

One of California's biggest reservoirs is about to expand — if it can clear a major hurdle

By Kurtis Alexander, Reporter
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Amid rising concerns about California's water future, the fifth largest reservoir in the state is primed for expansion.

A coalition of water agencies, from Silicon Valley to Fresno, has agreed to partner with the federal government to raise the 382-foot-tall dam at San Luis Reservoir, the giant holding pool that looms as a small sea along Highway 152 in the hills between Gilroy and Los Banos.

The dam's enlargement would allow the federally owned reservoir to take in 130,000 acre-feet of additional water, equal to the annual use of more than 260,000 households. This makes the project one of the state's biggest water-storage ventures in years. The Santa Clara Valley Water District, providing for 2 million people including San Jose, is the top beneficiary, and at least five other urban and agricultural water suppliers as well as the U.S. Bureau of Reclamation would be served by the new storage.



A family walks out toward an island on a land bridge at San Luis Reservoir on Sunday. A plan to expand the reservoir has been proposed, with a significant seismic retrofitting component.
Carlos Avila Gonzalez/S.F. Chronicle

California reservoir levels: [Charts show water supply across the state](#)

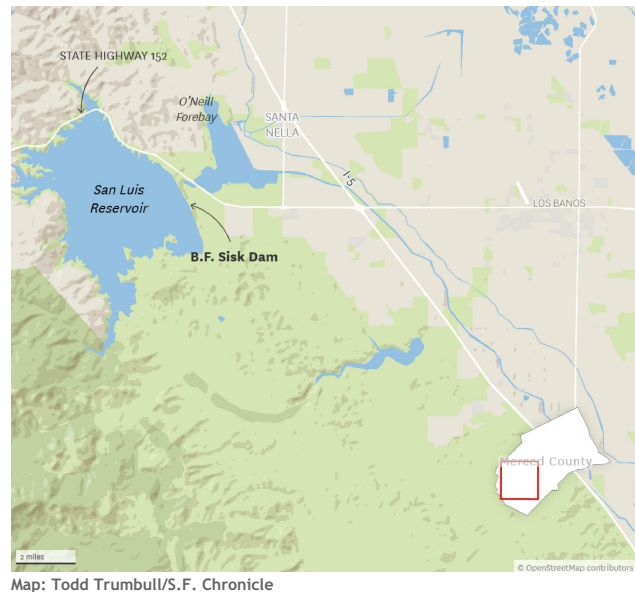
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While the proposed expansion hasn't faced significant opposition — no small feat for such a large undertaking — a sticking point has emerged: a plan to move the nearby highway, accounting for nearly half of the cost of the \$1 billion project.

Many of the participating water agencies, which will pay the bulk of the total bill, are rethinking whether they can or should cover the estimated \$475 million worth of highway work. Recently, two of the eight water agencies backed out of the project, citing the road expense. Others are expressing doubts about going forward without reducing this cost.

The agencies are specifically taking issue with earthquake protections required for the road, as directed by the state Department of Transportation, or Caltrans. They say they understand having to reroute a mile of state Highway 152, which would otherwise be uncomfortably close to the expanded reservoir. But they believe paying for the earthquake fix is too big of an ask. They estimate it could cost as much as \$350 million.

“We are concerned that shifting the burden of broader public safety and seismic improvements onto the water users could make the overall project financially unfeasible,” said Cannon Michael, a grower in the San Joaquin Valley and chair of the San Luis and Delta-Mendota Water Authority, which delivers water from the reservoir and represents the agencies that receive reservoir supplies. “These important safety upgrades benefit the broader public and should not be solely borne by the agencies.”



The water agencies have looked to both downsize the required roadwork and get help funding it, but they haven't succeeded at either. The proponents are well aware of a popular reservoir expansion proposal in Contra Costa County — at Los Vaqueros Reservoir — which abruptly fell apart last year over cost issues, and they're determined to avoid the same fate.

