ND WATER DEEPLY

California's Largest New Reservoir Likely to Face Water-Access Limits

The $5 billion Sites Reservoir project recently won by far the largest award in a state funding competition. But separate state regulatory actions could limit how much water it can tap from the Sacramento River.

By Matt Weiser

Sites Reservoir, the largest new water storage proposal in California, recently won a commitment of $816 million in state funds to help with construction. It promises to deliver enough water every year, on average, to serve 1 million homes. But regulatory realities looming in the background may mean the project has substantially less water at its disposal.

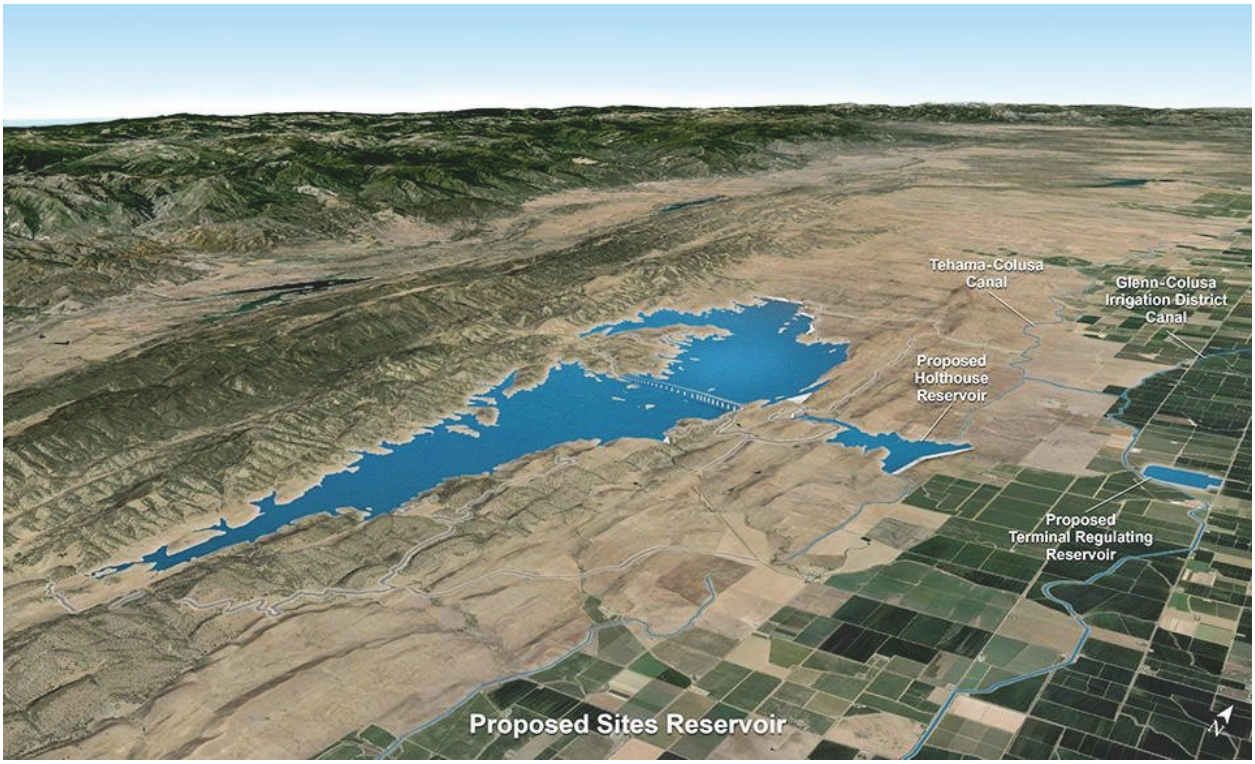
The proposed location for Sites Reservoir, near Maxwell, Calif.
Randy Pench, The Sacramento Bee

The project would inundate an oak-studded valley 8 miles west of Maxwell, a town on Interstate-5 about a 90-minute drive north of Sacramento. For a total construction cost of $5.1 billion, the shallow Sites Reservoir could store 1.8 million acre-feet of water.

Much of the project's appeal lies in the fact that it is an "off-stream" reservoir, meaning it would not store water by damming a major river. Instead, it would be filled by water pumped from the Sacramento River, 14 miles away, during times of surplus flow. On average, project proponents estimate, about 500,000 acre-feet of water would be available annually for delivery to farms, cities and wildlife refuge areas.

As an off-stream reservoir, Sites would not be subject to typical winter flood-control requirements, which require most reservoirs to release vast quantities of water during winter – even during droughts.

It also is designed to work in concert with other major reservoirs in Northern California to benefit wildlife. For instance, Sites could deliver summer irrigation water to farmers instead of the much larger and deeper Shasta Reservoir, allowing the latter to preserve its cold water pool for the fall salmon run.



