far lesser extent, utility green-marketing programs.

However, the tremendous increase in renewables has not been without some headaches. The Bonneville Power Administration's reserves to balance renewable generation have remained relatively constant even as wind power on the system has increased. Nevertheless, the ability of the hydropower system to provide balancing services varies, and at times it has come close to being tapped out. A second issue is "oversupply." This

Northwest Energy Efficiency Achievements, 1978-2011

■ Federal Standards
 ■ Alliance Programs
 ■ State Codes
 ■ BPA, Utility & SBC Programs





usually happens during very high-flow spring months when the hydropower system must pass prescribed flow levels for flood control, environmental requirements to protect fish constrain spill, and light loads make it impossible to find markets for excess power. When this happens, wind power generation or delivery schedules are reduced to keep the system in balance.

Until recently, a considerable amount of wind power was developed in the Northwest for sale to California to satisfy its renewable portfolio standards. This should change, however, despite the fact that California raised its RPS requirement to 33 percent by 2020. Restrictions imposed by the California legislature in 2011 effectively block further imports from outside to meet its RPS needs.

Fish and wildlife

It was a record year for Columbia River sockeye salmon, which returned from the ocean in numbers greater than ever recorded since fish-counting began in 1938 – more than half a million fish. Most of the sockeye were headed to spawning grounds in Lake Osoyoos on the Okanagan River in southern British Columbia. Otherwise, it was a mixed year for salmon and steelhead returns. Spring Chinook were below average in the upper Columbia River, but above average in the Snake River, and the summer Chinook run was below average. The prediction for fall Chinook, however, was optimistic – 655,000 fish, which would be larger than the 2011 return and 113 percent of the 2002-2011 average.

Many of these fish are among the threatened and endangered species addressed in the federal biological opinion issued by NOAA Fisheries. In late September 2012, the federal agencies released a progress report that said 1,590 miles of new habitat is available to the fish as the result of actions specified in the BiOp. Many of those actions are implemented through projects in the Council's Columbia River Basin Fish and Wildlife Program, financed by BPA. The report also noted that fish-passage survival at mainstem Columbia and Snake river dams is on track to meet performance standards of 96 percent average per-dam survival for juvenile spring Chinook and steelhead and 93 percent for juvenile fall Chinook

because of actions stipulated in the BiOp. Litigation over the BiOp continues in federal court. The agencies are working on a court-ordered revision of the opinion for the years 2014-2018.

A topic of increasing concern to the Council and the four Northwest states is the potential spread of invasive zebra and quagga mussels into the region. Photos of the thick mats of rock-hard freshwater mussels clogging water intakes at Hoover Dam, the outlet of Lake Mead on the Colorado River, vividly illustrate the disaster the region would face if they were to take hold. These dime-sized mussels attach to boats, docks, pilings – virtually any submerged object – and can be transported to other water bodies when watercraft are moved. They can survive outside of water for days and longer in the right conditions.

Diligent state agencies in Idaho, Montana, Oregon, and Washington are inspecting watercraft entering the Northwest from Lake Mead and other mussel-infested waters, including the Great Lakes. But the effort is underfunded and under supported. Collectively, the four states had inspected more than 21,000 watercraft by mid-2012 and intercepted 79 that were infested.

The Council's Independent Economic Analysis Board estimates the potential cost of an infestation would easily be in the tens of millions of dollars annually – and hundreds of millions in total costs to protect lakes and rivers, inspect and decontaminate infested watercraft, and address other impacts.

This risk makes federal funding to boost inspections a high priority for the region. Inaction not only places the hydropower system in danger, but also jeopardizes the significant investments made over the past decades to rebuild and enhance salmon and steelhead stocks in the basin. The Council has alerted the Northwest congressional delegation about the need to increase federal funding for inspection and decontamination stations.

While the state of the Columbia River Basin remains strong, changes in the energy environment and efforts to protect our unique natural resources will require continued diligence by the Council and the citizens of the Northwest to ensure the region an adequate, efficient, economical, and reliable power supply while protecting fish and wildlife populations.



Energy Overview

Council undertakes mid-term review of Sixth Power Plan

In the Action Plan of the Sixth Northwest Power Plan, which the Council adopted in February 2010, Action CONS-16 calls for a mid-term review of regional progress toward the energy efficiency target of 1,200 average megawatts in the first two and a half years — that is, by mid-2012. The review will permit the Council to consider adjustments to its regional energy-efficiency target for the remainder of the period covered by the action plan.

In 2012, the Council invited comments on the Sixth Plan and received recommendations for review regarding a wide range of issues. Many stakeholders requested the Council consider or analyze as part of the Mid-term assessment events that have transpired since the adoption of the Sixth Plan. Others expressed concern about some of the conclusions and analyses in the Plan in light of subsequent events and asked the Council to reconsider or update the Plan as part of the Mid-term assessment. Many stakeholders also requested the Council perform technical analyses of new issues in preparation for the assessment or in preparation for the Seventh Power Plan. The Council will begin work on the Seventh Plan, due in 2015, in 2013.

Among the issues stakeholders asked the Council to consider in the assessment are fuel costs, low natural gas prices, low wholesale electricity prices, the future of the coal-fired power plants in Centralia, Washington, and Boardman, Oregon, carbon taxes (and no carbon tax), the effects of the economic slowdown since 2008, the anticipated pace of energy-efficiency acquisition in the coming years (including codes and standards), and whether it makes sense for the Council to review the Plan every two years instead of the Power Act-required five years.

In response, the Council developed a framework for the assessment, which will occur in the fall of 2012, that includes:

- Review of analyses in the Plan
- Narratives on energy developments since the Council adopted the Plan
- Updates of key forecasts and assumptions
- Evaluation of the resource strategy in the Plan in light of recent developments
- Progress reports on existing regional efforts to address key issues
- Topics that are better addressed in the Seventh Power Plan

Energy Efficiency met most of the new electricity demand in 2010 and 2011

Demand for electricity in the Northwest continued to recover from the recession of 2008, growing slowly but steadily by about 1.2 percent per year over last two years, according to a Council analysis. The analysis also shows that 81 percent of that increased demand — 516 out of 634 average megawatts — was met with improved energy efficiency, reducing the need for power from generating plants.

That means energy efficiency programs run by utilities to pay for measures such as insulation upgrades in homes and buildings, energy-efficient windows, lights, and motors, combined with energy savings from appliance standards and building codes, continue to have an effect on reducing energy consumption in the Northwest, as they have for the last 30 years — and at a cost that is one-third that of electricity from new generating plants. Over that time, the amount of improved energy efficiency in the Northwest equals the electricity demand of four cities the size of Seattle, saving ratepayers literally billions of dollars compared to what they would have spent in the absence of the efficiency improvements, and reducing emissions from power plants by billions of tons.

The slow but ongoing economic recovery is resulting from growth in several sectors, including durable-goods manufacturing, the information-technology industry, health care, and various technical services, according to the analysis. At the same time, growth is being slowed by continuing stagnation in construction, utilities, mining, transportation, and real estate. Also, there is an ongoing shift from energy-intensive industries such as metals manufacturing to industries that use comparatively less energy, such as high-tech manufacturing and data centers for internet service providers.

Regional energy use was about 3 percent lower in 2011 than the pre-recession level of 2008, but has been recovering. Weather plays a role in energy demand —

severe weather in 2008 boosted energy use even as the economy faltered, and mild weather in 2011 probably contributed to a slight decline for the year. The Council's analyses are adjusted for weather impacts.

Council revises regional power system adequacy standard

In 2012, the Council adopted a new standard for assessing the adequacy of the Northwest power supply. The revised standard is simpler and more informative than its predecessor, featuring a single annual measurement of adequacy based on the probability of load loss as opposed to the previous three separate measurements. As part of its annual assessment of power system adequacy, the Council will include a “state of the system” report that addresses potential adequacy issues.

