



— BUREAU OF —
RECLAMATION

The Story of the

Columbia Basin

Project

Washington



U.S. Department of the Interior

Columbia Basin Project

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Developing America's Arid West

In 1902, Congress passed the Reclamation Act to irrigate the arid West. The Bureau of Reclamation, formerly the U.S. Reclamation Service, began its task of constructing water storage and irrigation delivery systems by looking into locally supported projects.

Construction of the Columbia Basin Project

In 1933, President Roosevelt authorized Reclamation to begin building Grand Coulee Dam to provide irrigation water, generate inexpensive electricity and create jobs. Congress authorized the Columbia Basin Project irrigation system in 1943 and irrigation water began flowing from Grand Coulee Dam in 1952. For about the next 30 years, construction continued to extend canals and add pumping plants and other features in the CBP.



Today, the Columbia Basin Project is one of Reclamation's largest irrigation projects in the United States, providing irrigation water to approximately 680,000 acres and capable of generating a total of 6,809 megawatts of hydropower.

Reclamation works with the U.S. Army Corps of Engineers and Bonneville Power Administration to coordinate operations at Grand Coulee Dam and other Columbia River Basin dams.

Grand Coulee Dam is one of the largest concrete structures ever built, containing nearly 12 million cubic yards of concrete. That's enough to build a sidewalk 4 feet wide and 4 inches thick and wrap it twice around the equator (50,000 miles), or if you'd rather, build a highway from Seattle to Miami!



Overview of Columbia Basin Project Benefits

The CBP plays a vital role in local, state and national economies by:

- storing and carrying water for irrigation
- producing electricity
- controlling floods
- providing recreation
- improving navigation
- providing water for communities and industries
- supporting habitat for fish and wildlife

Water Flows Both Ways at John W. Keys III Pump-Generating Plant

Twelve of the world's largest pumps lift water over 280 feet up from the reservoir (Franklin D. Roosevelt Lake) created by Grand Coulee Dam into a feeder canal and Banks Lake. This water is then delivered to over 10,000 farms. Six of the twelve pumps at Grand Coulee Dam are also hydropower generating units. They lift water *uphill* when power is abundant. Then, when additional electricity is needed, they return water *downhill* to produce electricity.

