

Opponents of California's Delta Tunnels Project Push Alternative Strategies

The state's proposal to build twin tunnels under the Sacramento-San Joaquin Delta cleared another hurdle last month, but opponents still believe that better options exist.

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A rendering of California WaterFix from a video explaining the project shows a holding pond from which water would be pumped, replacing the current pumps in the south Delta. [California WaterFix](#)

IN JUNE, TWO federal agencies gave their blessings to the controversial project to build two water conveyance tunnels under California's Sacramento-San Joaquin Delta. Environmental groups promptly sounded the alarm that the state's so-named WaterFix project would not, as its backers claim, solve the matrix of problems plaguing the Delta and the people and creatures relying on it.

The existing pumps that export Delta water have drastically upset the balance of the estuary's ecosystem, causing fish declines and the intrusion of saltwater from San Francisco Bay. Farmers tend to want more of the Delta's water while environmentalists say less water must be diverted through the pumps.

The proposed tunnels would slightly increase water exports. Nevertheless, the United States

Fish and Wildlife Service and the National Marine Fisheries Service released detailed biological opinions that the 35-mile-long tubes would not further harm threatened or endangered fish in the Delta, which are struggling to survive.

But some fishery advocates and environmentalists disagree, warning that building and operating the twin tunnels could worsen existing problems. They argue that WaterFix will accelerate the decline of native fish species, flood the Delta with saltwater and mainly benefit large farms that will receive water from the \$16 billion diversion project. These critics want the tunnels halted.

But if not WaterFix, then what? Peter Moyle, a University of California, Davis, fishery biologist, believes the Delta tunnels will help imperiled salmon and smelt mainly by changing the location from which water is drawn from the Delta. It also provides a point of diversion that is 30ft above sea level, whereas the existing pumping stations in the southern Delta are much lower and more at risk of being inundated by seawater.

“If you oppose the tunnels, you need to propose an alternative,” Moyle said.

That is what WaterFix opponents have done.

They describe a variety of tactics that could, they argue, ease the strain on the Delta's water and make the gigantic engineering project favored by Gov. Jerry Brown unnecessary. "I'd rather see 25 smaller regional projects than sink so many resources and \$16 billion into one incredibly expensive, very risky project," said Jeffrey Michael, a professor of public policy at University of the Pacific in Stockton, who believes WaterFix is inherently too risky.



Anaheim Lake is one of Orange County Water District's groundwater recharge basins. Critics of California WaterFix say more aggressive groundwater recharge, along with other storage and efficiency projects, could reduce the need for the costly new conveyance system in the Delta. (Florence Low/California Department of Water Resources)

Some of its opponents have called for changes to cropping systems to reduce California agriculture's heavy demand for water. To lessen the need for the Delta's flows, others have

suggested improved urban water efficiency and more recycling. More off-river storage – like the proposed Sites Reservoir on the western side of the Sacramento Valley, which is projected to add 500,000 acre-feet a year of water – as well as aggressive recharging of groundwater basins, could allow more diversion of water in wet years such as 2017, with minimal impacts to river ecosystems.

In 2013, several strategies were packaged together in a proposed alternative to the tunnels. Called the “portfolio alternative” and introduced by the Natural Resources Defense Council (NRDC) and several other organizations, the idea incorporated a single tunnel but also components of enhanced water storage, habitat restoration and improvements of local supplies south of the Delta.

The single tunnel proposed in the plan would take one-third of the river water that WaterFix would take, but still provide a reliable emergency system in the case of a failure at the south Delta pumps. That is something most experts consider to be inevitable as levees that keep seawater from the pumps falter with age, and as sea levels rise.

NRDC staff attorney Doug Obegi says state agencies, while promoting the twin tunnels plan, have undermined the portfolio alternative by

exaggerating its estimated cost. The state claimed the NRDC's project would cost almost \$11 billion but later admitted to a calculation error (based on the false assumption that the portfolio alternative called for two tunnels, not one) and decided it would cost somewhere closer to \$8.6 billion. Obegi says the state also excluded the portfolio's alternative from environmental impact assessments.

Even with the state's growing population, Obegi insists water demands on the Delta can be eased significantly by reducing urban demands. The State Water Resources Control Board reported that urban communities discharged 1.3 million acre-feet of wastewater into the ocean in 2014. Obegi believes that improved treatment and reuse systems could recycle most of this water, lessening the need for the 4.9-million acre-feet that WaterFix proposes to deliver annually.

Farms use about four-fifths of the water that passes through California's system of dams, pumps and canals. Some policy analysts have suggested that farmers could use less water by growing less. David Zetland, author of "Living with Water Scarcity" and an assistant professor of economics at Leiden University College in the Netherlands, told Water Deeply that a better alternative than two enormous tunnels would be simply to reduce exports to the San Joaquin

Valley and southern California cities. That would create a competitive water market among farmers and cities that depend on northern California water, forcing them to sustainably make use of their own local sources.

Under such a system, Zetland explained in a post on his blog Aguanomics, irrigated agricultural acreage would decline sharply, eliminating about one-half to two-thirds of the industry's water consumption.

Jon Rosenfield, a conservation biologist with the Bay Institute in San Francisco, also wants to see a reduction in the amount of water consumed by farms. While growers are already shifting to efficient drip irrigation systems, that is not enough, he says. For instance, almond growers' water consumption per almond produced has declined by about one-third in the past 20 years, according to the industry. However, California's almond growers have almost tripled their acreage over the same period, with farmers still planting more almond trees in what advocates of sustainable agriculture consider a reckless strategy.

Rosenfield would rather see farmers growing annual row crops, like grains, vegetables and melons, than trees. That is because trees, once planted, must be watered almost constantly,

putting a great strain on Delta supplies.

“If they grew annual crops, they could fallow them in a dry year and the government could cut the farmers a check,” Rosenfield says.

Still, Moyle at U.C. Davis believes the best hope for the Delta and its ecosystem is WaterFix. “The status quo isn’t working, and the only alternative that really works is the tunnels,” he said.

Meanwhile, Michael sees a different outcome: “WaterFix is worse than the status quo.” ■

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