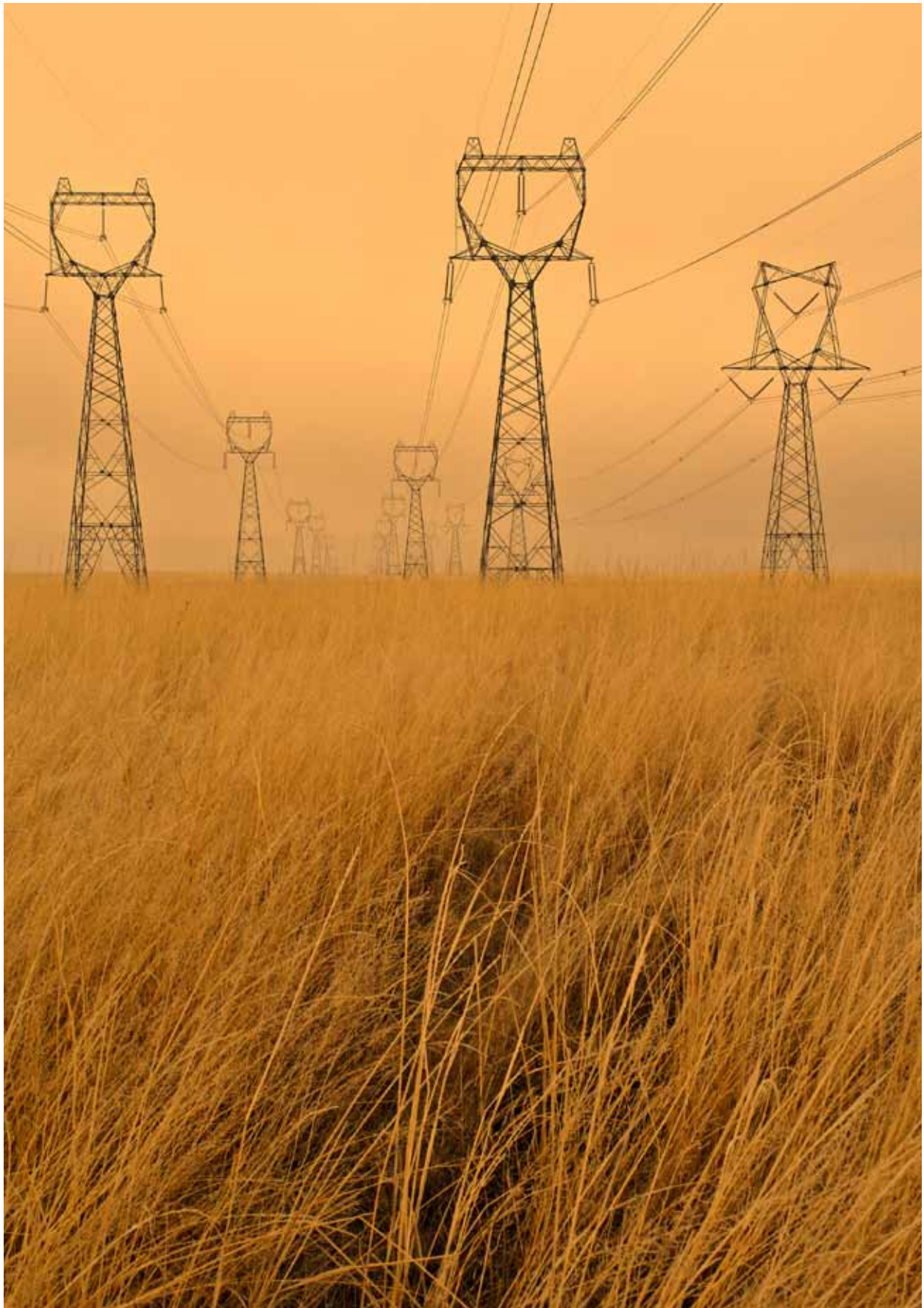
The metric in the standard is a 5-percent loss-of-load probability. According to the Council's power-planning staff, this means “... the likelihood of a future year having at least one unwanted event must be 5 percent or less for the power supply to be adequate.”

The Council developed the standard following the western energy crisis of 2000-2001, when the region was caught napping in terms of power plant development by a dramatic decrease in annual precipitation and the resulting drop in hydropower generation. The Council intends the adequacy standard as a kind of traffic light to warn when it appears that demand is approaching the limits of power generation. The standard provides information and has no enforcement authority.

Regional Technical Forum boosts work load, adds staff

The Regional Technical Forum (RTF) is an advisory committee established by the Council in 1999 to develop standards to verify and evaluate energy efficiency savings.





The 30 voting members are appointed by the Council and include individuals experienced in energy efficiency program planning, implementation and evaluation.

In 2012, the RTF boosted its work load, brought on new staff, and secured a three-year funding agreement. Additionally, it has made great strides towards maintaining consistency, credibility, and transparency with the way it goes about estimating energy efficiency measure savings. In 2012 the RTF also:

- Developed operative guidelines for estimating energy savings
- Created a policy advisory committee
- Secured a three-year funding agreement with Bonneville for \$1.5 million per year through 2014
- Drafted bylaws and made revisions to the RTF charter

RTF products developed to date include:

- A website of all functions (<http://www.nwcouncil.org/energy/rtf/Default.htm>)
- A library of 90 Unit Energy Savings (UES) measures (55 residential, 25 commercial, 10 agriculture/industrial/other)
- A library of protocols for savings methodologies
- Guidelines for how the RTF does its work
- Calculators, software, and tools for calculating savings and compiling savings data including individual utility annual reports

Council sees no cost benefit in switching fuels for residential space and water heating

According to an analysis by the Council's Power Planning Division, most households in the Northwest would see no cost benefit in switching from natural gas to electricity or from electricity to gas for space and water heating. The February 2012 analysis, *Direct Use*

of Natural Gas: Economic Fuel Choices from the Regional Power System and Consumer's Perspective, is posted on the Council's website (www.nwcouncil.org/library/report.asp?d=654).

According to the analysis, the existing mix of fuels – primarily natural gas and electricity – closely resembles the mix that the Council's least-cost energy system models found to be optimal – that is, most cost-effective. Two existing technologies are no longer cost-effective, however, according to the report: electric-resistance water heaters and electric forced-air furnaces. It would be cost-effective to replace those devices, but there was no energy-efficiency preference between gas and electricity as long as the replacement appliances meet current codes.

The Council long has considered the role of natural gas versus electricity for space and water heating. The current Council policy, reflected in the Sixth Northwest Power Plan, is to recognize that there are applications in which it is more energy efficient to use natural gas directly than to generate electricity from natural gas and then use the electricity in the end-use application. In the Sixth Plan, the Council committed to look at the issue again in the Seventh Power Plan (expected in 2015).

Data center power demand is increasing in the Northwest

The amount of electricity used by the big computer data centers that store Facebook posts and help people search the Internet with Google or utilize Apple's "cloud" storage is growing steadily in the Northwest and could rival the power use of the region's once-vibrant aluminum industry within 20 years — unless anticipated energy efficiency moderates that demand, according to a Council analysis.

The Council's Northwest Power Plan, last revised in 2010, estimates the demand from these so-called custom data centers in the Northwest at about 355 average megawatts in 2012, or enough power for about 239,000 Northwest homes. The plan predicts power demand could increase by about 7 percent per year over the 20-

year horizon of the plan but also that improved energy efficiency could cut demand growth to about 3 percent per year.

If the efficiencies are realized, the centers likely will consume about 1,400 average megawatts by 2030, the end of the Council's current 20-year planning horizon. However, if the efficiencies are not achieved, the power demand could balloon to nearly 2,500 average megawatts, an amount that would rival the electricity consumption of the region's aluminum industry at its peak in the 1980s. To better understand trends and potential demand in the region, the Council's staff is working with the Pacific Northwest Utilities Conference Committee to encourage the region's utilities to track demand from data centers in their service territories.

Factors contributing to the growing electricity demand of data centers include the increasing use of mobile devices such as smart phones and tablet computers, increasing consumer demand to store and view photos and video, increasing use of remote ("cloud") data storage, and legal requirements for long-term storage of financial information including electronic records such as email. Opportunities for improved energy efficiency include improved energy management, such as shifting workloads among data centers around the world throughout the day (called "following the moon" in the industry), optimizing power delivery, and reducing power-intensive air conditioning in favor of cooling the computers with outside air or evaporative coolers.

The Northwest has several advantages for data centers: low-cost power and a mild climate, which are important

for powering and cooling computer equipment, and state tax incentives to locate here.

