



Build it now, fix it later?

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Even after a decade of studies and tens of thousands of pages of analysis, no one can say precisely what Gov. Jerry Brown's twin tunnels will do to the Delta.

Pushing forward with the \$17 billion project despite the uncertainty, backers are promising to evaluate the impacts of the tunnels after they're built, and potentially change how they are operated as new information comes to light.

This approach generally is endorsed by scientists but comes with a bevy of caution flags, not the least of which is that the water contractors who are paying for the tunnels and will benefit from them apparently would have considerable influence over how they are used.

[Draft documents](#) show that the water contractors would own two seats on a seven-member committee whose job would be to recommend any long-term changes to how much water the tunnels divert, among other

things. Only if all members agree would any changes move forward for consideration by government agencies that would make the final call.

The contractors' prominent role on the committee — the other members all come from state and federal agencies, with no seat at the table for Delta residents or other interested parties — alarms tunnels opponents.

“Just because you have the right to a jury trial doesn't mean you have a right to a seat in the jury box,” said Jonas Minton, with the Sacramento-based environmental group Planning and Conservation League.

He is skeptical, too, of deferring decisions until after the tunnels are built. Minton likens that to the adage coined by the Popeye character Wimpy: “I'd gladly pay you Tuesday for a hamburger today.”

But putting off some key decisions may be the only way for the tunnels to move forward. There are too many variables in the Delta watershed — like future sea-level rise, a smaller snowpack and the possible arrival of more invasive species — to be able to answer all scientific questions now, experts say. Trying to do so could lead to paralysis.

“If you don't do anything until you know everything, then you don't ever do anything,” said Roger Patterson, assistant general manager with the Metropolitan Water District of Southern California, the largest urban user of Delta water.

As for the contractors' role on the committee, Patterson said water users want to “help shape the evaluations that take place there. All we've asked is to be represented there.”



Looking to the future

What this really is all about is a concept known in the wonky water world as “**adaptive management**” — sometimes described by critics as “build it now, figure it out later.”

The prestigious National Academy of Sciences and other independent scientists have concluded that adaptive management is an **acceptable approach** for the tunnels project, where the full impacts won't be known until after the tunnels are already in the ground and siphoning water beneath the Delta. That won't happen until the 2030s at the earliest.

Adaptive management is supposed to be driven by science. For instance, in the case of the tunnels, if the Delta's ecosystem nosedives

once the tunnels are operational, officials could respond by diverting less water into them. Or vice versa.

Patterson says Metropolitan will abide by the science, even if it means less water than expected.

“If you’re going to follow the science you have to be willing to follow it wherever it goes,” he said.

But the structure that is put in place today to make those far-into-the-future decisions is critical. Holly Doremus, an environmental law professor at the University of California, Berkeley, has studied adaptive management programs elsewhere in the country. She considers it “unusual” that the water contractors will have seats on the adaptive management committee while other interested parties will not.

“That seems to be calculated to be a barrier to any changes that would reduce project water deliveries,” she wrote in an email last week.

Will it work?

Adaptive management has a spotty track record. It rarely has been attempted in the Delta, scientists say. It was a key component of the CALFED program that was supposed to end the state’s water conflicts in the 1990s, but that \$3 billion effort fell apart and generally is seen as a failure.

Adaptive management also is a big piece of the restoration plan for the Florida Everglades. That 17-year-old effort has advanced slower than expected due in part to funding problems. In a 2016 review, an independent panel concluded that adaptive management in the Everglades *remains* “unfulfilled.”

There are many reasons adaptive management is so tricky. For one, it requires collaboration between parties that often have conflicting goals. That is true in the Delta, where the water contractors want to

secure a more reliable source of water, while wildlife agencies want to correct a steep decline in the health of the estuary.

Finding common ground may be difficult, Doremus said.

Equally important, money set aside for adaptive management tends to dry up. It will cost millions of dollars to conduct the kind of scientific monitoring that will determine what impact the tunnels are having. But [current plans](#) contain few specifics about the money, other than a general commitment that the water contractors will pay an unknown amount.

A more specific funding plan is due in one year, state officials say.

Beyond these potential pitfalls, Doremus warned there are some projects where adaptive management may not work at all, in which “irreversible changes” have been made that science cannot correct.

The tunnels themselves may not be irreversible — they could theoretically be built and never used — but the political pressure to maximize the use of such an expensive project may be intense, Doremus said. In that sense, she calls the tunnels “politically irreversible.”

“We’re not just going to say, ‘Oops, we made a mistake,’ ” and not use them, she said.

Adding to the unease about making difficult decisions later are political actions like the bill that cleared the House of Representatives last week that would divert some water for fish back to San Joaquin Valley farmers. Similar future legislation, or changes in administrations, could cause a shift in the political winds.

So could new regulations, like laws [limiting groundwater use](#) that may jack up pressure to export more Delta water instead.

Fish agencies recently gave the tunnels a [partial green light](#), formally concluding that they won’t cause endangered fish species to go extinct.

The lengthy reports do, however, highlight some potential harm to fish like smelt and salmon.

In reaching their conclusions, the agencies relied in part on the promise of adaptive management to offset that harm. That's not enough, environmentalists say.

"They're saying we'll figure it out later," said Jon Rosenfield, a biologist with environmental group The Bay Institute. "That's not adaptive management. That's adaptive storytelling."



The role of science

Asked about concerns that science will not drive decision-making, Jerry Meral, an environmentalist and former Brown administration official who supports the project, said that the reduction in Delta water exports in recent decades to protect imperiled fish suggests science does wield some clout.

If conditions in the Delta deteriorate with the tunnels, Meral said, wildlife agencies would have the authority to yank the water users' permits.

“The history has always been that the best science we have has driven water operations,” Meral said. “Why do we think that’s all going to change?”

Minton is not so optimistic.

“They (water contractors) have spent over a quarter of a billion dollars trying to find a way to show people this project will not devastate the largest ecosystem on the west coast of the Americas,” he said. “And all they’ve been able to come up with is a promise that it’ll get figured out after they spend billions more.”

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