

Dam Safety

Why do we have dams?

Dams are an essential part of the state's water infrastructure and are built to store water and help optimize the use of this precious resource. In the spring, snow melts and the water comes off the mountains faster than we can use it, which can cause flooding and inefficient use. In the summer, when the water is needed most to grow crops and water landscapes, streamflow declines significantly. Dams and reservoirs allow the spring runoff to be stored for use throughout the year.

Water Storage – Because the amount of water Mother Nature delivers varies from year to year, it's important to have the ability to store water in years where there's an abundance. Some reservoirs have a one-year storage capacity and others up to a 10-year storage capacity!

Flood Control – Dams help control flooding by allowing for the storage of excess water in reservoirs and allowing for the controlled release of water. Flood detention basins are built in or above neighborhoods to provide protection. They are typically empty except during heavy storms.

Power Generation – The U.S. is one of the largest hydropower producers in the world. Some of the Utah dams that produce hydropower include Flaming Gorge, Lake Powell, Deer Creek, Causey, Jordanelle, Pine View, Cutler, Logan 3rd, and Black Smith Upper to name a few.

Irrigation – Dams store water that is used for crops, lawns and gardens. This provides water for the state's agricultural economy and important urban forest and agriculture benefits.

Recreation – Visitors enjoy a variety of recreational opportunities at reservoirs that were created because of a dam including fishing, boating, swimming, paddle boarding, cliff jumping, kiteboarding, jet skiing, ice fishing, floating playgrounds and more.

Dam Safety Program

The Division of Water Rights has the authority to regulate the safety of the dams to protect lives and property and oversees the state's Dam Safety Program. This happens through regular inspections of approximately **700 dams** throughout the state and construction monitoring of all new dams. In addition, about **59** federal Utah dams are inspected and managed by the Bureau of Reclamation under their Dam Safety Guidelines.

The Board of Water Resources approves funding for dam safety projects, and the Division of Water Resources staff provides project management, design review, and construction observation for board-funded dam safety projects.

Dam Classification

Dams are classified according to hazard, size and use. There are three hazard ratings: high, moderate and low. The hazard rating reflects proximity to people and property. High hazard dams are located where there are significant consequences downstream if the dam fails. As growth continues, homes are being built closer to dams, creating "hazard creep," which creates additional urgency to ensure dams meet safety standards and don't put lives and property at unnecessary risk.



Inspections & Improvements

The Dam Safety Program calls for regular inspection of Utah's dams and ongoing improvements of aging and critical structures. The state's role is like an automobile safety inspector: we identify the safety and maintenance issues, but it's the owner's responsibility to make the repairs. Dam owners are responsible for all duties, obligations and liabilities that come with dam ownership.

- Over 200 high hazard dams are regulated by the state; approximately 100 of these do not meet current dam safety standards.
- Forty-five dams have been rehabilitated with state funds to meet current safety standards. An additional 11 have been partly upgraded but need more work to complete the effort.
- High hazard dams are inspected annually, moderate hazard dams every two years, and low hazard dams every five years.

Find the Dams Near You

[Dam Database](#) – The dam inventory found online at WaterRights.Utah.Gov gives the identification, location, construction parameters, and the operation and maintenance history of the dams in Utah.

How Are Dam Safety Projects Funded?

The Legislature has provided grant funding since 1992 in various amounts to the Board of Water Resources to appropriate for dam safety projects. From 1997 to 2007, approximately \$4.3 million was appropriated per year. In 2008, the amount was reduced to approximately \$700,000. From 2009 to present, funding has been \$3.8 million per year. (Regular maintenance and other work may not be eligible for grant funding.)

Historically, the cost of each dam safety project has averaged about \$2-3 million. (Cost varies depending on the size of the dam and the extent of the deficiencies.) **At the current level of funding, the state can fund, on average, only one or two dam safety projects each year.** With each passing year, inflation chips away at the dollar's buying power, and the ability to complete projects continues to diminish. For example, projects slated for 2021, 2022 and 2023 have cost estimates of \$17, \$11 and \$7 million respectively.

In order for the remaining high hazard dams to be brought up to minimum safety standards, an estimated \$250 million is needed. **At the current funding rate, this is estimated to take about 66 years.** If funding were increased by \$6.2 million to a total of \$10 million per year, the dams could be upgraded in approximately 25 years.

The Board of Water Resources will continue to work with the Dam Safety program to determine which dams are the highest priority and to address these projects as funds allow, but the current level of funding is insufficient to address all the minimum standard issues. As a result, dam safety projects are being delayed due to a lack of funds. Additional funding would accelerate urgent dam safety upgrades.

For more information, visit Water.Utah.Gov/Dam-Safety or call 801-803-0336.