Interest in plug-in cars is growing, and so is their power use

The Council is revising upward its estimate of how much power plug-in electric vehicles will use in the future, in light of anticipated consumer response to high gasoline prices and technological advances that allow plug-in electric vehicles to travel increasingly farther before recharging.

In a 2012 analysis, the Council increased its forecast of regional electricity use by electric vehicles over the next 25 years from 100-550 average megawatts to 130-580 average megawatts, an increase of 30 percent on the low end and 5.4 percent on the high end. The impact of plug-in vehicles on the regional electricity supply is an issue the Council explores in its power plan.

The Council continues to believe the advent of plug-in vehicles will not require new power plants to be built, despite the increased power demand they will cause. That is because 1) a number of new federal standards for electric appliances and equipment will reduce demand overall as the standards are implemented over the next several years, and 2) experience shows recharging mainly occurs overnight when power demand is low.

The revised forecast of future electric-vehicle power demand reflects three years' of new information about plug-in vehicles including 1) decreased battery efficiency

during cold winter weather; 2) increased annual power demand over time to reflect interstate travel as vehicle travel distances increase; 3) increased consumer interest in electric cars when gasoline prices are high, and decreased interest when prices are low; 4) better understanding of why people buy these cars and how long they might keep them; and 5) energy use per vehicle.

The Council's 2009 Power Plan assumed that by 2011 there would be 2,000-8,000 new plug-in electric vehicles in the Northwest. In fact, the actual number was about 2,000.

But interest is growing. Northwest sales increased dramatically in 2012 compared to 2011, perhaps in response to erratic gasoline prices. The Council assumes plug-in vehicles will represent 10-40 percent of the new-vehicle market in the Northwest by 2030.

Columbia River Treaty developments

In 2012, the public review of the future of Columbia River dam operations under a treaty with Canada entered its third year. The Columbia River Treaty of 1964 has no expiration date, but it can be modified or terminated by either country with 10 years' notice. With the first opportunity for 10-year notice in September 2014, both countries are studying future alternatives from leaving the Treaty intact to abandoning it in favor of a new one. Modifications of the existing Treaty also are under consideration.

The existing Treaty only addresses flood control and power generation, and there is interest among fish and wildlife agencies, Indian tribes, and others in adding other river uses – such as flows for salmon and steelhead migration – to a new or revised Treaty. Changes in flood control rules in the Treaty would change dam operations and affect how much power can be generated through the year and also alter fish flows, possibly meaning less water in the late spring and summer when juvenile fish are migrating downstream to the estuary and ocean.

Studies of future operating scenarios prepared by Bonneville and the U.S. Army Corps of Engineers, which together represent the United States regarding the treaty, are available on the 2014-2024 Columbia River Treaty Review website, www.crt2014-2024review.gov. Bonneville and the Corps of Engineers plan to make a recommendation on the future of the treaty by September 2013.



Fish & Wildlife Overview



Council supports efforts to slow the spread of invasive zebra and quagga mussels

One look at photos of the thick mats of rock-hard freshwater mussels clogging water intakes at Hoover Dam, the outlet of Lake Mead on the Colorado River, should be enough to convince anyone that it will be a nightmare if these prolific invasive species take hold in the Northwest, where more than half of the region's electricity is generated at hydropower dams.

Dime-size zebra and quagga mussels attach to boats, docks, pilings — virtually any submerged object — and can be transported to other water bodies when watercraft are moved. They can survive out of water for days and longer in the right conditions.

Diligent state agencies in Washington, Idaho, Oregon, and Montana are inspecting watercraft entering the Northwest from Lake Mead and other mussel-infested water bodies, including the Great Lakes, but the effort is underfunded and under-supported. Collectively, the four states had inspected more than 21,000 watercraft by mid-2012 and intercepted 79 that were infested.

The Council's Independent Economic Advisory Board estimates that the potential cost of controlling an infestation and cleaning hydropower and fish-passage facilities if the mussels take hold in the Northwest would easily be in the tens of millions of dollars per year — and hundreds of millions in total costs to protect lakes and rivers, inspect and decontaminate infested watercraft, and address other impacts.

The risk makes federal funding to boost inspections a high priority for the region. Inaction not only risks the integrity of the hydropower system but also the significant investments made over the past decades to rebuild and enhance both ESA-listed and unlisted salmon and steelhead stocks in the Columbia River Basin. The Council is working with the Northwest Congressional delegation to increase federal funding to the states to increase the number of inspection and decontamination stations.

Bonneville's fish and wildlife costs and expenditures totaled \$650 million in 2011

The Council reports annually to the Northwest Governors on costs of the Bonneville Power Administration associated with its obligation to mitigate the impacts of hydroelectric dams in the Columbia River Basin by funding projects that implement the Council's Columbia River Basin Fish and Wildlife Program. Because of the Power-Act-required deadline for submitting this report to Congress we are not able to include the current-year fish and wildlife costs. Instead, the report includes a brief review of the previous year's costs as reported to the Governors.

In Fiscal Year 2011, Bonneville reported fish and wildlife costs of approximately \$650 million, as follows:

- \$221.1 million in direct costs
- \$69.8 million in direct funding for costs incurred by the Corps of Engineers, Bureau of Reclamation, and U.S. Fish and Wildlife Service for investments in fish passage and fish production, including direct

funding of operations and maintenance expenses of federal fish hatcheries

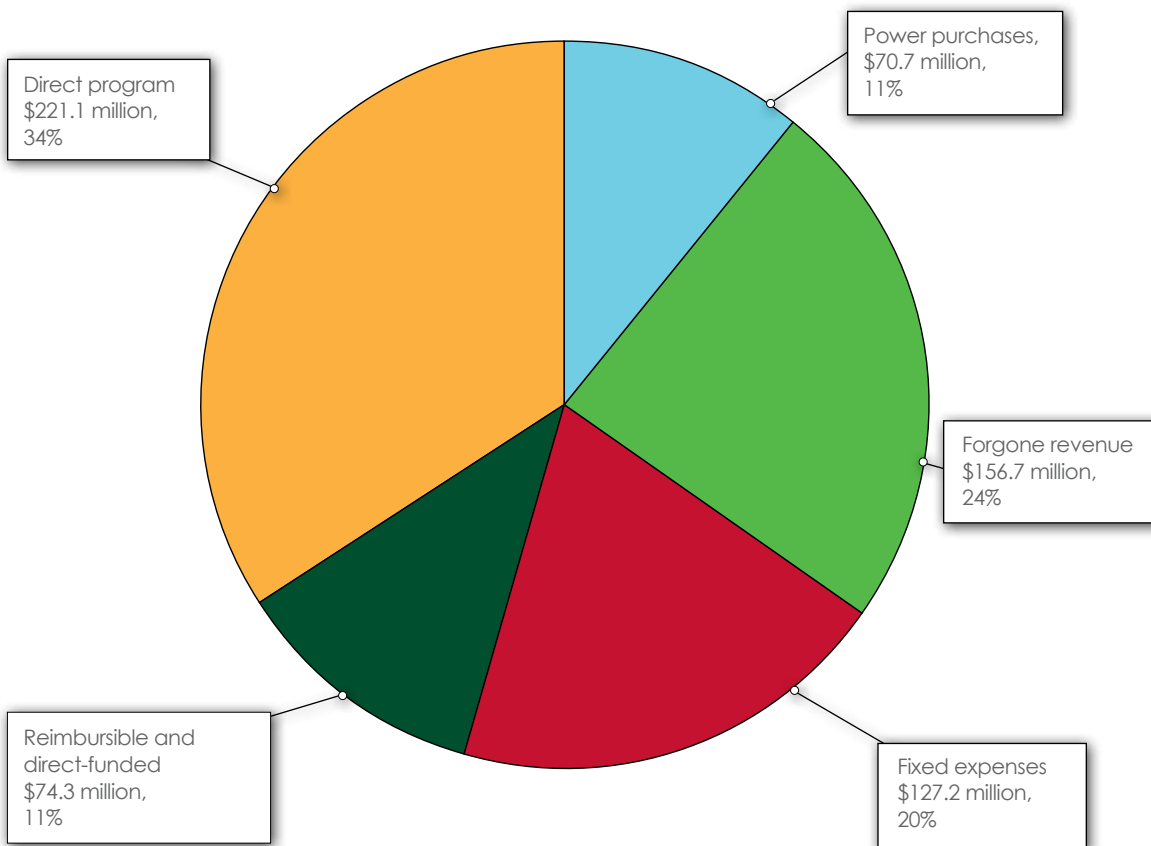
- \$4.5 million, which is one half of the annual budget of the Northwest Power and Conservation Council (Bonneville allocates the other half to its Power Business Line budget)
- \$127.2 million in fixed costs (interest, amortization, and depreciation) of capital investments for facilities such as hatcheries, fish-passage facilities at dams, and some land purchases for fish and wildlife habitat
- \$156.7 million in forgone hydropower sales revenue that results from dam operations that benefit fish but reduce hydropower generation
- \$70.7 million in power purchases during periods when dam operations to protect migrating fish reduce hydropower generation, such as by spilling water over dams in the spring or storing it behind dams in winter months in anticipation of required spring spills

The \$650 million total does not include annual capital investments in 2011 totaling \$90.2 million for program-related projects, and \$103 million for associated federal projects, a budget category that includes capital investments at dams operated by the Corps of Engineers and Bureau of Reclamation. Including capital investments in the same total as fixed costs would double-count the effect of the capital investment because depreciation and interest costs are already included.

