

Pocket Guide

Fast Facts About the Columbia River Basin

Council Profile

The Northwest Power and Conservation Council was initiated by Congress through the 1980 Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) to give the citizens of Idaho, Montana, Oregon, and Washington a stronger voice in determining the future of key resources common to all four states – namely, the electricity generated at, and fish and wildlife affected by, the Columbia River Basin hydropower dams.

The Council is a unique organization that helps the Pacific Northwest make critical decisions that balance the multiple uses of the Columbia River and its tributaries.

Public Responsibilities

The principal duties of the Council under the Act are to:

-  Develop a regional power plan to assure the Northwest an adequate, efficient, economical, and reliable power supply.
-  Develop a fish and wildlife program as part of the power plan to protect, mitigate, and enhance fish and wildlife affected by hydroelectric development in the Columbia River Basin, and make annual funding recommendations to the Bonneville Power Administration for projects to implement the program.
-  Encourage broad public participation in these processes and inform the public about regional issues.

Council Organization

 The Council was initiated by Congress through enactment of the 1980 Northwest Power Act (Public Law 96-501) and approved by a vote of the legislatures of all four states. The governor of each state appoints two members to serve on the Council.

 The Council is funded by wholesale power revenues from the Bonneville Power Administration, the federal agency that markets the electricity generated at federal dams in the Columbia River Basin.

 The plans the Council develops and approves are implemented by numerous agencies, including: the Bonneville Power Administration; the U.S. Army Corps of Engineers; the Bureau of Reclamation; the Federal Energy Regulatory Commission; electric utilities; and state energy regulatory agencies.



State, tribal, and local governments often work closely with the Council as it develops its power and fish and wildlife plans, and these entities also implement measures in those plans. The power plan and fish and wildlife program are updated at least every five years.

Contact Information

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Project Priorities

 The Council directs more than \$220 million annually in federal electricity revenues to implement more than 400 projects to improve fish and wildlife survival in the Columbia River Basin.

 The Council uses independent scientific review to improve and discipline the region's efforts to protect and restore fish and wildlife.

 The Council provides analysis and information about electricity demand, generating and efficiency resource cost and availability, and the effect of the hydropower system on fish and wildlife.



Columbia River Basin

 The Columbia River Basin is a region that includes parts of Washington, Oregon, Idaho, Montana, Wyoming, Utah, Nevada, and British Columbia—an area larger than France.

 The river and its tributaries are the dominant water system in the Pacific Northwest.

 The Columbia River is 1,214 miles long.

 The Columbia River originates at Columbia Lake in British Columbia, and about 25 percent of the river flow comes from Canada.

 The largest major tributary is the Snake River, which is 1,036 miles long.

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-  The Columbia River is a snow-charged river that fluctuates seasonally in volume.
 -  Average annual runoff at its mouth is about 192 million acre-feet.
 -  The highest volumes of water flow between April and September. The lowest volumes flow from December to February.
 -  From its source at 2,650 feet above sea level, the river falls an average of more than two feet per mile before reaching the ocean.
 -  Humans have lived along the river for more than 10,000 years, with a large increase in population when the Euro-American settlers arrived in the 1800s.

