Delta pumping to Southern California restricted despite rainy winter

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For the first time in five years, Northern California's rivers are roaring and its reservoirs are filled almost to the brim.

But you'd hardly know it, based on how quiet it's been at the two giant pumping stations at the south end of the Sacramento-San Joaquin Delta. The pumps deliver Sacramento Valley water to 19 million Southern Californians and millions of acres of farmland in the San Joaquin Valley.

While precipitation has been roughly four times heavier than a year ago, the Delta pumps have produced just a 35 percent increase in water shipments. For every gallon that's been pumped to south-of-Delta water agencies since Jan. 1, 3 1/2 gallons have been allowed to flow out to sea. Pumping activity has decreased considerably the past three weeks, to the rising irritation of south state contractors.

The reason lies in a combination of poor timing, the drought-ravaged status of several endangered species of Delta fish, a suite of environmental laws and regulations that govern the pumps – and the complexities of the Delta's intricate network of river channels, canals and sloughs. As regulators have taken extraordinary steps to protect nearly extinct fish species, their decisions to restrict pumping have become another flash point in California's water wars – one that shows the easing of the drought doesn't calm the fighting over how water gets allocated.

Congress has weighed in, with House Republicans and California's senior Democratic senator pushing for more pumping. In Sacramento, federal and state bureaucracies are butting heads in response to competing demands on the Delta's water.

On one side are the California Department of Water Resources, which operates the State Water Project, and the U.S. Bureau of Reclamation, which runs the federal government's Central Valley Project. These agencies oversee the state's vast network of dams, pumps and canals, and they are under pressure from their south-of-Delta customers to help replenish groundwater reserves and south state reservoirs that have shrunk after four years of drought.

On the other side are two federal agencies responsible for safeguarding Delta fish protected by the Endangered Species Act: the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Court rulings empower the agencies to govern Delta water flows, which often translate into pumping limits to keep fish from being harmed.

"This year we saw the fishery agencies, particularly the Fish and Wildlife Service, make more conservative calls," said Mark Cowin, director of the Department of Water Resources. "My sense is they felt compelled to take every conservative action they could ... to try to prevent extinction." He said his agency has engaged in "spirited conversations" with the fisheries agencies about their determinations this year.

Many of the water agencies that depend on the Delta pumps say the restrictions are based on faulty science and harming the economy.

"The state will never recover from this water shortage, if they keep operating (the pumps) the way they have been this first three months of the year," said Johnny Amaral, deputy general manager for Westlands Water District, an influential San Joaquin Valley farm-water contractor. Westlands has been told to expect just a 5 percent water

allocation this year from the Central Valley Project.

Officials with the fishery agencies say their rules are grounded in fish counts, hydrological flows and other factors.

“It’s science-based,” said Steve Martarano, spokesman for Fish and Wildlife’s Sacramento office.

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Mark Cowin, director of the Department of Water Resources

Built decades ago near Tracy, the pumps are so powerful they’re capable of shipping two rivers’ worth of water uphill to the canals that funnel water south and west through California. The federal pumps move water uphill for a mile before dumping it into the Delta-Mendota Canal.

When revved up, the pumps literally cause the Old and Middle rivers – sections of the San Joaquin River – to flow backwards. These “reverse flows” can confuse migrating fish and push them toward predators. Fish also can die as they get sucked into pump intakes, despite the presence of screens designed to save them.

“The reason they’re not (pumping) now is that we know endangered fish are right adjacent to these export pumps,” said Jonathan Rosenfield, a marine biologist with the nonprofit Bay Institute in San Francisco.

Even with the restrictions, south-of-Delta agencies are seeing improved deliveries of water this year compared to 2015, and the pumps are expected to operate full throttle this summer. But contractors say the shipments could have been more generous, given the amount of water sloshing through Northern California.

“We’ve got a really wet year,” said Terry Erlewine of the State Water Contractors, an association of state project customers. “In a year like this, we would ideally be able to recharge the groundwater basins.”

Since Jan. 1, a total of 1.1 million acre-feet of water has been pumped to customers in Southern California, the San Joaquin Valley and small portions of the Bay Area. Nearly 3.6 million acre-feet have flowed to the ocean. During the same period last year, when rains were scarce, it was a more even split: The pumps shipped 806,000 acre-feet south, while 875,000 acre-feet cascaded through the Delta and out to sea.

The tension between sustaining fish populations and supplying the state and federal water projects came to a boil in March. Heavy rains turned a so-so winter into a wet one, at least in Northern California. Bureau of Reclamation spokesman Shane Hunt said nearly half the water that flowed into the Central Valley Project’s major reservoirs this winter materialized during an 11-day stretch.

“That changed everything,” he said.

But that was also the point when biologists say fish were in greatest peril.

In late March, as stormwater surged into the Delta, pumping operations were cut approximately in half to protect the species most emblematic of the Delta’s ecological problems, its namesake smelt. Each year, in response to stormwater entering the estuary, Delta smelt migrate up from the salty Suisun Bay to spawn in the estuary’s fresh water.