The total also does not reflect a credit of \$85.3 million from the federal Treasury related to fish and wildlife costs in 2011. Bonneville receives the annual credit under Section 4(h)(10)(C) of the Northwest Power Act. The credit is applied to the annual payment Bonneville makes to the Treasury and reduces the impact of fish and wildlife costs on rates. The credit reimburses Bonneville for costs it has paid for non-power-related impacts on fish and wildlife attributable to the multipurpose federal dams. Effectively, with the credit, Bonneville's fish and wildlife costs were \$564.7 million in Fiscal Year 2011.

Fish and Wildlife Expenditures 2011

Total: \$650 million does not reflect \$194 million in obligations to capital projects or \$85.3 million in credits



Source: Bonneville Power Administration

Bonneville's direct spending on the Council's program—\$221.1 million—accounted for 34 percent of the total costs Bonneville attributed to fish and wildlife of \$649.9 million in 2011. Fish and wildlife costs are one component of Bonneville's Power Business Line costs, which totaled \$2,601,760,000 in the fiscal year. The direct-program costs accounted for 8.4 percent of that amount. The total program-related costs,

including forgone revenue and power purchases (\$649.9 million) were 24.9 percent of the total power costs in 2011 (\$2.601 billion). Fish and wildlife costs account for a major portion of the rate Bonneville charges its wholesale power customers. Approximately one-third of Bonneville's wholesale rate of \$30 per megawatt hour is attributed to its fish and wildlife program.¹

1) The revenue requirement – the amount to be collected in rates during the rate period – is calculated based on estimates of future costs and revenues including, for example, secondary power sales, prices for electricity and natural gas, the 4h10c federal credit, and water conditions that affect hydropower generation. The percentage of the revenue requirement collected in rates and associated with the Fish and Wildlife Program is relatively higher than the percentage of Power Business Line expenses associated with the Program because the amount of the revenue requirement that the rate needs to cover in any year is reduced by secondary power sales revenues, which are also generally lower because of hydropower operations for fish.

Council recommends two new salmon hatcheries in Idaho

In 2012 the Council recommended construction of two new hatcheries in Idaho, one to boost production of Snake River sockeye salmon, an endangered species, and the other to produce spring Chinook salmon and Yellowstone cutthroat trout for the Shoshone-Bannock Tribes of the Fort Hall Reservation.

The \$13.5 million sockeye hatchery will be built near the southeastern Idaho city of Springfield and will be funded by Bonneville as part of its obligation to mitigate the impact of hydropower dams on fish and wildlife.

The new fish-production facility builds on the success to date in restoring sockeye salmon to Idaho. It's an important step for Idaho and the Northwest, as the recovery effort shows how a species on the brink of extinction can be restored through the dedication and collaboration of state, federal, and tribal scientists and policy-makers.

When completed in 2013, the new facility will be operated by the Idaho Department of Fish and Game (IDFG) and will be capable of producing up to 1 million juvenile sockeye annually for release in the Sawtooth Basin of central Idaho, the headwaters of the Salmon River.

The \$9.9 million Crystal Springs Hatchery will be built with Bonneville funding and sponsored by the Shoshone-Bannock Tribes. The new hatchery, also located near Springfield, Idaho, will boost fish production to help restore traditional ceremonial and subsistence fisheries for the tribes in the Yankee Fork and Panther Creek tributaries of the Salmon River. The harvest objective for the hatchery is to provide, on average, a minimum of approximately 1,000 adult spring/summer Chinook salmon in the Yankee Fork and 800 adult spring Chinook salmon in Panther Creek for harvest by the Shoshone-Bannock Tribes. In addition, the hatchery will be used to raise 5,000 catchable Yellowstone cutthroat trout for an isolated lake on the tribes' Fort Hall Reservation in southeastern Idaho.

Resident fish, data management, and regional coordination projects review

In September 2011, the Council began a review of resident fish, data management, and regional coordination projects that implement the Council's Columbia River Basin Fish and Wildlife Program. The Council periodically reviews projects that implement the program, and the Fiscal Year 2012 review of these projects was the first since 2009.

Project proposals submitted by sponsors were reviewed by the Council's Independent Scientific Review Panel (ISRP) as required by Section 4(h)(10)(D) of the Northwest Power Act. The ISRP completed its preliminary review in February 2012, concluding that 24 of the project proposals met the scientific-review criteria in the Power Act in whole or in part, or with qualifications. The remaining 56 proposals required further information from sponsors before the ISRP could conclude its review. The ISRP asked for responses by March 17, 2012, reviewed those responses and then submitted its final review to the Council on April 4, 2012. The Council completed its review of the projects in July and forwarded its recommendations to Bonneville.

Nearly all of the 80 recommended projects currently are under way. Bonneville set aside a total of \$49 million for the projects; budgets will be determined between Bonneville and each project sponsor.

Geographic area project reviews begin in the fall of 2012

In 2012, the Council completed reviews of projects that implement the Columbia River Basin Fish and Wildlife Program in the categories of wildlife, research, monitoring and evaluation (including mainstem and systemwide projects), artificial production, resident fish, data management, and regional coordination. Remaining projects to be reviewed are habitat projects in the anadromous-fish areas of the basin including the following



ecological provinces: Blue Mountain, Mountain Snake, Columbia Cascade, Columbia Plateau, Columbia Gorge, Lower Columbia, and Estuary.

The review, which will include more than 100 projects, is scheduled to begin late in 2012.

Independent Scientific Review Panel's 2011 Retrospective Report

The Council's Independent Scientific Review Panel (ISRP) annually summarizes the accomplishments of fish and wildlife projects that implement the Council's Columbia River Basin Fish and Wildlife Program. The ISRP report for 2011, issued in December and posted on the Council's website, summarized approximately 150 projects and also the status of major basinwide programmatic issues in three key areas: 1) artificial production, 2) fish passage through mainstem Columbia and Snake river reservoirs and dams; and 3) monitoring of fish and wildlife habitat-restoration projects.

Here is a synopsis of the key findings of the summary:

- Monitoring and evaluation of projects has improved, but program effectiveness remains difficult to assess because there has not been a comprehensive analysis of whether and to what extent biological objectives for hatchery and habitat efforts are being achieved.
- Management strategies for implementing fish and wildlife projects should be evaluated and a structured decision-making approach devised that combines information about habitat, hatchery operations, fish-passage, and life histories – how well each successive generation of fish fares from freshwater habitat as juveniles to the ocean and back to spawn as adult fish.
- Although hatchery production has contributed to more adult fish, and in recent years harvest opportunities have increased, with some exceptions supplementation experiments generally have not demonstrated improvement in the abundance of natural-origin salmon and steelhead.
- Major biological improvements in fish populations

have not been measured as a result of habitat restoration.

- Although fish-passage issues may seem largely addressed, several topic areas remain of concern, including contaminants, altered life histories such as mini-jacks, and competition and predation from non-native species.

