

Hodges Reservoir and Dam

The Hodges Reservoir Dam is a multiple arch dam with ogee spillway that was built in 1918. It has a total storage capacity of 30,000-acre feet. The reservoir is operated and maintained by the City of San Diego's Public Utilities Department and is within the jurisdiction of the California Division of Safety of Dams.

Hodges Dam was built over 100 years ago. Over time and due to constant exposure to environmental elements, materials used to construct the dam have become degraded. Repairs to the dam began in May of 2022 (see the [Hodges Maintenance Project FAQ](#) for additional information) to address some of the most deteriorated conditions on the upstream side of the dam face.

Questions & Answers

What is the purpose of Hodges Reservoir?

The primary function of Hodges Reservoir is to impound water for drinking water purposes. Secondary functions are to provide renewable energy and recreational opportunities.

Who does the water in the reservoir serve?

Water in Hodges is used to primarily serve the cities of San Diego and Solana Beach, portions of the city of Encinitas and communities of Rancho Santa Fe and Fairbanks Ranch. In addition, water in Hodges Reservoir is part of the San Diego County Water Authority's regional emergency supply that can be used to meet demands during an emergency event.

What is the condition of Hodges Dam?

During repairs to the upstream face of Hodges Dam, concrete deterioration was discovered on the arch barrels of the dam. This resulted in the State Division of Safety of Dams (DSOD) changing the condition assessment for the dam from "Poor" to "Unsatisfactory." Under this "unsatisfactory" rating condition, reservoir restrictions (lower than the maximum storage) or other interim risk reduction measures are required.

What does this require from the City?

In addition to the [Hodges Maintenance Project](#) that began in May 2022, the City commissioned an engineering consultant to conduct a consequence modeling study for a hypothetical failure of the dam due to a major earthquake (7.0 or higher) in coordination with DSOD. The study recommended that the water level be restricted to 280 feet to minimize potential impacts to the surrounding community. DSOD reviewed the study and has directed the City to restrict the water level to 280 feet. In addition to maintaining the 280-foot restriction level, prior to a new dam being constructed, the City is pursuing several interim risk reduction measures. These include regular monitoring, exploring the use of remote monitoring instruments and conducting an emergency preparedness and public outreach exercise focusing on unique stakeholder institutions downstream of Hodges that are within inundation areas.

Am I safe?

Yes. There is not an imminent threat of failure of Hodges Dam. The number one priority for the City is maintaining the water level in the reservoir at a safe elevation in accordance with the state regulator to

reduce downstream risk in the event of a catastrophic failure caused by a major earthquake. Monitoring of the dam structure is being done consistently along with ongoing coordination with DSOD.

How will I know if there is a breach?

In the absence of hearing or seeing water in the downstream inundation area, notifications will be handled in the manner described below and/or members of the public may potentially see information on the news, radio, social media.

How will I be notified?

In the event of a breach or failure, notifications follow the procedure below:

1. The City, as the Dam Operator, notifies Sheriff's dispatch, County Office of Emergency Services (OES) Duty Officer, and City of SD PUD Emergency Manager.
2. Sherriff/OES will assess the call, collect information, and initiate reverse 911 and WEA (Wireless Emergency Alerts).
3. EOC/DOCs would be activated, and an incident command post established.
4. Law enforcement and first responders would go through communities, door to door if time allowed, evacuating residents in some of the higher areas and start road closures.

Is there an official notification process on the downgrading?

Notification starts during the annual inspections performed by the DSOD. The inspections include a site visit with an engineer from DSOD that includes observations, recommendations, or actions needed. After the inspection, typically the dam owner receives a letter from DSOD that formally states the observations, recommendations, or actions needed, and if so, a downgrade based on DSOD's assessment of the dam. DSOD is required by Division 3, Part 1, Chapter 8, section 6429 of the California Water Code to post on its website an update annually (typically around September) a report on rating condition and imposed reservoir restrictions and planned or completed actions the dam owner reports to DSOD to address the restriction. Additionally, the City of San Diego posts dam condition status on the City's website: <https://www.sandiego.gov/reservoirs-lakes/reservoir-dams>

How are we addressing this issue?