Martarano said Delta smelt populations have declined so much that regulators had no choice but to operate the pumps extra carefully this year. As recently as the 1970s, these finger-length fish once numbered in the millions. This year, state trawling surveys are finding mere handfuls of adult fish.

“The numbers are so horrible,” Martarano said.

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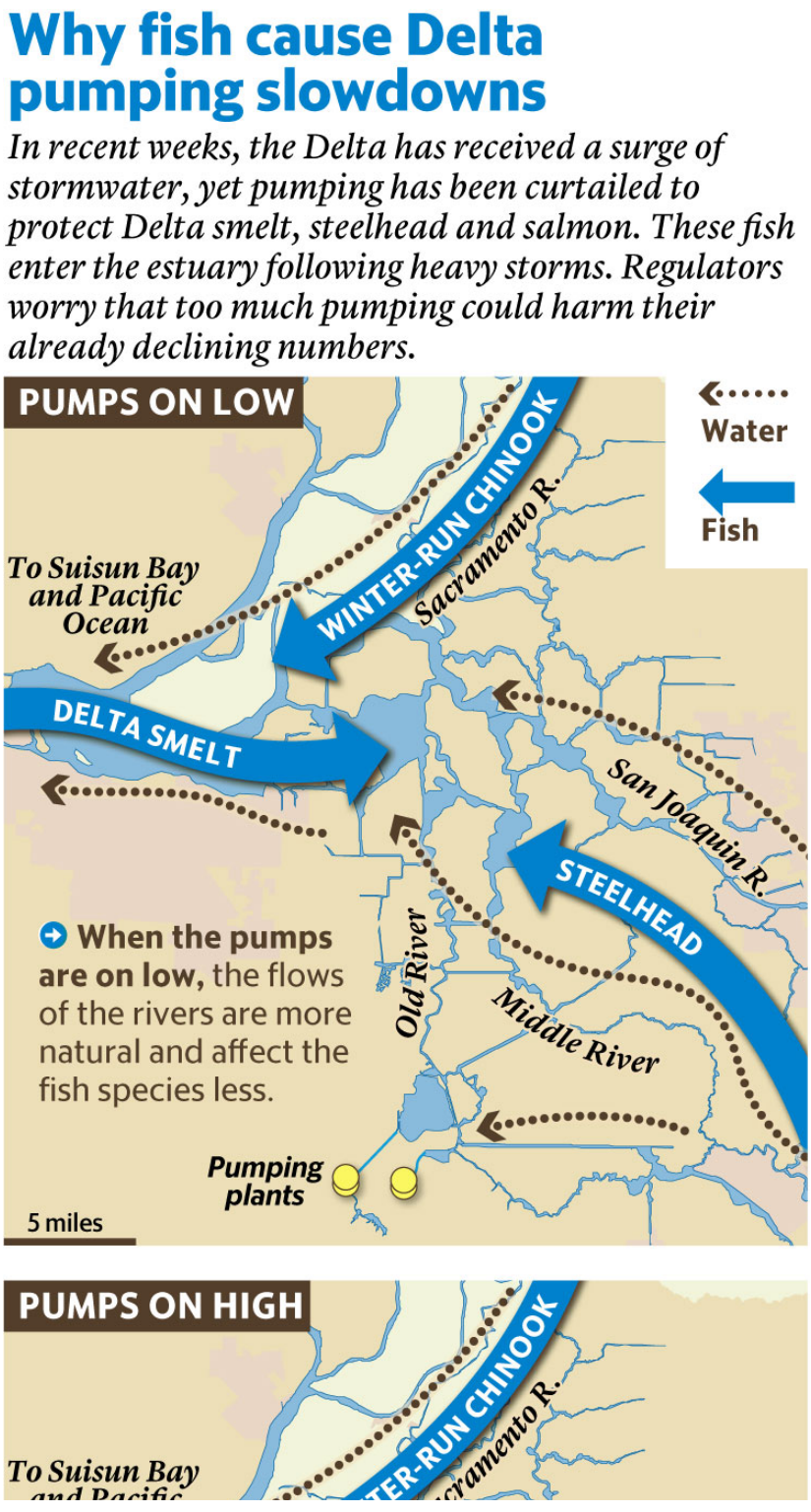
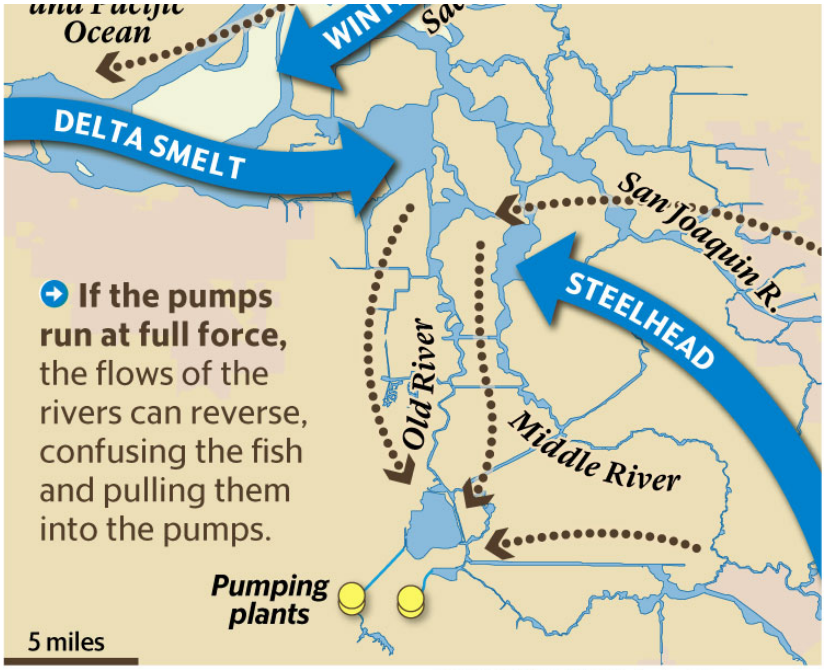
Johnny Amaral, deputy general manager, Westlands Water District