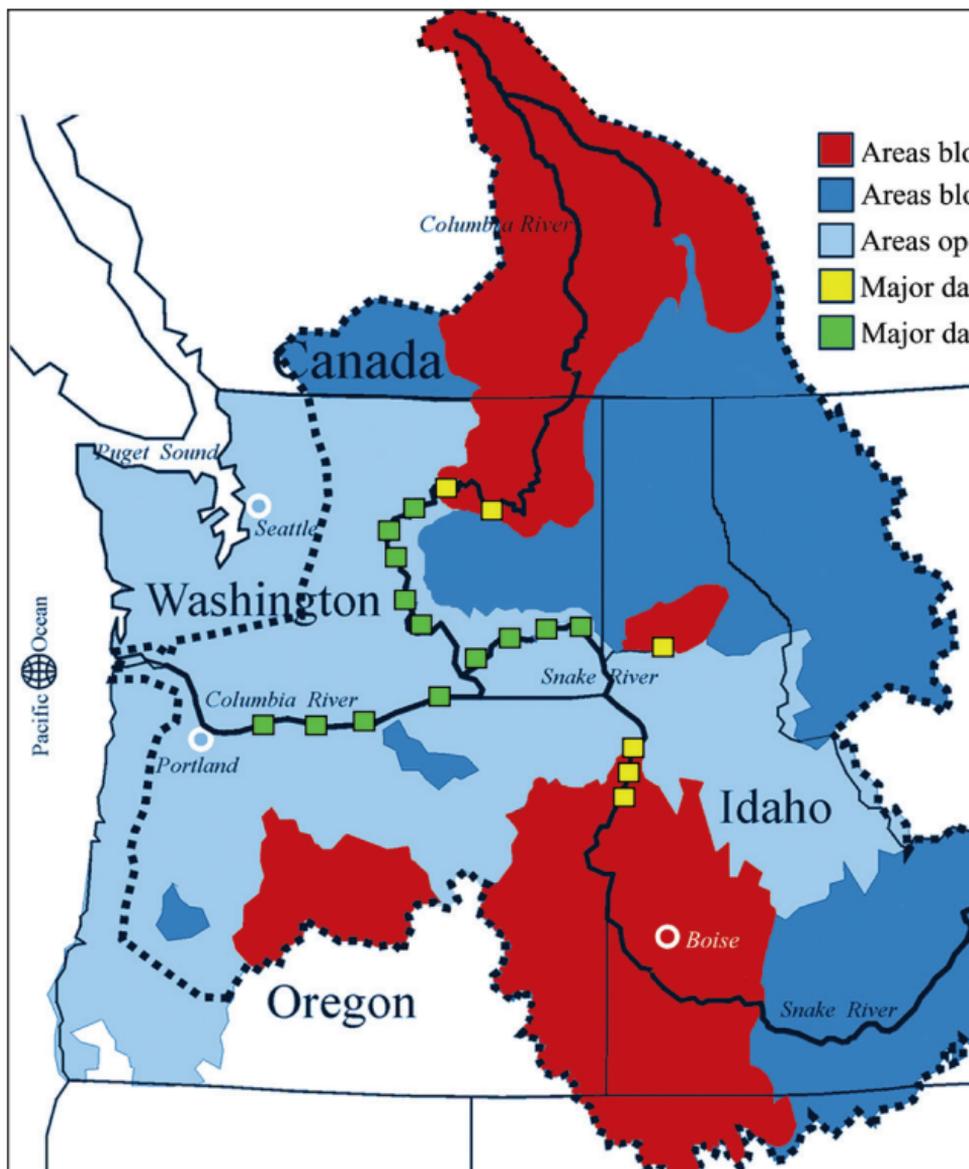
Fish and Wildlife

 Four species of Pacific salmon—chum, sockeye, coho, and Chinook—and two anadromous trout—steelhead and sea-run cutthroat—are found in the Columbia River Basin.

 Salmon and steelhead have existed in the river for about 12 million years.

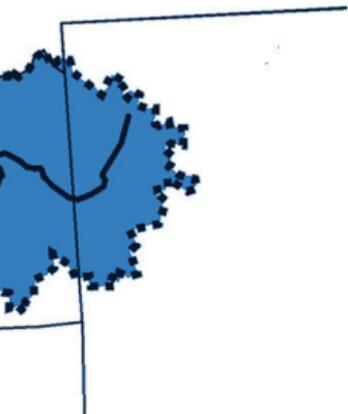
 Historic annual runs of salmon and steelhead were believed to have numbered between 11 and 16 million fish. Fish counting at Bonneville Dam began in 1938 when the dam was completed. In the first five years of counting, the salmon and steelhead runs averaged 597,350 fish per year at the dam. Today, the runs number between 1 million and 2 million per year. This does not include runs in Columbia tributaries downstream of the dam. Also, salmon harvests are lower today than when the dam was built.

Map of the Columbia River Basin



locked by dams
locked by natural obstructions
open to anadromous fish
streams that block fish passage
streams that allow fish passage

Montana



Of the original salmon and steelhead habitat available in the Columbia River Basin, 55 percent of the area and 31 percent of the stream miles have been blocked by dam construction.

 By the early 20th century, spring and summer runs of Chinook salmon had been depleted through overharvest and habitat degradation.

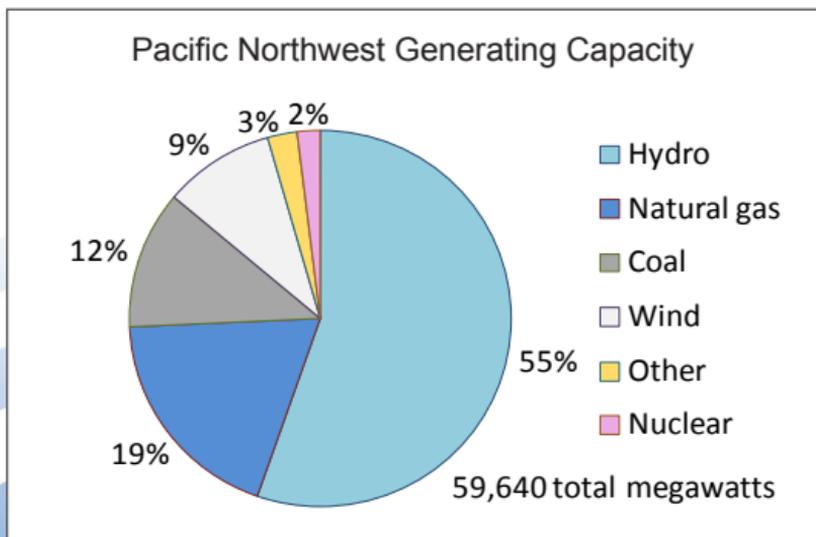
 Columbia River Basin resident fish spend their entire life cycle in freshwater and include warm water species such as bass and walleye, and coldwater species such as cutthroat trout, bull trout, and kokanee. Hydropower development also affected a diverse mix of wildlife, including song birds, deer, elk, moose, turtles, squirrels, rabbits, and many other species. The Council's fish and wildlife program is intended to mitigate the impact of hydropower on these species, as well as on anadromous fish such as salmon and steelhead.

