

Pocket Guide

Fast Facts About the
Columbia River Basin




Council Profile

The Northwest Power and Conservation Council was created 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.
-  Provide for 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 on the Columbia River.

 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; and The Federal Energy Regulatory Commission.



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 and fish and wildlife programs are updated at least every five years.

Contact Information

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Project Priorities






 The Council directs on average \$140 million annually in federal electricity revenues to more than 250 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, new technologies and how the hydropower system affects 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 198 million acre-feet.
 -  The highest volumes are between April and September. The lowest volumes are from December to February.
 -  From its source at 2,650 feet above sea level, the river falls an average of more than 2 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

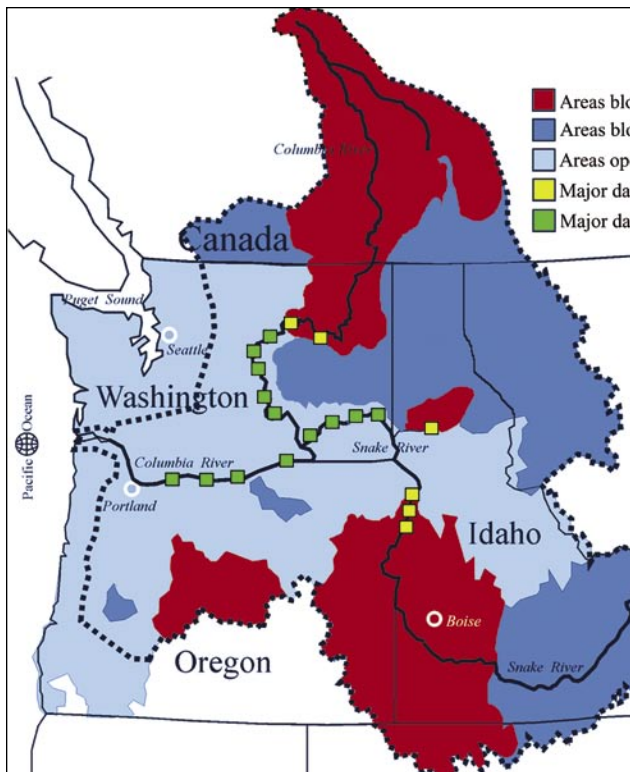
 Five species of Pacific salmon—pink, chum, sockeye, coho and chinook; and two anadromous trout—steelhead and sea-run cutthroat—are found in the Columbia River Basin.

 Historic annual runs of adult salmon and steelhead were believed to have measured between 11 and 16 million fish, but declined to about one million by the 1990s.

 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 and their habitat.

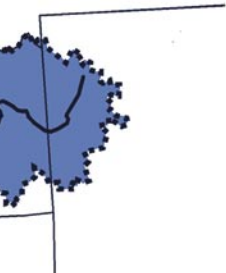
 Since 2000, above average returns of adult salmon and steelhead have occurred, setting records for many different populations.

Map of the Columbia River Basin





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

 Columbia River Basin resident fish spend their entire life cycle in freshwater and include: warm water species, bass and walleye; and coldwater species, cutthroat, bull trout and kokanee. Other wildlife includes song birds, deer, elk, moose, caribou, squirrels and rabbits. The Council's program is intended to mitigate the impact of hydropower on these species, as well as on anadromous fish such as salmon and steelhead that migrate to the ocean and return to the river to spawn.

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

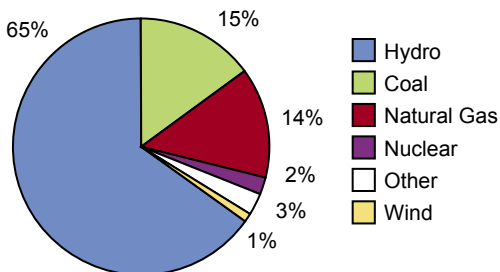
 By the early 20th century, spring and summer runs of Chinook salmon had been depleted through overharvest and habitat degradation.

Regional Power System

The regional energy system includes about 50,700 megawatts of generating capacity. Under normal precipitation, it can provide about 31,000 average megawatts of electricity.


About 65 percent (approximately 33,000 megawatts) of the region's generating capacity comes from hydroelectric dams. Under normal precipitation, they produce about three quarters (16,200 average megawatts) of the region's electricity.


Pacific Northwest Resource Mix: Capacity Basis





50,700 MW Total.


Excludes capacity operating under temporary permits.


 About 20,200 megawatts of this hydroelectric capacity is from the Federal Columbia River Power System. This system consists of 31 dams, producing 6,985 average megawatts of firm energy.


 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.

 In good water years, the Columbia River Basin hydrosystem can produce about 18,000 average megawatts of electricity, and in poor water years, as little as 11,700 average megawatts.





 The 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 the 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. Windmills account for 541 megawatts of capacity, producing 175 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 about 2,700 average megawatts through energy conservation measures.
-  During the 1990s, conservation met over 25 percent of the average annual increase in the region's electricity demand.
-  The average cost of conservation is about 1/2 the cost of new generating resources.
-  2,500 average megawatts of new cost-effective conservation potential is expected to be available over the next 20 years—enough to meet about 40 percent of forecasted demand growth over this period.

Agriculture

Idaho has the most irrigated acreage in the Northwest with over 3 million acres under irrigation at any given time, while Oregon irrigates 1.9 million acres and Washington 1.8 million acres.

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





Navigation


- 🌊 The Columbia River system is a unified transportation system with 36 deep and shallow water ports.
- 🌊 A 40-foot deep river channel for ocean-going vessels extends 106 miles from the ocean to Portland, Oregon and Vancouver, Washington. In 2003, waterborne cargo value totaled \$15 billion.
- 🌊 37 percent of all U.S. wheat exports were shipped on the Columbia River in 2003.



Flood Control

 In 1948, the importance of flood control became a priority after Vanport, Oregon, 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 hydro operators worked together to reduce flood damage by an estimated \$3.2 billion.

 Major flood control projects are Mica, Arrow, and Duncan dams in Canada; Libby, Hungry Horse, Grand Coulee, and Dworshak in the U.S.



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