Regarding supplementation, the ISRP commented “there is an absence of empirical evidence from the ongoing projects to assign a conservation benefit to supplementation other than preventing extinction.” However, while the panel considers supplementation “only a life-support system,” the panel also noted that supplementation “might maintain an important genetic lineage that otherwise would be lost,” such as for endangered Snake River sockeye.

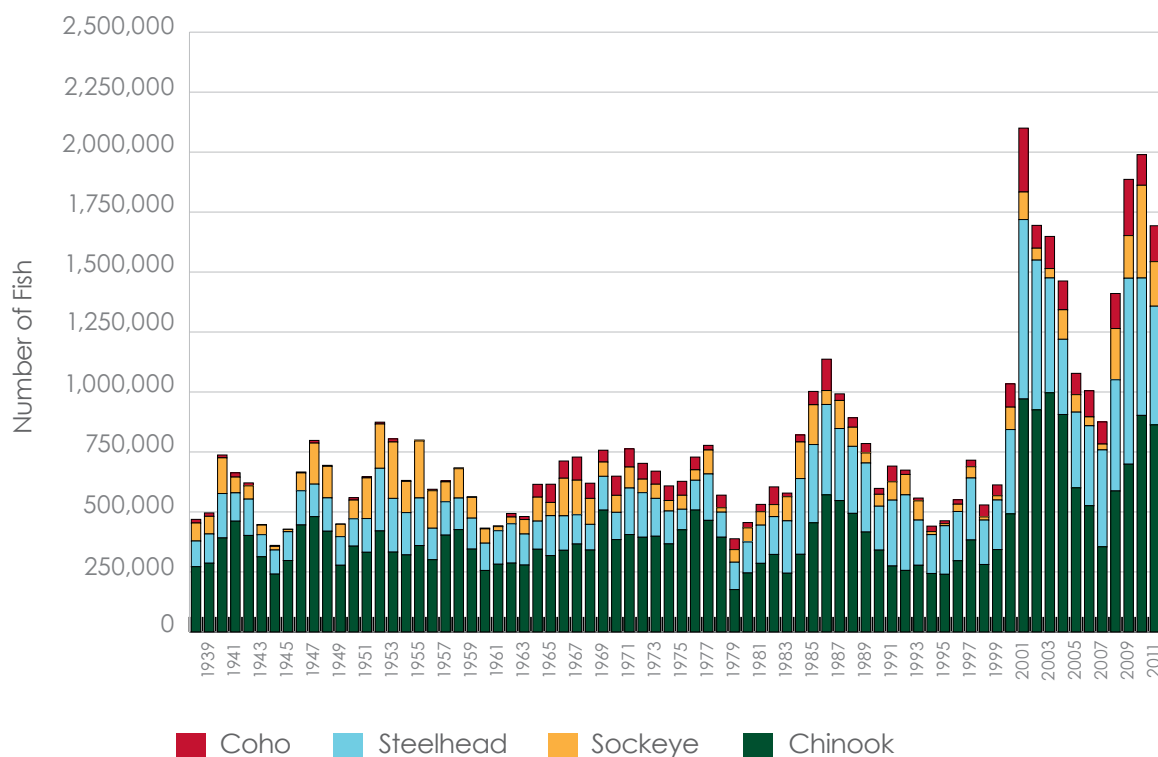
Over the long term, however, the panel believes the hatchery influence will cause genetic changes in supplemented fish that will offset the benefits because the reproductive success of hatchery-origin fish is lower than that of natural-origin fish. The ISRP recommended a review and summary of supplementation practices and the success of hatchery-origin fish after they are released into the wild. In response to the ISAB report, the Council invited panels of fish-productions experts from state and federal fish and wildlife agencies, and Indian tribes, to present their views on supplementation. Their information, and the ISAB report, will be useful to the Council during the next revision of the Fish and Wildlife Program.

Preparation for the next Fish and Wildlife Program amendment

The Council's current Columbia River Basin Fish and Wildlife Program dates to 2009. The Northwest Power Act requires the Council to review the Northwest Power Plan, of which the Fish and Wildlife Program is a component, at least every five years, beginning with the program.

In 2012, the Council began identifying issues and gathering information in preparation for a formal call

Salmon and Steelhead Passing Bonneville Dam, 1938-2011



for recommendations to amend the program, which will be issued in the form of a legal notice and will initiate the statutory one-year timeframe to complete the amendment. The Council anticipates issuing the request for recommendations to amend the Program in early 2013.

Among the key issues to address in the next Program, identified by the Council at the time this draft annual report was released for public comment in September 2012, were:

- Supplementation, or the use of hatchery-bred fish to rebuild naturally spawning populations
- Predation on juvenile salmon and steelhead by fish-eating birds including gulls, Caspian terns, and double-crested cormorants, and predation by marine mammals, primarily sea lions, on adult

salmon, steelhead, and juvenile sturgeon (the Council planned to host a regional workshop on predation in August 2012, focused on improving understanding of the role of predation and predator-control actions in the Columbia River Basin, effects on the ecosystem, and the scope of predation issues in the basin.)

- Habitat preservation and restoration activities
- The creation and adoption of Biological Objectives for the Program
- Continuing to develop a research plan and monitoring and evaluation strategy for projects implemented through the Program
- Updating the digital mapping of areas protected by the Program from new hydroelectric dams

Fish Tagging Forum begins work in 2012

In 2012 the Council initiated the Fish Tagging Forum, a panel of experts that will address costs, efficiencies and gaps for all fish tagging efforts that take place under the Council's Fish and Wildlife Program, including expense, capital and reimbursable programs.

The idea for the tagging forum came from the Council's 2010 and 2011 review of all research, monitoring, evaluation, and artificial production projects. The Council's Fish and Wildlife Committee asked the staff to develop a charter for a facilitated workgroup. The workgroup will respond to recommendations in a joint report by the Council's Independent Scientific Advisory Board and Independent Scientific Review Panel in 2009 to review fish-tagging technologies and programs, including cost effectiveness and the program effectiveness of tagging. The Forum will consider the following types of tagging technologies: coded wire, PIT, radio, acoustic telemetry, data-storage, genetic, otolith thermal marks, and natural marks.

The Forum is scheduled to complete its work and report to the Council in July 2013.

Council assesses ocean research projects

In 2012, the Council recommended continuing two ocean research projects, one being undertaken by NOAA Fisheries and the other by Canada's federal fisheries agency, the Department of Fisheries and Oceans. The recommendation was to continue funding the projects at a level that will maintain project integrity while the Council, Bonneville Power Administration, and others work to redefine the scope of ocean research funded through the Fish and Wildlife Program.

The Council's goal is to derive more benefit from ocean research for fish affected by the Federal Columbia River Power System dams by 1) improving the linkages to potential management applications associated with hatcheries, habitat, hydropower operations, and essential survival calculations; 2) emphasizing research related to the Columbia River plume, the near-shore ocean and estuary

areas; 3) exploring the feasibility of collecting information on other species of concern; and 4) contributing to the development and tracking of high-level indicators adopted by the Council and achieving the objectives of the Fish and Wildlife Program.

The Council planned to finish the assessment of ocean research projects by the end of 2012.

Council completes draft high-level indicators report

In 2012, the Council completed a draft report on high-level indicators of fish and wildlife recovery progress. So far, the Council has adopted three high-level indicators. The purpose of the indicators is to track progress of fish and wildlife efforts in the Columbia River Basin. The indicators also provide information regarding the effectiveness of the Fish and Wildlife Program for this annual report, as required by Section 4(h)(12)(A) of the Power Act. The report is posted on the Council's website at this location: www.nwccouncil.org/hli.

Expressed as questions, the indicators are:

1. Are Columbia River Basin fish species abundant, diverse, productive, spatially distributed, and sustainable?
2. Are operations of the mainstem Columbia and Snake River hydropower dams meeting the fish-passage survival objectives of the Program?
3. What is being accomplished by projects that implement the Council's Fish and Wildlife Program?

In adopting high-level indicators, the Council recognized that the collective efforts of many entities, including the Council, contribute to improving habitat and fish migration while protecting and enhancing fish and wildlife. The indicators do not comprise a performance measure for any single entity but instead provide a high-level overview of outcomes that reflect regional progress.

