

7 of the Most Serious Dams in the United States



By Tim Newcomb Oct 31, 2016

If you want to find our nation's most impressive dams, those huge blockades against water made of earth and concrete, you'll need to fix your gaze west of the Rockies. When engineers seek to block up rivers to create hydroelectricity or simply control water flow, they'll often look to the mountainous stretches of Arizona, California, Washington, and Montana, among others.

Inside the mountain ravines of the United States there are earthen walls, concrete ones, and sometimes even ones made out of steel, all working to stop up rivers, some having stood for as long as 100 years, before the land they were on was even part of the Union.

1. Oroville Dam, Feather River, California



Forget heavy concrete for a moment, the tallest dam in the United States doesn't need it. About 70 miles north of Sacramento along the Feather River in the Sierra-Nevada foothills, this earthfill dam rises 770 feet tall and, at the base, has a reach of three quarters of a mile. This mound of earth stops up the Lake Oroville reservoir, which offers drinking water, water-based recreation, and hydroelectric power while mitigating flood damage. It was officially dedicated in 1968, seven years since the start of construction—with one giant train wreck during construction that halting all progress for a week. Since then, the Oroville has stood as the country's tallest dam for nearly 50 years.

2. Hoover Dam, Colorado River, Arizona/Nevada



The superlatives fly when it comes to the Hoover Dam. Built between 1931 and 1935, the Art Deco-detailed dam was easily the most expensive engineering project in the country at the time and became the tallest dam in the country at 726 feet tall. Still the second-tallest dam overall and the tallest concrete dam, it required 91.8 billion cubic feet of concrete to create the arch-gravity dam with a 600ft-wide base, weighing 6.6 million tons in total.

The Hoover Dam holds back the Colorado River and straddles the border between Arizona and Nevada near Boulder City, Nevada, a town originally created for the project's workers. Behind Hoover, Lake Mead fills as the largest manmade reservoir in the country.

3. Grand Coulee Dam, Columbia River, Washington



The Grand Coulee Dam may not be the tallest at 550 feet, but the seriousness of this 1942-built dam outside of Spokane, Washington, comes from its sheer size. With over 12 million cubic yards of concrete, the Grand Coulee Dam spans the Columbia River for nearly a full mile, backing up Franklin D. Roosevelt Lake reservoir nearly to Canada.

Depending on your preferred analogy, the Grand Coulee Dam contains enough concrete to build a highway from Miami to Seattle or a sidewalk around the equator, twice. But the dam doesn't just sit there. With 21 billion kilowatt-hours of electricity annually, Grand Coulee creates the most hydroelectric power of any dam in the U.S.

4. Dworshak Dam, North Fork Clearwater River, Idaho



It took roughly seven years to build what would become the third tallest dam in the nation and the tallest straight-axis (not curved) concrete gravity dam in the Western Hemisphere. Dworshak Dam sits a few miles outside of Orofino, Idaho, blocking up the Clearwater River and creating the Dworshak Reservoir since 1973.

Despite its impressiveness, the 717 foot tall dam was never a popular project. Dworshak has been saddled with controversy—1990s expansion approvals were rescinded for disrupting the natural wildlife of the area.

5. Fort Peck Dam, Missouri River, Montana



Forget the concrete and don't worry about the height. At just 250 feet tall, the impressiveness of the Missouri River's highest dam comes in its breadth. At over 21,000 feet in length and with a base width of 3,500 feet, Fort Peck is the largest hydraulically filled dam in the world.

U.S. Army Corps of Engineers crews created the New Deal-era dam by pumping sediment from the bottom of the Missouri River and mixing it with rock and natural materials to form the dam in 1940. Fort Peck Lake rests behind the dam and hydroelectric generation started at the dam in 1943, complete with an Art Deco spillway.

6. Glen Canyon Dam, Colorado River, Arizona



At 710-feet tall, this concrete arch-gravity dam near Page, Arizona, fills a canyon-heavy region on the upper Colorado River with water. Under construction from 1956 to 1966, the dam forms Lake Powell behind it, the second-largest man-made reservoir in the U.S.

Conceived before the Hoover Dam but built after, Glen Canyon helps manage water distribution in the river's basin and, along with hydroelectricity generation, can help hold onto runoff for lean water years while ensuring fewer droughts for those downstream.

7. Ashfork-Bainbridge Steel Dam, Johnson Canyon, Arizona



Almost everything about the Ashfork-Bainbridge Steel Dam is different than a typical dam in the West. Not only is it one of only two major dams in the nation using steel—the first of the two—this 1898-completed structure had no hydroelectricity generation purpose.

Owned by the Atchison, Topeka and Santa Fe Railway, the steel moved water from Johnson Canyon via piping into the town of Ash Fork, supplying a water stop for steam locomotives. The dam contains 24 curved steel plates fabricated by the Wisconsin Bridge and Iron Company and runs 184 feet long and 46 feet high. It's been holding back water since before the state where it resides, Arizona, was officially part of the Union.