

Questions and Answers about Water Diversions and Delta Smelt Protections

California Natural Resources Agency

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What's the problem?

Over the course of the last decade, populations of several fish species in the Sacramento-San Joaquin River Delta have declined to extremely low levels. In some cases, particularly Delta smelt, these declines have triggered requirements under the U.S. Endangered Species Act and California Endangered Species Act to curtail pumping rates at the federal and state water project pumping facilities in the south Delta. Starting in mid-December, the appearance of smelt at the fish-salvage operations near the pumping plants has triggered a significant reduction in the volume of water the water projects can convey to farms and cities in Southern California, the Central Valley, and the San Francisco Bay Area. Significant winter storms in the next couple of months could change the situation, but the pumping curtailment of recent weeks makes it more likely that in the coming year, many urban and farm water districts will have to either rely more heavily on other water sources or make do with a reduced supply by, for example, planting fewer acres of crops.

How are decisions regarding pumping cuts made?

Operations of the water project pumps are regulated to comply with endangered species law through "biological opinions" issued by federal regulatory agencies. In 2007, a federal court found that existing biological opinions written to protect Delta smelt and several runs of anadromous fish were inadequate. As a result, two new biological opinions were written. The biological opinion that is controlling pumping rates now is a 2008 biological opinion by the U.S. Fish and Wildlife Service to protect Delta smelt.

What does the biological opinion do?

The biological opinions that govern water projects are complex documents of hundreds of pages. Currently, the pumps are restricted by requirements in the biological opinion that control the net negative flow of Delta tidal water in two southern channels known as Old River and Middle River. This requirement is commonly referred to as "OMR." When Delta smelt are being drawn into the pumps' salvage facilities, the net flow of the tidal water toward the pumps may be decreased to keep the fish from harm.

Why is this a problem now?

In early December, the combination of a high "pulse" flow through Delta channels and high pumping rates at the water project pumps pulled many Delta smelt into the vicinity of the pumps. They remain there, and even though pumping rates have been decreased by OMR requirements, the number of fish salvaged at the pumps is more than 75 percent of the total authorized incidental take of adult Delta smelt associated with the federal and state water projects for water year 2013. Therefore, the U.S. Fish and Wildlife Service decided on Feb. 8 that the net OMR flow toward the pumps should be further

reduced from – 2,500 cubic feet per second to – 1,250 cubic feet per second. To reduce the negative flow in the Old River and Middle River, water project operators must slow the pumps.

What happens next?

Water project operators are conferring with the U.S. Fish and Wildlife Service on measures to protect Delta smelt while providing for the water security of California. The California Department of Water Resources, which operates the State Water Project in compliance with the California Endangered Species Act, also will coordinate with the California Department of Fish and Wildlife to assure that state law requirements are satisfied. The number of fish that may be permissibly captured at the pumps – most die in the salvage process – is determined by a formula driven by the abundance of fish as measured by the previous year's fall midwater trawl. Since results of the 2012 fall midwater trawl showed Delta smelt were at low numbers, the permissible incidental take of Delta smelt at the pumps is correspondingly low. This year it is 305.

What happens to the water that does not get pumped?

It flows to San Francisco Bay and out to the Pacific Ocean.

The capture of water for millions of people and millions of acres of farmland can be stopped by 305 fish?

It is important to realize that 305 is an index that counts only the number of adult fish directly captured at the pumps' facilities. Many more fish are affected by the pumps because they are drawn into channels and forebays that have more predators. Others are missed by fish screens and drawn into water delivery channels and diversion pumps. Although the Delta smelt does not support a commercial or recreational fishery, its range is restricted to the Delta, and many people consider its population an indicator of the precarious ecological health of the Delta, the largest estuary on the West Coast.

Who is affected by the pumping curtailment?

The water projects are the federal Central Valley Project (CVP), which primarily serves agricultural water districts on the west side of the San Joaquin Valley but also serves some urban customers, including the city of Tracy; the other is the State Water Project (SWP), which primarily serves urban water districts in Southern California, the southern San Francisco Bay Area including Silicon Valley but also urban and agricultural districts in Kern County. Together these projects provide water to about three million acres of farmland and at least a portion of the supply used by about 25 million Californians.

Experts estimate the Delta water supply lost to the CVP and SWP from Nov. 1 to Jan. 31 at roughly 700,000 acre-feet. That is approximately enough to supply 1.4 million households for a year. Under existing operating rules, the CVP and SWP divert approximately 4.7 million acre-feet a year from the Delta.

Is there a solution?

It is unlikely that any single measure or initiative could solve the highly complex web of interrelated environmental and economic problems in the Delta in a way that would satisfy all parties. However, state and federal agencies responsible for water deliveries and for fishery protection agree that an important piece of the solution would be to construct a new diversion point to reduce the conflict between water supplies and environmental needs in the south Delta. This is a key piece of the multi-faceted, comprehensive Bay Delta Conservation Plan.

What is the Bay Delta Conservation Plan?

The BDCP has been under development since late 2006 through the effort of state and federal agencies, local water districts, and other interested parties. The effort seeks to accomplish dual goals: Protect and restore the ecological health of the Delta and stabilize the delivery of water supplies from the region -- and do so in such a way that protects the unique cultural, agricultural, recreational, and natural resources of the Delta. In February 2012, a preliminary draft of the plan was released but state and federal fisheries agencies raised serious doubt that the plan could be operated in conformance with state and federal environmental laws. Since then, the project has been substantially modified and downsized to address issues raised by federal and state biologists.

How would implementation of the BDCP solve the current problem?

Proponents of the BDCP have studied many alternative ways to pump water from the Delta, including the construction of new intakes on the Sacramento River at the northern edge of the Delta. A more northern location could be screened to protect fish better than is possible at the current south Delta pumping facilities. Delta smelt are rarely found in the Sacramento River near Hood, where the BDCP is considering construction of new intakes. Such a new diversion point would also reduce dependence on the south Delta pumping plants during fish-sensitive periods when the changes in tidal flows from the pumps directly entrain fish, complicate their migration, and draw them into dead-end channels where predators lurk.

Water project operators estimate that in the last few months, during pumping curtailments to protect Delta smelt, if northern intakes with a combined capacity of 9,000 cubic feet per second had been in place as proposed by BDCP, roughly 700,000 acre-feet of additional water could have been diverted and stored for the coming year's water supply. Such diversions could have taken place in compliance with water quality and endangered species rules.

The BDCP also proposes the restoration of at least 100,000 acres of habitat, including the tidal marsh important to the life cycle of the Delta smelt.

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