Another endangered species, the winter-run Chinook salmon, also had fisheries regulators concerned about pumping in March.

While Delta smelt are often described as a “useless minnow” by farmers and others seeking to relax Endangered Species Act protections, the Chinook have a direct impact on California’s $1.4 billion-a-year salmon fishing industry. Officials announced last week that commercial anglers along the coast will see salmon fishing opportunities cut nearly in half compared with last year, in part because of the depleted winter run.





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The fish spawn in summer along a stretch of the Sacramento River below Shasta Dam. Last year, regulators held back flows at Shasta to keep more cold water in the system, disrupting water deliveries to downstream farmers. The plan failed and only 3 percent of the wild juveniles survived the overly warm river waters. It was the second straight dismal year for winter-run numbers, putting the species on the brink of extinction.

Winter-run Chinook rely on powerful river flows to push them toward the Pacific. Biologists say the fish that survived the sweltering summer of 2015 were in the Delta, heading toward the sea, as the March storms hit. They were joined by tens of thousands of hatchery-raised salmon that had been released into the Sacramento River earlier in the winter via a federal program designed to prevent the species' extinction. Some of the hatchery fish were equipped with acoustic tags enabling biologists to know when they had entered the Delta.

Along with smelt and salmon, concerns over another fish have played into pumping decisions. Since April 1, pumping operations have been dialed back further, mainly to safeguard steelhead trout, another fish protected by the Endangered Species Act. Like the Chinook, juvenile steelhead migrate through the San Joaquin River system and swim precariously close to the pumps on their way to the Pacific.

Regulators say concerns should ease as summer approaches and the fish are out of harm's way, allowing the pumps to operate at a higher volume. "As the season plays out, you're going to see very big changes from where we were a year ago," said the Bureau of Reclamation's Hunt.

To some degree, the slowdown in pumping has been a matter of timing and geography. If it had rained more in November and December, when the fish weren't in the vicinity of the pumps, more water could have been shipped south, said Hunt, the Bureau of Reclamation spokesman.

Plus, if more rain had fallen on the San Joaquin River basin, as was originally forecast for El Niño, that would have generated a healthier rush of water coming into the Delta from the south. More water flowing in from the San Joaquin would have offset much of the "reverse flow" problem on the Old and Middle rivers, allowing the pumps to run more, said Maria Rea, assistant regional manager at the National Marine Fisheries Service.

3 percent of wild juvenile winter-run Chinook salmon that survived last season

State officials point to the “reverse flow” issue as yet another argument for building the Delta tunnels, Gov. Jerry Brown’s controversial $15.5 billion plan to re-engineer the Delta.

The project calls for diverting about half of the Sacramento River’s flow upstream, near Courtland, and shipping it through a pair of tunnels to the pumps at Tracy. State engineers say it would eliminate the “reverse flow” problem and allow the pumps to run more reliably without harming fish.

“The one long-term solution I can point to here is the plumbing fix we’re advocating,” said Cowin, director of the Department of Water Resources.

The Delta tunnels plan faces an increasingly uncertain future, given myriad legal threats and unresolved funding issues. South state water contractors say they are focused on the present – and argue that scientific bungling has kept the pumps from roaring to life this spring.

“The fish agencies entirely botched the science this year, the hydrodynamics of it,” said Jeff Kightlinger, general manager of the Metropolitan Water District of Southern California, an agency that relies on Delta water to help supply its 19 million customers. “This is the kind of year they should have had the pumps on.”

Democratic U.S. Sen. Dianne Feinstein and congressional Republicans have echoed the complaint, calling on the White House to order the fisheries agencies to relax pumping restrictions. Last week, the Republican-controlled House energy and water appropriations subcommittee approved a bill that would require more pumping. Feinstein has publicly called on federal scientists to use “better science and real-time” modeling in their pumping decisions.

That galls fishing advocates and environmentalists such as Rosenfield at the Bay Institute.

Rosenfield said federal biologists draw on an immensely complicated set of real-time data, including fish counts, flows and river conditions to determine how much pumping can be legally allowed. It’s not the science that’s faulty, he said; it’s that south state agencies want to hear a different outcome.

“The message I get is, ‘We need more science to tell us when we can pump more,’ ” Rosenfield said. “When we get the science that tells us we can pump less, (they claim) we need more science.”

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