Two of the largest agencies behind the San Luis Reservoir project, Santa Clara Valley Water and agricultural supplier Westlands Water District, say even if the highway costs don't come down and more funding partners drop out, they'll try to come up with the financing themselves. The agencies, however, also say they're still evaluating their bottom lines and what their communities can afford. Higher costs for the water agencies mean higher rates for customers.

“It's a really important storage project,” said Russ Freeman, deputy general counsel at Westlands, which provides water for farms growing almonds, pistachios, grapes, tomatoes and the many other crops west of Fresno. “We haven't built one of these surface-storage projects in a long time. I don't know if Westlands will stay in it the whole way. I hope everyone does. It'd be a shame to miss this opportunity.”

No river, no problem

The San Luis Reservoir is a pillar of California's two major water supply systems: the State Water Project and the federally run Central Valley Project.



A spillway is seen at San Luis Reservoir on Sunday.
Carlos Avila Gonzalez/S.F. Chronicle

As an “off-stream” reservoir, meaning it isn’t located on a major river, state and federal water managers use the facility near Pacheco Pass to stash away extra water sent from other parts of California for drier times. The reservoir can hold up to 2 million acre-feet of supplies.

The off-stream location is a primary reason the plan to expand the reservoir hasn’t faced criticism from environmentalists, as dam projects historically have. There is no river to choke or salmon to block.

The expansion proposal calls for raising the 3-mile-long B.F. Sisk Dam by 10 feet in tandem with a retrofit that’s already underway at the dam. The retrofit, which addresses the same earthquake hazards as the required Highway 152 work, is also raising the dam 10 feet, meaning the massive structure would ultimately stand 20 feet taller.

The hope is to have the reservoir expansion work, including the financing, ready to go in 2027 when the retrofit is scheduled to wrap up. Proponents are aiming to complete the expansion, with the reservoir taking in additional water, by 2032.

“There are a lot of signals out there that suggest more storage is needed,” said Cindy Kao, imported water manager for Santa Clara Valley Water, also known as Valley Water, which provides water wholesale to South Bay cities. “We’re looking at climate change impacts to our supplies. We’re looking at aging infrastructure. We’re looking at projections of more extreme weather events and more droughts... We need to do something.”

According to the California Department of Water Resources, water supplies statewide will likely diminish 10% by 2040 because of the warming climate, and precipitation and mountain runoff will become more intermittent, all of which is putting a premium on boosting reserves.

Valley Water would get the largest share of the new storage at San Luis Reservoir, about 60,000 acre-feet, under a tentative agreement reached by the water agencies and the Bureau of Reclamation. The district would also contribute the most to the project’s cost, about \$485 million.

The investment, according to Valley Water officials, would necessitate an increase of roughly \$7.80 on monthly bills for the average Santa Clara County household. Officials say the rate hike is less than what households would pay for other water initiatives being pursued by the agency, including another reservoir enlargement at the smaller Pacheco Reservoir nearby.

“I think of all the projects that I’m aware of, this one is probably the easiest to move forward with,” Kao said. “Assuming we get (help with) the transportation funding, there shouldn’t be any issues.”

The earthquake question

Sorting out the Highway 152 dilemma, however, won’t be easy.

For the San Luis Reservoir project to meet Caltrans permitting requirements, the one-mile segment of four-lane highway that is planned for relocation, on the north side of the reservoir, must be adequately anchored to an adjacent hillside to protect it from earthquakes.

Several faults are located in the region, including the nearby Ortigalita Fault and the well-known San Andreas Fault, and the risk of seismic activity has become increasingly clear since the highway was built decades ago.

The forthcoming plan to construct a large, flat embankment to secure the road, in keeping with Caltrans’ seismic specifications, would add between \$250 and \$350 million of labor and material costs to the project, according to estimates from the water agencies.

Caltrans officials, in a statement, said that the reservoir’s expansion proposal, approved by the San Luis Delta Mendota Water Authority and the Bureau of Reclamation, confirms the need to do the work. Caltrans officials did not address claims that the water agencies were being unfairly stuck with the tab, but they said they were applying for a federal grant to try to help offset the cost.

