

# S.F.'s legendary Hetch Hetchy reservoir turns 100. What's next?

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On May 24, 1923, San Francisco officials sent water thundering into a valley that Sierra Club founder John Muir described as a “one of Nature's rarest and most precious mountain temples.”

Thus the controversial Hetch Hetchy reservoir was born – and 100 years later, some environmentalists still cherish the notion of restoring the temple by draining the valley, even as San Franciscans continue to rely, almost wholly, on its pure, high-quality water.

“It's a tough issue for people in San Francisco. Many people are, I would say, religiously attached to Hetch Hetchy (water),” said Spreck Rosekrans, executive director of Restore Hetch Hetchy, an organization that continues today to advocate for Hetch Hetchy Valley's restoration.

Yet at the same time, the opposite talk has even begun of raising the O'Shaughnessy Dam that encloses the reservoir, so the valley can hold even more water.

“I know (raising O’Shaughnessy Dam) is a controversial thing to say,” said Susan Leal, a former general manager of the San Francisco Public Utilities Commission. But given alternate periods of drought and huge storms, “You may need to impound more water.”

Steven Ritchie, a SFPUC assistant general manager, noted that O’Shaughnessy Dam has already been raised once: 85 feet in 1938, “when California went through one of its first really big droughts” of the modern era. The original builders kept the technical possibility of raising the dam by another 65 feet, Ritchie said.

“I said, ‘Well gosh, that’s never going to happen. But I stopped saying that, not because I think it’s going to happen, but because the future is really uncertain. Could that happen someday? Possibly – 20, 30, 40, 50 years from now, that may become a very viable option,” Ritchie said.

Hetch Hetchy, carved out of the mountains by rivers and glaciers, sits 167 miles from San Francisco in a little-visited corner of Yosemite National Park. The water it holds travels to the taps of 2.6 million city dwellers in San Francisco and nearby counties.

Shuttling snowmelt from the peaks of the Sierra Nevada through tunnels beneath the San Joaquin Valley entirely via gravity, the Hetch Hetchy water system not only operates without carbon-based power but also generates clean hydroelectric energy of its own.

“It’s a marvel of engineering,” said Jeffrey Mount, a senior fellow of water policy at the Public Policy Institute of California.

Among city residents, water from Hetch Hetchy is beloved for its quality and cleanliness. Leal recalled going to farmer’s markets nearly two decades ago and setting up blind taste tests: water from three brand-name bottling companies alongside water from Hetch Hetchy.

“Hetch Hetchy won most of the time; in fact, overwhelmingly, Hetch Hetchy won,” Leal said.

Native Americans inhabited the valley for more than 6,000 years – its name is derived from the Miwok word *hatchhatchie*, meaning “edible grasses.” As the Gold Rush and westward expansion brought more settlers to the burgeoning city of San Francisco, so too began the “waterways gold rush,” Mount said.

City leaders looked at 13 different options to expand its source of water, including the Sacramento River, the American River and even Lake Tahoe, said Brian Gray, a water policy fellow with the Public Policy Institute of California whose research includes Hetch Hetchy’s history.

San Francisco ultimately chose Hetch Hetchy Valley and the Tuolumne River because the city had already secured water rights for the location; because of the ability to deliver water by gravity; and because the water would be well-protected from pollutants, being wholly within a national park, Gray said.

Despite Muir's passionate push to save the valley, city leaders in the wake of the 1906 earthquake and fire were able to convince Congress that they needed a reliable water supply – and thus Congress passed the Raker Bill of 1913, authorizing San Francisco to dam and flood Hetch Hetchy Valley.

"It was a mistake and a quirk of history to dam it in the first place," Rosekrans said.

Today, parts of the San Francisco's original sales pitch to Congress for Hetch Hetchy have gone unfulfilled, Gray said: There are no carriage rides, boats or hotels alongside the reservoir; hydroelectric power has not freed the city from depending on Pacific Gas & Electric Co.; the reservoir services San Francisco and parts of Alameda, San Mateo and Santa Clara counties but not the rest of the greater Bay Area.

Instead, much of the focus has been on readying Hetch Hetchy for California's slate of disasters: earthquakes, wildfires, drought and now, atmospheric-river flooding.

Leal, the former SFPUC general manager, was a city treasurer brought in to steer a \$4.5 billion seismic upgrade of the Hetch Hetchy system, she said. "The Hetch Hetchy system crosses over every major earthquake fault in the Bay Area – more than once," SFPUC spokesperson Joseph Sweiss noted.

Still, "the biggest thing that we were able to do is get people to use less water," Leal said. But heading into the future, asking people to voluntarily conserve will not be enough, Leal said.

Restore Hetch Hetchy's plan for replacing Hetch Hetchy Reservoir involves banking excess water in groundwater aquifers, recycling more water and expanding storage in San Francisco's local reservoirs.

Yet, regardless of whether Hetch Hetchy remains a reservoir or is returned to a valley, these alternatives may all be needed to bring stability to the water system, other water experts said.

"That means thinking about new and different ways, using recycled water in particular, as a way to supplement our supply in the future, so that we don't have to keep expecting that when we get to those dry years that Hetch Hetchy will be there all the time, because we might go through some really severe droughts," Ritchie of the SFPUC said.

It could be difficult getting San Franciscans to embrace recycled water over unfiltered snowmelt, Leal said.

"We convinced people it was such great water, which it is, but at the same time people go, 'I only want Hetch Hetchy,'" Leal said.

As for other options, right now, San Francisco gets little of its water from groundwater because “they have lots of cheap, high-quality water without going to the trouble,” said Jay Lund, vice director of the UC Davis Center for Watershed Sciences. But the city could benefit from storing more water underground, freeing up space in the reservoirs to catch rain from the storms that punctuate periods of drought, Lund said.

Some say that the climate crisis, with its drought-to-deluge swings, will make the reservoir more important than ever before.

“Climate change pushes my own needle more on the cautious, skeptical side as opposed to the more idealistic, romantic side of wanting to see the valley restored,” Gray said.

On the other hand, shrinking green spaces could prompt renewed environmentalism that seeks more places for nature recreation.

“As we value the environment more, we might want to get more of the environment back. The Hetch Hetchy system is sitting on a very nice piece of the environment,” Lund said.

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