



## Dams and Dam Removal in the U.S.

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### Dams and Dam Removal

- There are more than **500,000 dams** in the U.S. Less than three percent of dams in the U.S. are hydropower dams and less than 17 percent provide flood protection.
- Outdated, obsolete dams threaten public safety: **85 percent** of the nation's dams are more than 50 years old, which is the average design life of a dam.
- Aging dams are at increased risk of failure, particularly during increasingly severe storms and flooding fueled by climate change. For example, at least **87 dams** have failed in South Carolina during storms and hurricanes since 2015.
- Hydropower dams and reservoirs are a source of methane emissions, a greenhouse gas **80 times** more potent than carbon dioxide.
- Dams are a leading reason for the alarming loss of freshwater biodiversity. Seven dams on the Coosa River in Alabama have caused more than thirty freshwater species to go extinct – making it one of North America's worst mass wildlife extinctions on record. Historically, the river was habitat for 147 species of fish, 91 species of snail, and 53 species of mussels.
- More than **2,025 dams** have been removed with benefits for river health, fish and wildlife, and public safety.
- The Infrastructure Investment and Jobs Act committed **\$2.4 billion** for the removal, retrofit and rehabilitation of dams. The \$800 million secured for dam removal is just 10 percent of the \$8 billion need to address aging, uneconomic dams that could be removed.

For additional national perspective, read [Free Rivers: the state of dam removal in the United States](#)

### Making History: Klamath River Dam Removal

Four dams on the Klamath, formerly owned by PacifiCorp, are being removed in order to restore salmon runs and improve water quality. A free-flowing Klamath River will better support the river's Tribal Nations and local communities, as rising temperatures threaten resources they depend on. The four Klamath dams produced a nominal amount of power, which PacifiCorp has replaced using renewables, such as new wind energy, and efficiency measures.

The Klamath dam removal effort is the most significant dam removal and river restoration project in history. While taller dams have been removed (Glines Canyon Dam on the Elwha River was 210 feet tall), and we've seen multiple dams come down on other rivers (ten dams were removed on the Milwaukee River), and more habitat has been opened up (removal of Penobscot River dams opened 1,000 miles of habitat), never before have four dams of this size been removed at once which inundate

as many miles of habitat, involving this magnitude of budget and public works, with such significant benefits to salmon, water quality, and Tribal Nations.

## Dam Removal and River Restoration Successes

There is no faster or effective way to bring a river back to life than removing a dam. Dam removal is a proven tool to revitalize ecosystems and cultural values, and improve public safety and community well-being.

**Elwha River, WA:** Two dams were removed from the Elwha starting in 2011, revitalizing the river ecosystem from mountains to sea. With salmon runs recovering, the Lower Elwha Klallam Tribe will have a ceremonial and subsistence fishery for the first time in over a decade, starting in Fall 2023.

**Patapsco River, MD:** Since multiple dams were removed and the river now flows freely to the Chesapeake Bay, runs of alewife and blueback herring – fish that are vital to the web of life – are rebounding. Removing Bloede Dam eliminated a safety hazard in a state park where multiple people had drowned.

**Kennebec River, ME:** Since Edwards Dam was removed in 1999, tens of millions of alewives, blueback herring, striped bass, shad, and other sea-run fish have traveled up the Kennebec River, past the former Edwards Dam, which blocked upstream passage since 1837. Abundant osprey, bald eagles, sturgeon and other wildlife have also returned.

**Penobscot River, ME:** Following the removal of two dams on Maine’s Penobscot River, runs of river herring have increased from a few thousand to well over two million.

**Cuyahoga River, OH:** Four dams have been removed from the Cuyahoga since 2005, with benefits for public safety, water quality, fish and wildlife, economic development, and recreation – canoeists can now paddle a 40-mile stretch to Lake Erie.

Explore additional [river restoration success stories](#)

## Additional Resources

- [American Rivers dam removal database](#)
- [U.S. dam removal map](#)

## About American Rivers

American Rivers is championing a national effort to protect and restore all rivers, from remote mountain streams to urban waterways. Healthy rivers provide people and nature with clean, abundant water and natural habitat. For 50 years, American Rivers staff, supporters, and partners have shared a common belief: Life Depends on Rivers<sup>SM</sup>.

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