The compilation of data for the indicators and the Council's reporting is a work in progress. The three initial indicators are based on available data and do not include a comprehensive set of indicators or

species. But over time it is expected that the Council will augment and refine these indicators to provide a more comprehensive picture of fish and wildlife in the Columbia River Basin. The indicators will include biological, implementation, and management benchmarks and are considered an aspect of the Council's monitoring, evaluation, research, and reporting framework for the Fish and Wildlife Program. The framework identifies high-level indicators as an important means of reporting the status of natural resources in the basin.

Marine mammal and avian predation

NOAA Fisheries reconvened its task force on sea lions to make new recommendations about how to reduce predation by the marine mammals on salmon, steelhead, and sturgeon, including threatened and endangered species. New research by NOAA suggests sea lions

may be killing as many as 13 percent of the spring Chinook run. In March 2012 NOAA Fisheries renewed its authorization for Oregon and Washington to kill California sea lions – up to 92 animals, four more than a similar authorization in 2008. The Humane Society appealed the new approval, and in response a federal court limited the number of sea lions that could be killed to 30 and also said they could not be shot. The Humane Society announced it would continue its legal challenge to lethal removal of any kind.

Avian predators also continue to take a toll on salmon and steelhead, setting a new annual record in calendar year 2011. Birds nesting on East Sand Island near the mouth of the river consumed an estimated 27 million juvenile salmon and steelhead, approximately twice as many as were consumed just two years before. Researchers are experimenting with techniques to dissuade the birds from nesting, including erecting a privacy fence and walking through the East Sand Island colony when the birds were trying to build nests.



Public Affairs Overview

The Northwest Power Act directs the Council to provide for the participation and consultation of the Pacific Northwest states, tribes, local governments, consumers, customers, users of the Columbia River System, and the public at large in developing regional plans and programs related to energy efficiency, renewable energy resources, other energy resources, and protecting, mitigating, and enhancing fish and wildlife resources. The Council's Public Affairs Division has the primary responsibility to implement this portion of the Act.

The Division uses a variety of communication tools to perform its mission, including printed and electronic publications, the Council's website, social media platforms, video, public meetings, and press releases.

The Council's website, www.nwcouncil.org, functions as the hub of its outreach efforts and public information strategy. The website contains myriad documents, publications, data bases, and other forms of information. Included on the site are the current versions of the Northwest Power Plan (www.nwcouncil.org/energy/powerplan/6/default.htm) and the Columbia River Basin Fish and Wildlife Program (www.nwcouncil.org/library/2009/2009-09/Default.asp), as well as news stories, press releases, Council white papers, official public comment on Council products, PowerPoint presentations, videos, Council newsletters, and links to the Council's social media platforms. In 2012, the Council is undertaking a major revision of the website that should be done before the end of the year.

Social media are used increasingly by the Council to communicate with the public. These include Facebook (www.facebook.com/nwcouncil), Twitter (@nwcouncil), and the Council's blog, which is posted to our Facebook page and the Council website.

With regard to regular Council publications, the division continues to write and produce four editions of the *Council Quarterly* every year (www.nwcouncil.org/library/cq/default.asp). We also produce and distribute a monthly electronic email newsletter, the Council Spotlight (www.nwcouncil.org/news/enews/current.asp), which reports on the highlights of each monthly Council meeting.

Other publications that were published over the past year include a revision of the Council's *Pocket Guide*, intended as a quick summary of information about the Columbia River Basin; a revision of the *Council Briefing Book*, which provides background on the Council and the Northwest Power Act; this annual report to Congress; the Council's annual report to the Governors on Bonneville's costs associated with the Columbia River Basin Fish and Wildlife Program; an update on energy efficiency accomplishments in the Northwest since the Power Act; and additions to the website including a page that focuses on the international aspects of the Columbia River Basin.

The Public Affairs Division also has the responsibility of advancing the Council's mission and accomplishments with members of Congress and their staffs. In August 2012 the Council conducted its annual congressional staff trip, this time to central Washington with a focus on salmon and steelhead; fish production; harvest, and habitat issues; and wind power.

Canadian Relations

The Columbia River and several of its major tributaries begin in Canada and flow across the international border. Consistent with direction in the Northwest Power Act to treat the entire Columbia River as one system for planning purposes, the Council maintains regular contact with planning entities in British

Columbia. This contact primarily is through the Public Affairs and Legal divisions.

The Columbia Basin Trust (CBT), a Crown corporation of the province, is the Council's closest counterpart agency in the Canadian portion of the Columbia River Basin. Since 1996, Council members and staff have met at least annually with the Trust. In 2000, the two agencies formalized their relationship and designated the vice-chairs as official liaisons. The Trust and Council exchange visits once or twice a year to discuss Columbia River issues of mutual interest.

In 2011, the Council and CBT renewed the 2000 memorandum of understanding and worked on the following projects: 1) developing a data-sharing and general information website about the international aspects of the Columbia River Basin, including information about the Columbia River Treaty (<http://www.nwcouncil.org/intlcolumbiariver/>); 2) contracting with the Climate Impacts Group at the University of Washington to develop a report that synthesizes the conclusions of studies done in Canada and the United States on potential hydrologic changes due to climate change in the Columbia River Basin; 3) co-funding a project with a direct payment from the Trust and money provided to Montana Fish, Wildlife & Parks through the Fish and Wildlife Program to assess the health and spawning habits of burbot in Lake Koocanusa, a transboundary species; 4) beginning work with other partners on a Columbia River transboundary ecosystem management conference to be convened in the spring of 2014; and 5) collaborating with the Universities Consortium on Columbia River Governance on the fourth international symposium on the future of the Columbia River Treaty, scheduled in October in Polson, Montana.



Selected news articles that mention the Council

Conserve, baby, conserve

Nation's energy policy should focus on saving it

Energy policy has been a second-tier issue in the presidential campaign, with Mitt Romney arguing that the nation can create jobs and move toward self-reliance by increasing domestic production and Barack Obama defending investments in renewables and pointing to rising U.S. output of fossil fuels. Both candidates should pay more attention to the largest, least expensive and cleanest source of energy available to Americans: conservation.

Conservation should be at the top of the agenda for expanding the nation's energy portfolio. The benefits of assigning a high priority to conservation are clearly demonstrated in the Northwest. The Pacific Northwest Electric Power and Conservation Planning Council released a set of statistics this month that highlight the scale of the potential gains.

During the 33 years of the Power Council's existence the Northwest has achieved more than 5,000 megawatts in savings through conservation and efficiency. That's three times as much energy as is produced by the Grand Coulee Dam, and more than is generated by the region's five biggest

governments are able to spend that money on other things, resulting in a substantial economic benefit. At the same time, conservation reduces regional carbon dioxide emissions by 10.8 million tons a year.

Saving a megawatt-hour of electricity costs less than \$20, according to the council, compared to more than \$30 for electricity generated by the most efficient turbine powered by lowest-cost natural gas. If the turbines are less efficient and gas prices are higher, the cost advantage of conservation widens. The wholesale cost of electricity is volatile, rarely dipping below \$20 per megawatt-hour and sometimes soaring to five times that much, while the cost of conserving a megawatt-hour of electricity has remained below \$20 for a quarter-century.

The federal government has acted to encourage conservation through energy efficiency standards for lighting, appliances and other means. State governments have done the same through building codes. But in the Northwest, two-thirds of conservation savings have resulted from efforts by the Bonneville Power Administration or the region's utilities. This suggests

an opportunity for a country that is a government's policy. The North-term commitment to a future would energy policy Northwest has set, lowest-cost source. Romney would prominence it remains over y policy would t.

