Why Invest in Dam Safety?

ACWA Association of California Water Agencies

CMUA CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION

California can protect public safety and enhance the state's climate resilience by dedicating funding for public safety projects at existing dams, including repairs, reinforcements, seismic upgrades and new spillways.

As detailed in "State High Risk," the California State Auditor's updated assessment of high-risk issues faced by the state released in 2020:

> "Aging water infrastructure within the State continues to threaten public safety. Specifically, inadequately maintained dams or those not meeting standards, especially those whose failure could affect large populations, pose significant risks to California residents."

Many of these aging facilities present public safety risks and cannot provide their intended water supply benefit because they have been forced to operate at levels significantly below their full design capacities.

The impacts of climate change on California's hydrology also will require improvements to existing dams and their associated facilities to ensure that they can provide flood protection benefits now and into the future.

In total, half of the state's 1,250 dams are classified as "high" or "extremely high" downstream hazard risks by the California Division of Safety of Dams (DSOD).

Re-investing in existing facilities across California will protect public safety and enhance the state's climate resilience. The following examples demonstrate the need for investment in dam safety projects statewide, as well as the significant value and public benefits of these projects.

Examples of Dam Safety Projects

1. **Anderson Dam Federal Energy Regulatory Commission (FERC) Order Compliance**
   Santa Clara County
   Estimated Project Cost: $475 million

2. **Second Spillway at New Bullards Bar Dam**
   Yuba County
   Estimated Project Cost: $240 million

3. **San Antonio and Nacimiento Dams Repair/Rehabilitation**
   San Luis Obispo County and Monterey County
   Estimated Project Cost: $160 million

4. **Lake Hodges Dam Repair/Rehabilitation**
   San Diego County
   Estimated Project Cost: $275-300 million

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1 Anderson Dam FERC Order Compliance Project

Santa Clara County
Estimated Project Cost: $475 million

A large earthquake on nearby faults could result in significant damage to Anderson Dam, possibly leading to dam failure and an uncontrolled water release that could inundate cities and rural areas from San Francisco Bay south to Monterey Bay, including much of Silicon Valley. The Santa Clara Valley Water District (Valley Water) is working closely with federal and state regulators on this first phase of a larger $1.2 billion project to fully remove and replace the dam.

The now drained reservoir had a capacity of nearly 90,000 acre-feet, enough water to supply a million people for a year. It is the largest in Santa Clara County, and its reconstruction is critical to the regional water supply system. Valley Water is moving expeditiously to construct a new dam outlet structure and necessary downstream flood, groundwater recharge and environmental improvements.

2 Second Spillway at New Bullards Bar Dam

Yuba County
Estimated Project Cost: $240 million

Yuba Water Agency is designing a new, second spillway for New Bullards Bar Dam — the state's second tallest dam, with a reservoir capacity of approximately one million acre-feet.

This additional spillway will have gates 31.5 feet lower in elevation, which will significantly reduce flood risk for approximately 100,000 downstream residents and agriculture along the Yuba and Feather rivers. The lower gates will improve operational flexibility, allowing for water releases in advance of large, threatening storm events, during periods when there is enough downstream channel capacity to handle increased flows. This protects more than $500 million in levee improvements made over the last 20 years by reducing river elevations on levees during storms, which significantly enhances flood protection for communities across the region.

3 San Antonio and Nacimiento Dams Repair/Rehabilitation

San Luis Obispo County and Monterey County
Estimated Project Cost: $160 million

Monterey County Water Resources Agency (MCWRA) owns and operates the Nacimiento and San Antonio dams and reservoirs. These two dams provide flood protection and groundwater recharge to more than 418,000 acres, with much of the acreage supporting a $4 billion agricultural industry in the Salinas Valley. Included in this area is a population of over 200,000 people in cities and towns like King City, Gonzales, Soledad and Salinas, as well as rural areas that utilize groundwater as the primary drinking water supply.

MCWRA currently has self-imposed operational criteria in place for these facilities and, without improvements, it is possible that further water storage limitations will be required, impacting MCWRA's ability to provide reservoir releases necessary for groundwater recharge and municipal, industrial, and irrigation water supply wells.

4 Lake Hodges Dam Repair/Rehabilitation

San Diego County
Estimated Project Cost: $275-300 million

Owned by the City of San Diego, Lake Hodges Dam was constructed between 1917-1919 and has a reservoir capacity of 30,633 acre-ft. The dam is located on the San Dieguito River near Escondido and has an "extremely high" downstream hazard classification from DSOD. Hodges Reservoir is the main source of local water for Santa Fe Irrigation District. Other local water suppliers also hold water rights in Lake Hodges.

In August 2019, DSOD imposed a water level restriction for Lake Hodges, which resulted in a 57% reduction in the reservoir's capacity. This restriction significantly reduces the ability of the districts to store local water supplies and reduces the regional emergency storage levels protecting San Diego County in the event of disruption of the imported water system or due to a catastrophic event such as an earthquake.

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