

☒ Recently, California state water officials announced with considerable fanfare their latest technological “fix” for the environmental ills that have in recent years befallen the Sacramento-San Joaquin Delta. The largest estuary on the West Coast of the Americas, the Delta is in serious environmental decline—as scientists have carefully documented and which no one disputes at this point.

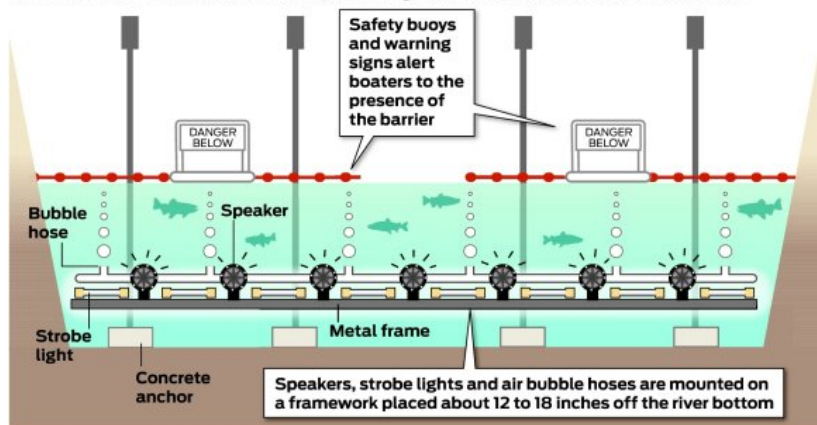
The latest, proposed solution, as [reported](#) by San Francisco Chronicle writer Kelly Zito, is a \$1 million, experimental engineering project brought to us by the California Department of Water Resources (DWR), one that would make Rube Goldberg proud. The project consists of a bank of underwater sound effects, strobe lights and bubble machines designed to steer migrating salmon away from the giant pumps that divert water from the Delta and ship that water south. Those pumps are the centerpiece of DWR’s State Water Project, and are viewed by many experts as the principal cause of crashing fish populations in the Delta, including ESA-listed salmon and Delta smelt.

The alarming fall in Delta fish populations and other indicators of the estuary’s alarming environmental decline have resulted in court orders significantly restricting water diversions from the Delta by DWR and the U.S. Bureau of Reclamation, which operates a parallel Delta water diversion and conveyance facility. State and federal officials, and California water contractors, are desperately seeking solutions that would avoid the need for further reductions in water diversions from the Delta.

DWR’s underwater barrier system strikes this observer as but the latest example of our longstanding environmental hubris: the idea that we humans can engineer our way out of any environmental problem if we just throw enough money and hardware at it. As U.C. Davis fisheries biologist Peter Moyle notes, the DWR project may be a decent short-term fix to the precipitous decline in Delta salmon runs. But it’s certainly not a long-term solution.

A fish barrier made of bubbles

State water officials recently installed an underwater barrier that uses sound, light and bubbles in an effort to prevent juvenile chinook salmon from swimming down Old River from the San Joaquin River in the Central Valley. Predators, water diversions for agriculture and giant water pumps pose more risks for the salmon along Old River. Scientists are looking for ways to revive salmon populations in California, which have crashed in recent years alongside other species such as the delta smelt.



Source: California Department of Water Resources

Todd Trumbull / The Chronicle

There's little doubt that the collapse of Delta fisheries is attributable in large measure to the construction of the state and federal water projects, and Californians' increasing reliance on those projects to tap the Delta for a growing source of water for urban and agricultural uses. The idea that we can overcome the adverse consequences of past human engineering on the Delta environment through still more human engineering is both presumptuous and flawed.

I tend to agree with Zeke Grader, executive director of the Pacific Coast Federation of Fisherman's Associations, that the DWR project looks like one more episode in the never-ending search for technological solutions that avoid actually reducing our environmental footprint on the Delta ecosystem. The only reliable, long-term solution, notes Grader, is restoring and maintaining adequate water flows for the Delta. And no amount of engineering fixes and Rube Goldberg solutions will alter that essential fact.