Some people are just hard to convince

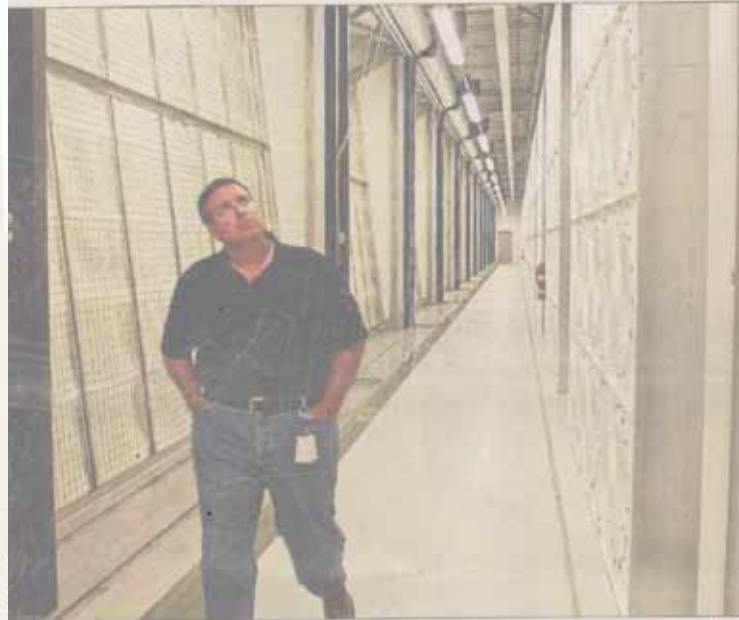
for running up a \$540,400 bill defending the discrimination and wrongful termination lawsuit filed by Pam Lowe, who was fired as head of the Idaho Transportation Department. Both sides said they had reached a settlement in the three-year legal fight. Lowe alleged her 2009 firing was a power play to help the governor and his big campaign donors. She also claimed gender discrimination.

THUMBS UP: To the Northwest Power and Conservation Council, Northwest states and Columbia River treaty tribes for bringing to fruition the long-planned sockeye salmon hatchery at Springfield near American Falls. "This is an important step for our state and for the Northwest, as we are showing how a species on the brink of extinction can be restored through the dedication and collaboration of state, federal and tribal scientists and policymakers," said Bill Booth, one of Idaho's representatives on the council.

Snake River sockeye were the first species of anadromous fish to be protected by the Endangered Species Act. They were listed in 1993 following the return of just one fish, a male dubbed Lonesome Larry, in 1992. No fish made the 900-mile journey up the Columbia, Snake and Salmon rivers to Stanley Basin in 1990.

THE CLOUD ROLLS INTO OREGON

Do data centers get more than they give



Data thirst

If you think that nearly as much power and aluminum sim

The Northwest issued a report on "five" growth in the Northwest is being digital devices the

The power plan more efficiency w by 2030 the dem about two-thirds Northwest alumni the 1980s."

One might hav tricity would dim such as the Albat Pacific Power's b ers shut it down.

But now, lister Council said in a

"Factors contri demand of data of mobile device computers, incre tion and video, in data storage, and storage of finan tronic records su

The council g growing at an in that in 2012 som through a desk

41-percent incr also upload mor

The juice to p somewhere. But energy plan call says that all nev vation and effi posed to use les

One way to n more. Indeed, t ergy all cost m operate. which is why u their customers

SUNDAY grams like Blue in Oregon, home to some of the most efficient and technologically advanced d centers in the world, are be replicated globally.

Read this story on Facebook or Twitter or sign up for our newsletter by scanning this photo with The Oregonian's Mobile Reader app on your smartphone. Details on Page A2.

Server farms benefit from millions in tax breaks while providing few - but badly needed - jobs in rural areas

By MIKE ROSEWAY
THE OREGONIAN

Look at Oregon the way a data center sees the state: It's a beautiful place. Mighty rivers generate cheap hydropower to feed computers that suck up more power than entire towns. Miles of fiber-optic cable stretch across mountains

Power use in The Dalles

Google won't say how much electricity it uses in The Dalles, but its total can be inferred from growth in power sold to "primary service" customers since its data center opened in 2006. Google apparently uses about 330 million kilowatt hours annually, equivalent to about 27,000 homes, with a power bill

Support grows for regional hatchery

Studies raise questions on problems

By Rob Manning
Oregon Public Broadcasting

There's growing support for a region-wide

"What are the basic components of a basin-wide artificial production monitoring scheme?" Grover asks.

Coming up with better metrics is generally supported. But any discussion of measuring progress toward a goal immediately triggers a debate around what the goal is.



Articles below show the range of news coverage of the Council in print and electronic media in Fiscal Year 2012.

EDITORIALS

Centers for juice

...new technology doesn't need power as industries like paper mills and steel mills, you are mistaken.

Power Planning Council has just the subject. It says the "explosion" in demand for electricity in the region is driven by data centers and the way they keep in business.

Planners are hoping that plans for the future will be achieved. If not, they say, demand from data centers could reach levels of the power consumption of the aluminum industry during its heyday in the 1970s.

They thought the demand for electricity would diminish with the demise of factories like the Paper Mill, which was one of the biggest customers before its own

...to what the Power Planning Council released:

Contributing to the growing electricity demand are the increasing use of devices such as smart phones and tablet computers, increasing demand for phone service, and the use of remote ("cloud") computing. That's so why they're

...on: "Data center computing is growing at a rapid pace. Facebook estimates that 526 million people log in daily to its website, and its users upload more than 300 million photos per day."

...all that has to come from the power industry. In Oregon the governor's 10-year plan calls for no new generation at all. It says demand should be met by conservation, meaning that you are supposed to use less electricity, not more.

...make you use less is to charge you for the various forms of renewable energy more than the conventional kind. It's a little appeal to the better natures of us, asking them to sign up for pro-

...ervation Council on Dec. 4, the go-ahead for the Kootenai Tribe of Idaho to proceed with final design and begin construction on a \$16.2 million project to upgrade an existing white sturgeon hatchery at Bonners Ferry and build a new hatchery upstream to support both sturgeon and burbot restoration goals.

The Council recommendation

...TO BUILD hatchery...ions that...y the hy...is. Some...tter than...very dif...ind.

...tinue to...about ge...problems...present.

...ke Tony...e North...Conserva...are now...ng hatch...

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...power and...ervation Council on Dec. 4...the go-ahead for the Kootenai...of Idaho to proceed with final...design and begin construction on a...16.2 million project to upgrade an...existing white sturgeon hatchery...t Bonners Ferry and build a new...hatchery upstream to support both...sturgeon and burbot restoration...goals.

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...“Supp...another...that ha...more th...erations...to furth...tions. T...favored

...tribes

...exceed...tion of...ities as...River N...Aquacu...the out...O&M a...tion.”

Both Sue Ireland, director of the tribe's Fish and Wildlife program, and BPA Integrated Fish

Invaders at the gates

Oregon is on high alert against tiny mussels that could severely damage the Columbia River ecosystem and dams



DAVID WHITTON/US FISH AND WILDLIFE SERVICE

By BRITTANY SCHELL
THE OREGONIAN

Oregon is beginning to fortify its borders against a monster invader the size of a watermelon seed.

If the quagga mussel makes its way north from its stronghold in Lake Mead, it could ravage the Columbia River basin's environment, compromise the dams that supply half of the Northwest's electricity and cost the region millions of dollars a year.

Although studies show the Columbia's water chemistry may not support quagga mussels, the Northwest has a poor record of stopping invasive plants and animals.

There isn't much sign of them yet, but the quaggas' potential for causing problems is so great, Oregon isn't wasting any time as it tries to keep them out.

The state has for the first time mandated the inspection of boats being trailered in and has boosted education; regional agencies have requested federal money for prevention; teams are monitoring waterways for larvae; and one researcher is studying whether slick paint could be applied to dams to keep mussels from sticking.

Quaggas have been found on a handful of boats inspected in Oregon this year.

Please see MUSSEL, Page A9

Rapidly multiplying quagga mussels form colonies that can clog water pipes and harm native organisms.



See an interactive map and video of early detection efforts in the Columbia River at oregonlive.com/environment



for funding.

Bonneville, which marks power generated in the federal Columbia/Snake river hydro

Administrative Overview

Council organization

The governors of Idaho, Montana, Oregon, and Washington each appoint two members to the Council. The eight-member Council sets policy and provides overall leadership for Council activities.

The Council's work is performed, depending on the tasks, by the Council's professional staff (including staff in a central office and in each state), consultants under contract, or by public agencies and Indian tribes under intergovernmental agreements. The Council's executive director is responsible for coordinating with the Council, supervising the central office staff, administering the contracts, and overseeing the day-to-day operations of

the Council. The Council approves major contracts and the overall work plan. The Council has 59 full-time-equivalent employees.

The central staff is organized into five divisions: Power; Fish and Wildlife; Public Affairs; Legal; and Administrative. Professional staff in each state provide technical review and assistance to Council members in evaluating matters before the Council. State staff also participate in designing and developing public-involvement programs that focus on the implementation of the Power Plan and Fish and Wildlife Program in their particular states. This support is provided through existing state agencies or by individuals directly under Council member direction.