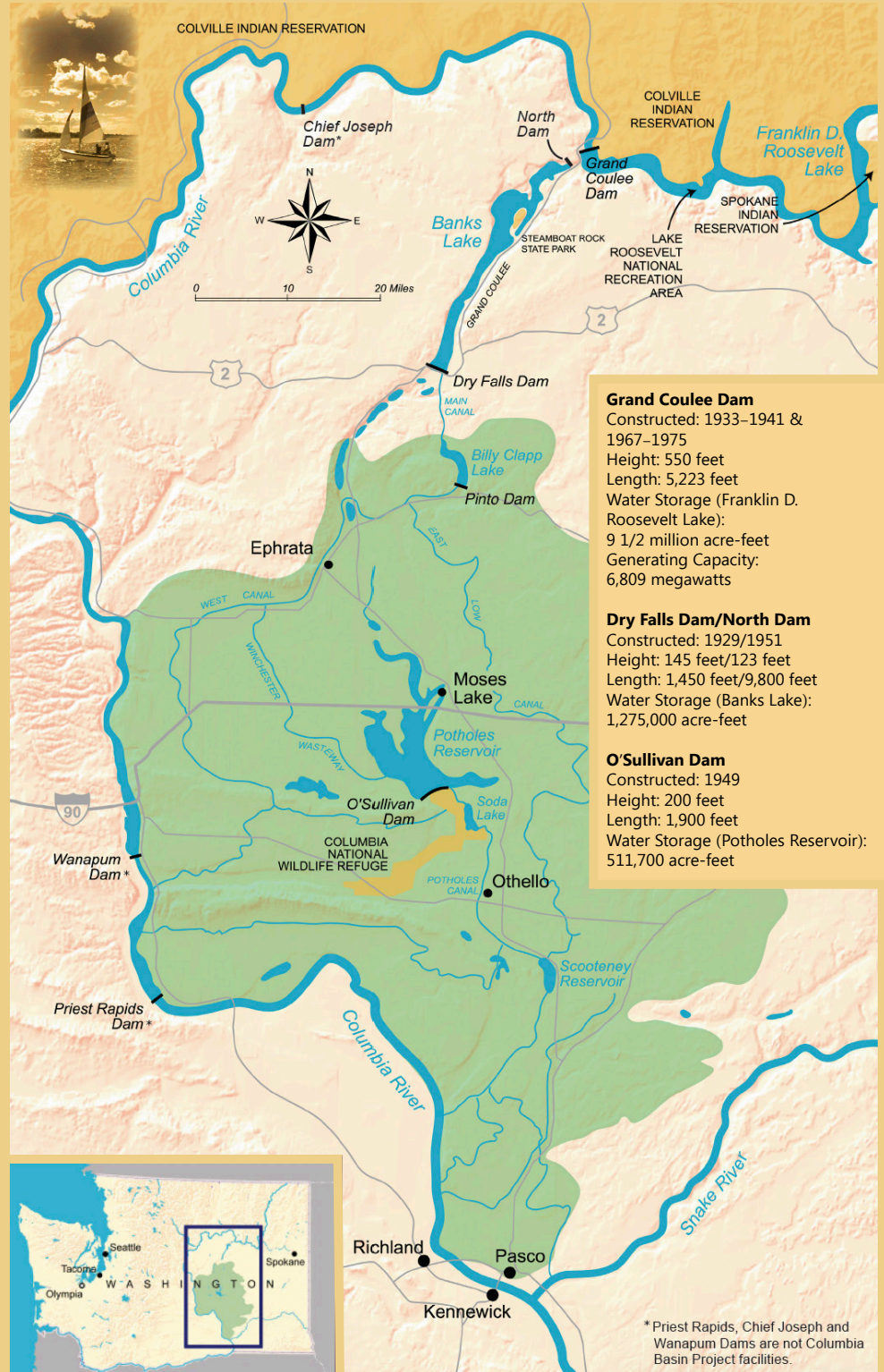


Water Used at Least Twice

Water in Franklin D. Roosevelt Lake (also called Lake Roosevelt) is diverted into a storage reservoir and then flows through an extensive system of canals to farms and other smaller reservoirs.

Irrigation water from the CBP is often used more than once before it returns to the Columbia River. Potholes Reservoir collects irrigation runoff from the north for farms in the south and water from drains and wasteways returns to the canal system to be reused. Recapturing and re-using this water then provides irrigators approximately 1 million acre-feet of additional irrigation value.

There are 330 miles of main canals, 1,990 miles of smaller canals, and 3,500 miles of drains and wasteways served by more than 240 pumping plants that carry water throughout the Columbia Basin Project.





Grand Coulee Dam is the largest hydropower producer in North America, generating more than 21 billion kilowatt-hours of electricity each year. That's enough power to supply 2 million households with electricity for 1 year.

Power from Grand Coulee Dam is supplied to Canada and eight western states—Washington, Oregon, Idaho, western Montana, and parts of California, Nevada, Utah and Wyoming.



Food for Your Table

Irrigation water from the CBP helps ensure national food security. Although some grow wheat and other grains, many CBP farmers grow high-value fruits, vegetables, and specialty crops like mint, hops and wine grapes. In counties served by the CBP, 9 to 15% of jobs are on farms and farm earnings account for 9 to 22% of incomes.

Producing Electricity

Hydroelectricity is produced when the energy of falling water turns a turbine connected to a generator. It is a clean, renewable and economical energy source.

Bonneville Power Administration sells the electricity produced at Grand Coulee Dam to repay the expenses of building and maintaining the CBP. The hydroelectricity generated in the CBP creates a continuity of operations for the Pacific Northwest power grid by providing consistent power to supplement energy sources that are weather dependent, such as solar and wind.