Additional relief could come with state legislation. A bill introduced in February by Assemblywoman Esmeralda Soria, D-Merced, which faces hurdles in Sacramento, calls on the Legislature to appropriate \$455.5 million to pay for both rerouting and safeguarding the highway.



A set of telescopes looks out toward the dam at San Luis Reservoir outside Gustine (Merced County) on Sunday. Carlos Avila Gonzalez/S.F. Chronicle

As it stands, the water agencies are on the hook for 70% of the project’s total \$1.05 billion estimated cost. The Bureau of Reclamation would pay the balance. Commensurate with their contributions, the water agencies would be allocated 70% of the new storage and the federal government would be allocated 30%. The Bureau of Reclamation uses the water in the reservoir to supply its mostly agricultural contractors with the Central Valley Project

Besides Valley Water and Westlands, those that remain financially committed to the expansion are the San Benito County Water District, city of Tracy, Byron-Bethany Irrigation District in parts of Alameda, Contra Costa and San Joaquin counties and Del Puerto Water District in parts of Stanislaus, Merced and San Joaquin counties.

The Pacheco Water District, which serves farms in several counties in the San Joaquin Valley, dropped out in December. The San Luis Water District, which serves farms and rural communities in parts of Merced and Fresno counties, dropped out in February.

Lon Martin, general manager of the San Luis district, said not being able to secure new storage at the reservoir, going forward, could mean the difference between having enough water for thirsty crops during dry times and having to abandon them.

“This is a once in 10 lifetimes’ opportunity,” he said. But “the 152 upgrade just makes it financially unfeasible,” calling the highway work 99% of the reason the district chose to end its participation.

Adding to the financial challenges for the reservoir project, much of the money committed to the expansion by the federal government, about \$295 million, was frozen by the Trump administration as part of a nationwide spending review. Most comes from the Infrastructure Investment and Jobs Act under President Joe Biden. The Bureau of Reclamation said in early March that a fraction of the money would be released, though it wasn’t clear how much.

Federal officials did not respond to questions from the Chronicle about the funding, nor about the project. The water agencies, however, have said they’ve been in communication with the Bureau of Reclamation and remain confident that all of the money will come.

Timely financing is important because the expansion work is supposed to be ready to start when the dam’s seismic retrofit winds down, to capitalize on cost savings. The plan calls for using many of the same designers, crews and equipment as the retrofit.

“Like any project of this size, there are complications that arise during its years-long development and implementation,” said Federico Barajas, executive director of the San Luis and Delta-Mendota Water Authority. “We are confident that the value of the project is clearly demonstrated and that it will continue to receive the support necessary to advance.”

Reach Kurtis Alexander: kalexander@sfgchronicle.com



Kurtis Alexander is an enterprise reporter for The San Francisco Chronicle, with a focus on natural resources and the environment. He frequently writes about water, wildfire, climate and the American West. His recent work has examined the impacts of drought, threats to public lands and wildlife, and the nation’s widening rural-urban divide.

Before joining the Chronicle, Alexander worked as a freelance writer and as a staff reporter for several media organizations, including The Fresno Bee and Bay Area News Group, writing about government, politics and the environment.

<https://www.sfchronicle.com/climate/article/san-luis-reservoir-water-california-20214161.php>

FOR Addendum: The article confuses water storage capacity (space) with actual water that could be reliably delivered to homes from that storage space. Dependable capacity of 130,000 acre-feet of additional storage space here has not been publically modeled as far as we know, but it might be somewhere around 0 acre-feet to 15,000 acre-feet per year, depending on operational assumptions involving marginal storage-to-yield ratios. That might serve somewhere between 0 to 30,000 homes, using the standard assumptions on water use per household (<https://www.watereducation.org/general-information/whats-acre-foot>) and depending on the degree of reliability sought.

Also, the article fails to distinguish between not to opposing construction of a dam project while taking an oppose condition on taxpayer subsidies for the project. Organizations may choose to do one or the other or both.