Council funding and budget

The funding necessary for the Council to carry out its activities and responsibilities under the Northwest Power Act is provided by the Bonneville Power Administration based on the Council's adopted budget. The Council adopts its budget in July or August of each fiscal year and forwards the adopted budget to Bonneville for inclusion in its budget transmittals to Congress.

In 2011, the Council entered into an agreement with Bonneville to hold the budget at reduced levels for the fiscal years 2013-2015 rate case period. The Fiscal Year 2013 revised budget is \$10,283,000, an amount under the level proposed in that agreement. The projected Fiscal Year 2014 budget of \$10,359,000 is \$208,000 under the

budget agreement amount. These levels are below the cap on Council funding defined in the Power Act.

The Council's Fiscal Year 2013 revised budget of \$10,283,000 is \$72,000 lower than the Fiscal Year 2013 budget adopted last year. This budget reflects an increase of \$141,000 (1.4 percent) from the Fiscal Year 2012 current operating budget. The increase represents inflationary increases in the cost of personal services and benefits, and anticipated increases in contracting activities.

The proposed Fiscal Year 2014 budget of \$10,359,000 is \$76,000 (0.7 percent) higher than the revised Fiscal Year 2013 budget. This increase reflects the anticipated increase in personal services and benefits costs and an anticipated decrease in contracting expenditures.

2007	2008	2009	2010	2011	2012	2013	2014
\$9,085,000	\$9,276,000	\$9,467,000	\$9,683,000	\$9,891,000	\$10,114,000	\$10,283,000	\$10,359,000
(Annual percentage increase)	(2.1%)	(2.1%)	(2.3%)	(2.1%)	(2.3%)	(1.4%)	(0.7%)

Council Members, Fiscal Year 2012

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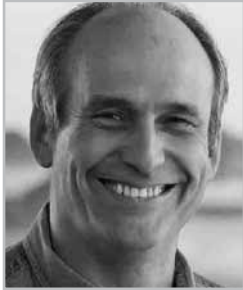
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Power Planning Director: Charlie Black

Fish and Wildlife Director: Tony Grover

Public Affairs Director: Mark Walker

General Counsel: John Shurts

Administrative Officer: Sharon Ossmann



Council and committee meetings, Fiscal Year 2012

Meeting agendas and minutes are posted on the Council's website, www.nwcouncil.org. Meetings of the Council's Public Affairs Committee occur during meetings of the full Council and are not listed separately below.

October 11-12, 2011, Council and committee meetings, Portland, Oregon
November 8-9, 2011, Council and committee meetings, Coeur d'Alene, Idaho
December 6-7, 2011, Council and committee meetings, Webinar
January 10-11, 2012, Council and committee meetings, Portland, Oregon
February 7-8, 2012, Council and committee meetings, Webinar
March 6-7, 2012, Council and committee meetings, Portland, Oregon
April 10-11, 2012, Council and committee meetings, Skamania, Washington
May 8-9, 2012, Council and committee meetings, Hood River, Oregon
June 12-13, 2012, Council and committee meetings, Missoula, Montana
July 10-11, 2012, Council and committee meetings, Boise, Idaho
August 7-8, 2012, Council and committee meetings, Spokane, Washington
September 11-12, 2012, Council and committee meetings, Astoria, Oregon

More Information

For additional information about the Northwest Power and Conservation Council's activities, budget, meetings, comment deadlines, policies or bylaws, call 1-800-452-5161 or visit our website, www.nwcouncil.org. Copies of Council publications are available at the website or by calling the Council. All Council publications are free.

Background of the Northwest Power and Conservation Council

The Council, known until 2003 as the Northwest Power Planning Council, is an agency of the states of Idaho, Montana, Oregon, and Washington and was created as an interstate compact agency by the legislatures of the four states under the authority of the Pacific Northwest Electric Power Planning and Conservation Act of 1980. The Council's first meeting was in April 1981.

The Northwest Power Act gives the Council three distinct responsibilities:

1. to assure the region an adequate, efficient, economical, and reliable electric power supply;
2. to prepare a program to protect, mitigate, and enhance fish and wildlife, and related spawning grounds and habitat, of the Columbia River Basin affected by the development and operation of any hydroelectric project on the Columbia River and its tributaries; and
3. to inform the Pacific Northwest public regarding these issues and involve them in decision-making. This annual report is organized around the Council's three key responsibilities.

The Power Act created a special relationship between the Council and the federal agencies that regulate and operate dams in the Columbia River Basin and sell the electricity that is generated. The administrator of the Bonneville Power Administration, the federal power marketing agency that sells the output of the Federal Columbia River Power System (a system that includes 29 federal dams within the basin and two outside (in southern Oregon), and one non-federal nuclear power plant), is required to make decisions in a manner consistent with the Council's Northwest Power Plan and its Columbia River Basin Fish and Wildlife Program. Other federal agencies with responsibilities for Columbia River Basin dams (the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, and Federal Energy Regulatory Commission) are required to take the Council's Power Plan and Fish and Wildlife Program into account "at every relevant stage of decision-making to the fullest extent practicable," in the words of the Act.

Despite its relationship to federal agencies, the Council is not a federal agency and its employees are not federal employees. The Council is an interstate compact. The eight-member Council consists of two members from each state, appointed by their respective governors. The Council headquarters are in Portland.



Comments of the Bonneville Power Administration



Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

EXECUTIVE OFFICE

January 6, 2012

Dear Chair Whiting:

This has been an important year for those of us whose lives and work are focused on the Columbia River Basin. In 2012, the Bonneville Power Administration (BPA) marked its 75th year of serving the Northwest with abundant, emissions-free, affordable hydropower. The Northwest Power and Conservation Council (Council) announced that the Pacific Northwest had set a new record for energy efficiency achievements — 277 average megawatts — at an average cost of less than two cents per kilowatt-hour. Hundreds of fish and wildlife projects were completed or underway, including three hatcheries that are designed to help bolster populations while protecting listed fish.

The Council and BPA continued our effective collaboration. Working with the Northwest Energy Efficiency Task Force, we are securing stable funding to achieve the energy efficiency goals of the Sixth Power Plan while the Northwest economy is recovering. The Council's Oversupply Technical Oversight Committee provided invaluable help to BPA and the region in assessing the challenges of successfully integrating thousands of megawatts of wind energy and assuring an adequate, efficient, economical, and reliable power supply.

My personal experience with the Council assures me that our agencies are well positioned to work effectively together to undertake both the Seventh Power Plan and the Fish and Wildlife Program Amendment in the upcoming year. Your focus on effective, science-based habitat restoration and on research, monitoring and evaluation tied to program results and management decisions will be important foundations as the Council begins to update its Fish and Wildlife Program. The landscape for the Seventh Power Plan encompasses important emerging issues such as natural gas prices, the future of the region's coal plants, energy efficiency codes and standards and carbon taxes. We can be confident that the new Plan will address those issues with cutting edge analysis, foresight and leadership.

On a personal note, as you know, this will be my last letter for the Council's annual report to Congress. I am retiring effective February 2013. As I look back on the 30 years we have worked together, from my early days working with the Council's conservation director, Tom Eckman, to create the region's first conservation assessments, through the West Coast energy crisis and the Council's initiative to address those issues with resource adequacy assessments, to your support integrating your Fish and Wildlife Program with BPA's Endangered Species Act obligations and the historic Columbia Basin Fish Accords, I am really pleased with what we have been able to accomplish.

This 75th anniversary has given BPA the opportunity to articulate for itself and the region that we can effectively balance the twin goals of a healthy economy and environmental stewardship. I know that the Council shares this vision, and I am grateful for your collaboration with BPA over the years to pursue it.

Sincerely,

A handwritten signature in blue ink, reading "Stephen J. Wright", is located below the "Sincerely," text.

Stephen J. Wright
Administrator and Chief Executive Officer

Appendix 1: Council By-laws

The Council by-laws, which describe the administrative functions of the Council, are posted for public review on the Council's website at this location: <http://www.nwcouncil.org/library/2003/2003-19.htm>. The Council last updated the by-laws in October 2003.



