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This zombie dam project underscores California's dilemma over water

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Twentieth century thinking for a 21st century problem? An artist's rendering of the proposed Temperance Flat Dam on the San Joaquin River north of Fresno. (San Joaquin Valley Water Infrastructure Authority)

Despite what you may have gleaned from television and the movies, zombies aren't always constituted of flesh and blood. Sometimes they come in concrete and rock.

Exhibit A is a \$3-billion dam proposal on the San Joaquin River known as Temperance Flat. The project's beneficiaries, chiefly growers in the San Joaquin Valley, have struggled for years to justify its construction. Its critics say they've done so by statistical cherry-picking: They've exaggerated the probable water yield from the dam while understating its negative impacts on the environment and recreational resources.

The dam may have received a mortal blow this month from the California Water Commission, which has the job of allocating \$2.7 billion earmarked for water storage projects in the state water bond measure approved by voters in 2014. Temperance Flat's supporters sought up to \$1 billion. As my colleague Bettina Boxall reported, during a round of votes May 3, the commission approved a mere \$171 million.

Faring slightly better was the Sites project, a \$5.2-billion plan to pump water from the Sacramento River into a shallow valley about 15 miles west. Its backers sought \$1.4 billion and received \$917 million. But like Temperance Flat, Sites had a negative cost-benefit rating.

"It's a hard blow," Mario Santoyo, executive director of the San Joaquin Valley Water Infrastructure Authority, Temperance Flat's chief promoter, said of the commission decision. "But it's not a fatal blow."

Those were brave words, but they glossed over the challenge of making up the lost funding from the only other possible sources — the federal government and investors such as water districts.

What Temperance Flat does have going for it is heavy support from local politicians, especially Republicans hoping to appeal for help from the Trump administration. "Lots of elected officials are basically focused on making this project happen," Santoyo told me.

In October, 14 GOP members of Congress wrote the water commission in support of the project, but it's not an exclusively Republican hobby horse — Democratic Sen. Dianne Feinstein also has been sympathetic to the project.

Yet the hard-core realities of California water suggest that Temperance Flat should be given a decent burial, never to rise again.

After about a century of assiduous dam-building, the United States has gotten out of the construction business and moved to dam-removal. That reflects a recognition that dams are expensive, environmentally disastrous and offer benefits that are frequently oversold and fade away over time.

The federal government hasn't built a major dam in California since New Melones Dam in the Sierra Nevada foothills, which was originally approved in 1944 but not completed until 1978. Dismantling of four dams on the Klamath River spanning California and Oregon is set to take place in 2020 under an agreement last year among the two states and the Trump administration. Scores of others from coast to coast have come down in recent years, liberating wild rivers that had been imprisoned behind concrete ramparts for decades.

Temperance Flat's promoters say it's necessary for holding back water that otherwise would flow down the river to the ocean — especially now, as state-ordered restrictions on drawing groundwater start to cut into the water supply for Central Valley farms.

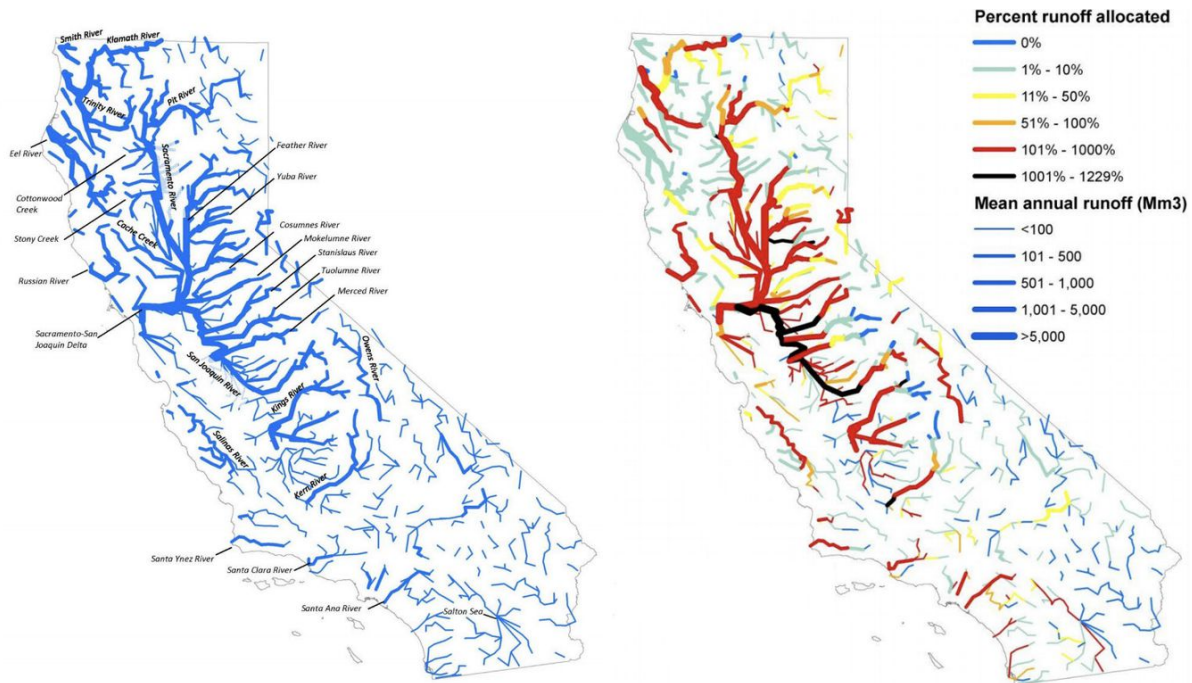
But in recent years, attention has shifted to other options for storage. These include underground storage and recycling and reclamation projects.