Controlling Floods

Grand Coulee Dam is one of eight U.S. Columbia River system flood risk management projects that help regulate Columbia River floods to non-damaging levels or to the lowest possible level, particularly around Portland, Oregon and Vancouver, Washington. Due to location and reservoir capacity, Grand Coulee Dam and Lake Roosevelt play a major role for flood risk management.

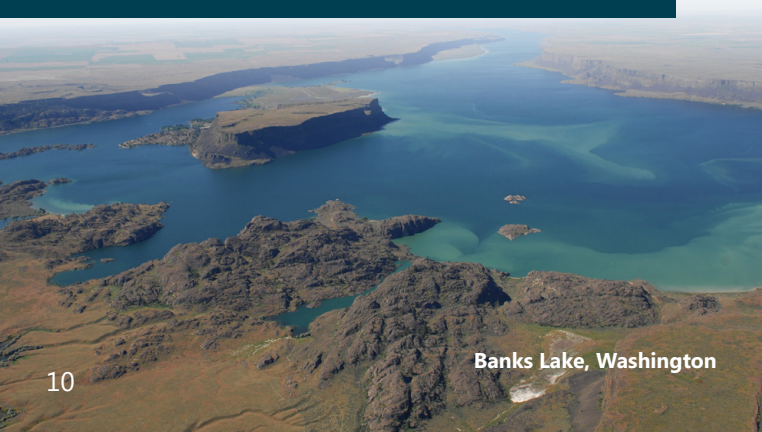
Wildlife Habitat and Recreational Opportunities

These water bodies provide wildlife habitat and recreational opportunities, such as camping, boating, swimming, fishing, nature study and hunting. Some of the wetlands created by the CBP are part of the Columbia National Wildlife Refuge. Over 200 bird species gather at the 30,000 acre refuge or pass through it during migration.

Lake Roosevelt is the largest lake in the CBP and stretches 151 miles from Grand Coulee Dam north to the Canadian border. It has about 600 miles of shoreline and over 80,000 acres of surface area. Part of the lake is a National Recreation Area. The lake is managed by the National Park Service, Colville Confederated Tribes, Spokane Tribe of Indians, Bureau of Indian Affairs and Bureau of Reclamation.

In addition to Lake Roosevelt, recreation facilities have been constructed at many other reservoirs throughout the CBP. Reclamation manages parks on Billy Clapp Lake and Scootney Reservoir. More recreation facilities are provided in cooperation with state and local partnering agencies. For instance, Banks Lake and Potholes Reservoir are both home to popular Washington State Parks, while Washington Department of Fish and Wildlife operates dozens of recreation sites throughout the CBP.

Prior to development of the Columbia Basin Project, there were 35 lakes; there are now over 140 lakes, ponds, and reservoirs, totaling more than 300,000 acres of lakes and wetlands.



Banks Lake, Washington

Flow Augmentation and Conservation

Grand Coulee Dam releases water at critical times of the year to increase river flow for salmon and steelhead migration. Advancements in water measurement, irrigation methods, and agricultural practices are also improving river conditions for fish and the overall environment of the region.

In addition, Reclamation participates in habitat improvement projects in specific basins in the Pacific Northwest selected for their key fish habitat. Reclamation and its partners have successfully implemented over 423 habitat improvement projects since 2002.

Drought Information

The CBP is drought resistant and to date has not been impacted from a water availability perspective. Reclamation effectively and efficiently uses water from the Columbia River for both irrigation and power generation. This allows the coordinated operations of Reclamation, the U.S. Army Corps of Engineers and Bonneville Power Administration at Grand Coulee Dam and other Columbia River Basin dams to better manage drought conditions when present. While drought does affect the amount of water used for irrigation, the CBP does not use its full water allocation on an annual average.

For real-time information and interactive resources on drought in the CBP, please visit Reclamation's online Addressing Drought Portal: <https://www.usbr.gov/addressing-drought/index.html>

Yearly Values Produced

- Irrigated crops: \$2.9 billion
- Power generated: over \$600 million
- Recreation: 3.2 million visits generating approximately \$71 million

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Reclamation's Columbia Basin Project Website

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