A rendering of the proposed Sites Reservoir, a 1.8 million acre-foot project that would be fed by diversions from the Sacramento River.
(Image courtesy: Sites Project Authority)

“It’s just a different animal. It works differently,” said Rob Thomson, environmental planning manager for Sites. “It’s a way of starting to head toward sustainable surface water management.”

In July, the California Water Commission committed to fund $816 million of the total construction cost for Sites using money generated by Proposition 1, a water bond approved by the state’s voters in 2014. Sites received by far the largest award out of the eight projects approved for funding.

The $4 billion balance of construction costs would be funded by more than two dozen water agencies that have shown interest in the project, ranging from the nearby Maxwell Irrigation District to the giant Metropolitan Water District of Southern California.

The commission also agreed to hand over $41 million in “early funding” to help Sites pay for environment studies and permits prior to construction.

But two routine regulatory actions converging on the project mean Sites could be forced to cut its 500,000 acre-foot annual delivery estimate. This, in turn, could make its water more expensive for the agencies that choose to invest.

The first is an update of the Bay-Delta Water Quality Control Plan. Led by the State Water Resources Control Board, it would require thousands of water-rights holders to reduce their diversions from the Sacramento River and its tributaries in order to improve flows for aquatic habitat and water quality.

The Sacramento River – the largest river in California – is already considered oversubscribed, meaning more water rights have been issued than there is actual water to extract. The result was illustrated during California's recent five-year drought, in which thousands of water rights had to be curtailed to ensure enough flow for the most senior water-rights holders and for salmon, steelhead, sturgeon and other imperiled fish.

The Bay-Delta Plan Update would make some degree of curtailments permanent to protect the long-term health of the watershed and the Sacramento-San Joaquin Delta, the largest estuary on the West Coast of the Americas.

The water board has yet to release a draft document explaining what those curtailments will look like. Under the Clean Water Act, the plan must be updated every three years. As of now, it has been 12 years since the last update.

But a similar process began in 2017 for the San Joaquin River, and three tributaries could require steep cutbacks for many diverters in that watershed.

The Sites project does not yet have water rights on the Sacramento River to fill the proposed reservoir. This environment of permanent cutbacks for existing diverters is likely to make obtaining new water rights even more difficult.

"When the water board adopts new standards for Delta outflow and Sacramento River inflows to the Delta, that would limit the periods of time when Sites could be diverting," said Doug Obegi, an attorney at the Natural Resources Defense Council who is monitoring the process. "It would significantly reduce the yield of the project."

Thomson said it's too early to tell how the water board's process will affect Sites.

He emphasized the whole purpose of the Sites project is to capture water when a surplus is available, such as during storm runoff. As a result, it may not be affected by the same rules that govern water rights for farms and cities, which divert water on a more continual basis.

"It's pretty darn speculative," he said. "Of course, it will change our diversion criteria when they implement the plan. But this is a complex project and we're

adding into an already complex water system. So it's not easy to give yes and no answers."

The second potential limit arises from concerns expressed by the state's Department of Fish and Wildlife. In formal comments submitted in January on the Sites draft environmental impact report, department officials said the reservoir may not be able to divert water from the Sacramento River as often as its proponents think. The issue has to do with "bypass flows."

Proposed operation of Sites calls for diverting water into the reservoir whenever flows in the Sacramento River are between 3,250 and 5,000 cubic ft per second, depending on where the water is diverted. This is known as the bypass flow.

The Department of Fish and Wildlife, however, says the bypass flow in the river must be at least 13,000 cfs before Sites can divert. The reason is that imperiled salmon in the river need at least that much flow to survive. This much additional bypass flow means Sites may have less opportunity to fill the reservoir and, potentially, less water in total available to sell.

"That will obviously change the economics pretty dramatically, and will change who's interested in the project," said Obegi.

Thomson said the smaller bypass flow numbers were used for the environmental impact report in order to analyze the worst possible effects on fish and habitat. He also said that if the project must adhere to a higher bypass flow requirement, it won't necessarily limit total diversions into the reservoir.

One reason, he said, is climate change: It is possible the bypass flow number will be exceeded more often as precipitation in the watershed falls as rain rather than snow. This could make the Sacramento River "flashier," and the Sites project could capture those flow peaks.

"If our permits increase those bypass amounts, then we would have to adapt our operations," Thomson said. "But you can't equate that to total volume, because you have to know how many days or hours or weeks you can divert for."

Another option for the project is to build a smaller reservoir. Sites officials have previously said they would consider reducing its size, based on the amount of investment from participating water agencies.

Receiving the $816 million in state funds for construction is conditioned upon obtaining water rights and environmental permits, among other things. Thomson said

he anticipates the Sites project will have all those requirements ready for the state Water Commission by the end of 2021.

https://www.newsdeeply.com/water/articles/2018/09/26/californias-largest-new-reservoir-likely-to-face-water-access-limits