Temperance Flat may offer the least bang for the buck of any water storage project on California's drawing boards. To begin with, the water it could provide to users is a relative trickle. The San Joaquin River already is the most over-allocated in the state, according to a 2014 survey by Theodore Grantham of UC Davis and Joshua Viers of UC Merced.

Grantham and Viers calculated that existing water rights — that is, the legal right to draw water from a source — accounted for eight times as much water as the San Joaquin could yield in an average year. That was worse than any other major river system, but by no means unique; they

reckoned that water rights, some dating from the 19th century, covered five times more than the available runoff from the state's rivers.

The San Joaquin is so heavily exploited by eight large dams and reservoirs and two canals that it has been reduced to dry sand for much of its length. Among the catchments is Millerton Lake, the reservoir behind the Friant Dam, which the federal government opened in 1942 about 20 miles north of Fresno.



California's major rivers mapped (left) and ranked by their allocation (right): The black steak in the middle of the state is the hopelessly overdrawn San Joaquin. (Grantham & Viers, *Environmental Research Letters*, 2014)

Temperance Flat would be built at the upstream end of Millerton Lake, but because so much of the San Joaquin's water already is diverted to users, its contribution to total supply would be minimal. While Millerton provides about 825,000 acre-feet a year, Temperance Flat would provide an average of about 70,000 acre-feet, according to credible estimates. (An acre-foot is 326,000 gallons, enough to meet the water needs of two average California households for a year.)

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RONALD STORK, FRIENDS OF THE RIVER

"It's one thing to put a dam on a river that has water in it," says Ronald Stork of Friends of the River, a dam opponent. "But to dam up an already dry river does seem like a stretch. You can't squeeze a lot more water out of this river."

The dearth of positives is what doomed Temperance Flat before the water commission. To be eligible for an appropriation from the 2014

water bond measure, the project had to show that it would produce public benefits, including in flood control, environmental improvements and recreation.

The project's backers claimed that building the dam would improve prospects for the Chinook salmon fishery, which has been devastated by the drying up of the San Joaquin. Experts from the state Department of Fish and Wildlife concluded, however, that the dam would reduce water flows on the river and increase temperatures of the water that did flow to levels that would affect incubation and growth of young salmon. That would "hinder the successful reestablishment of a self-sustaining population of spring-run Chinook," the agency said.

State officials also concluded that the dam would flood hiking trails and a cave system enjoyed by spelunkers, eliminate miles of white-water rafting and reduce opportunities for rock climbing. Two Pacific Gas & Electric hydroelectric stations would be swamped. Flood control would be minimal.

What's worst about the political commitment to Temperance Flat is that it distracts from efforts to find sensible solutions to the water scarcity afflicting growers in part of the Central Valley.

"It's a tragedy that this has consumed an enormous amount of energy," says Barry Nelson, a water policy consultant currently working with salmon fishery organizations. "The energy that has gone into Temperance Flat should have gone into a project that could have been built."

The inescapable fact about California's water supply is that it's hopelessly outstripped by existing demand. No new water is coming to the state. The only way to satisfy new demands, Grantham and Viers observed, is to take water away from someone who has it. That spells more social and political conflict, especially as climate change turns the state hotter and drier.

The solution, they wrote, is to bring California's water allocation system into the 21st century. That means innovations in water use, new recycling and storage technology, and a modernization of the legal landscape.

It doesn't mean building multibillion-dollar dams that yield relative droplets of water by taking them away from some users and giving them to others. That's 100-year-old thinking, and we need to move past it.

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Pulitzer Prize-winning journalist Michael Hiltzik writes a daily blog appearing on latimes.com. His business column appears in print every Sunday, and occasionally on other days. As a member of the Los Angeles Times staff, he has been a financial and technology writer and a foreign correspondent. He is the author of six books, including "Dealers of Lightning: Xerox PARC and the Dawn of the Computer Age" and "The New Deal: A Modern History." Hiltzik and colleague Chuck Philips shared the 1999 Pulitzer Prize for articles exposing corruption in the entertainment industry.