 In 1988, the Council designated 44,000 miles of river reaches in the basin as “protected areas” where hydroelectric development is prohibited in order to protect fish and wildlife.

Regional Power System

 Interconnected power plants in the four Northwest states provide 59,640 megawatts of generating capacity. Under normal precipitation, these plants can provide about 31,300 average megawatts of electricity.

 About 60 percent (approximately 33,000 megawatts) of the region's generating capacity comes from hydroelectric dams. Under normal precipitation, they produce about three-fourths (15,100 average megawatts) of the region's electricity.



 About 20,300 megawatts of this hydroelectric capacity is from the Federal Columbia River Power System (FCRPS). This system consists of 31 dams, producing 6,983 average megawatts of firm energy.

 In good water years, the Columbia River Basin hydrosystem can produce more than 18,000 average megawatts of electricity, and in poor water years, as little as 11,800 average megawatts.

 The Bonneville Power Administration markets the output of the FCRPS, along with the output of the Columbia Generating Station, a 1,200-megawatt nuclear plant.

 Approximately 95 percent of the region's hydroelectric power supply comes from Columbia River Basin dams.

 It takes about 1,200 average megawatts of energy to power a city the size of Seattle.

 Grand Coulee Dam (1941) has the greatest generating capacity of any dam on the system at 6,494 megawatts, followed by Chief Joseph Dam (1955) at 2,457, and John Day Dam (1968) at 2,160.

 Winds channeled through the Columbia River Gorge create one of the best wind resource areas in North America. Wind turbines account for 5,700 megawatts of capacity, producing 1,800 average megawatts of energy.

 The Bonneville Power Administration owns and operates more than three-fourths of the high-voltage transmission grid in the Pacific Northwest.

 The total transmission system in circuit miles is 15,328.

Energy Conservation

-  Since 1980, the region has reduced electricity demand by more than 4,000 average megawatts through energy conservation measures.
-  During the last 25 years, conservation met about half of the increase in the region's electricity demand.
-  The average cost of conservation is less than half the cost of new generating plants.
-  New cost-effective conservation amounting to 5,900 average megawatts is achievable during the next 20 years—enough to meet about 85 percent of forecasted demand growth during this period.

Agriculture

 Idaho has the most irrigated acreage in the Northwest with more than 3 million acres under irrigation at any given time, while Washington irrigates 1.7 million acres and Oregon 1.8 million acres.

 Food processing is the second-largest manufacturing employment sector in Idaho. It is the fourth-largest in Washington and the third-largest in Oregon.



Navigation

 The Columbia and Snake rivers form a 465-mile transportation system with 36 deepwater and inland barge ports.

 The 43-foot-deep navigation channel for ocean-going vessels extends 106 miles from the ocean to Portland, Oregon and Vancouver, Washington on the Columbia River, and at 40 feet for an additional 11 miles on the Willamette River into Portland. A 359-mile inland barge system takes cargo upriver into Idaho.

 Annual foreign waterborne commerce averages 40 million tons, and was valued at \$17 billion in 2009. The Columbia River is the nation's largest export wheat gateway, with 40 percent of all U.S. exports. The river handles cargo from 43 states.

Flood Control

 In 1948 flood control became a priority after Vanport, Oregon, north of Portland along the Columbia River, was destroyed by a flood. The Army Corps of Engineers responded by developing a multiple-use reservoir storage plan for the Columbia River Basin.

 In February 1996, the region was reminded of the importance of flood control. Government agencies and non-federal dam operators worked together to reduce flood damage by an estimated \$3.2 billion.

 Major flood-control projects are Mica, Keenleyside, and Duncan dams in Canada, and Libby, Hungry Horse, Grand Coulee, and Dworshak in the United States.



The logo features a stylized blue fish or wave shape on the left, composed of several curved lines. To its right, the text "Northwest Power and Conservation Council" is arranged in four lines: "Northwest", "Power and", "Conservation", and "Council".

Northwest
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