The City continues to make repairs to the structure to address deteriorated concrete. In the future, it will be necessary to replace the dam structure in order to restore water storage capacity and to build a dam that meets today's local water needs and engineering standards. The City has identified several additional near-term risk reduction measures and has begun to implement the following repair projects:

- Install additional measurement devices to improve seepage monitoring
- Repair concrete deterioration on the downstream face of the dam
- Repair the deteriorated spillway apron
- Evaluate additional monitoring instrumentation needs
- Improve and refine the emergency action plan
- Conduct ongoing monitoring and inspections to maintain the safety and reliability of the dam

What steps have we taken so far to building a new dam?

An alternatives analysis of various options to repair, rehabilitate, or replace the dam has been completed and the City is now pursuing 10% design for a new roller compacted concrete dam structure. It is envisioned a new dam

could be built by 2034 following the required environmental review, design and permitting processes.

How are we going to pay for a new dam?

The City is exploring numerous funding opportunities to minimize the impact to water ratepayers, including FEMA’s High Hazard Dam Grants funding, Federal Water Infrastructure Finance and Innovative Program Account (WIFIA), the US Army Corps of Engineers’ Water Infrastructure Financing Program (CWIFP) program, and new federal FEMA Safeguarding Tomorrow Revolving Loans. In addition, the City continues to work with the Governor’s Office to advocate for state appropriations for dam repairs and replacement.

When will recreation at the Hodges Reservoir reopen?

Hodges Reservoir is expected to open for shore fishing, float tubes, sailboarding, and stand-up paddle boarding later this year. The Coast to Crest trail, on the north side of the reservoir is managed by the San Dieguito River Park and remains open for hiking. Due to fluctuations in water level, the exact opening date will be determined at a later date.

What impacts will there be to recreation?

At this time the reservoir is still closed, as repairs to the dam continue. Hiking trails, like the Coast to Crest trail, are available and open for the public to use. We anticipate the repairs will be finished this spring and we are evaluating potential options to accommodate recreation at Lake Hodges with this lower water level. We will update the public with additional information as it becomes available.

How do we know our other dams are safe?

The City of San Diego currently owns and maintains 9 dams under the regulatory jurisdiction of the California Department of Water Resources (DWR), Division of Safety of Dams (DSOD) that are part of the City’s raw drinking water reservoir system. The City has some of the oldest dams in the state of California, they are approaching or have exceeded the end of their useful service lives (many over 100 years old). As such, the City has created a Dam Safety team that has been completing risk assessments, seismic and structural analysis, condition assessments, and other technical analysis. Results of these studies are submitted to the DSOD, which ensures the City operates its dams in accordance with current safety standards and practices. As issues are identified during studies and inspections, the City acts accordingly. This results in additional studies and analysis being done, completing maintenance tasks, and initiating repair projects.

With all the rain we have been getting recently, how are we ensuring the level does not go above the 280 ft restriction?

With the recent rains, the City has been continuing water releases below the dam. The City monitors the level of the dam every day, leaving the water releases open as necessary and lowering the level below 280 ft as needed to provide a buffer for capturing rain and runoff from recent and upcoming rain events.

How many dams with this same technology do we operate? How are they different or the same as Hodges? There are two other arch barrel dams owned and managed by the City - Sutherland Dam built in 1954, and Murray Dam built in 1918. The City is currently completing technical assessment of these dams and will have recommendations for repairs or upgrades in the coming years. The following table shows how these three dams vary in specifications:

Dam (No.)	Dam Name	Year Built	Dam Type	Dam Height (ft)	Crest Length (ft)	Arch Span (ft)	Reservoir Capacity (acre-feet)
8-03	Hodges	1918	Multiple Arch	131	729	24	37,700
8-10	Sutherland	1954	Multiple Arch	162	1,020		29,000
8-12	Murray	1918	Multiple Arch	110	870	30	4,818

For more information about the California Division of Safety of Dams, visit <https://water.ca.gov/damsafety/>.

Should conditions change or should more information become available, the City of San Diego will maintain an updated list of questions and answers online: www.sandiego.gov/reservoirs-lakes/hodges-reservoir.

Have more questions? We're here to help. Call us at 619-668-2050 or email us at lakes@sandiego.gov.