

Threatened Smelt Touches Off Battles in California's Endless Water Wars

By KATE GALBRAITH

RIO VISTA, Calif. — On a boat in the heart of California's biggest river delta, a researcher pored over a sample of murky, weed-infested water, looking for a rare fish about the size of a finger. Spotting one, he shouted in triumph — then measured it and quickly tossed it overboard.

"They're very fragile," explained the researcher, Greg Nelson, who works as a biological science technician for the federal Fish and Wildlife Service, as the silvery fish darted away.

The tiny fish, known as the delta smelt, has helped touch off some of the most cataclysmic battles in California's unending water wars. The delta that it inhabits lies in Northern California, at the confluence of mighty snow- and rain-fed rivers that drain into San Francisco Bay before their water heads out to the ocean. The rivers supply water through the delta for about two-thirds of Californians as well as vast tracts of rich farmland. But drought and the pumping of water to users as far away as Los Angeles have depleted the smelts and the delicate ecosystem they inhabit, prompting limits on the amount of water sent to farmers and cities — and sparking political warfare among farmers, cities, environmentalists and fishermen.

"We tend to say that this is the single biggest water management challenge that California faces," said Ellen Hanak, a senior fellow at the nonpartisan Public Policy Institute of California. The debate over the delta, she said, ranks with those over other great national ecological landmarks, like the Everglades, the Great Lakes and Chesapeake Bay.

"The future of this watershed is going to affect most people in the state," she added.

The immediate future looks grim. Despite a few powerful winter storms, California is facing a likely fourth year of drought, which is wreaking havoc on the delta's ecosystem. The waterway where the federal researchers were working contained large patches of water hyacinth, an invasive plant that has proliferated in the dry conditions. Last fall, scientists doing a comprehensive survey recorded their lowest-ever seasonal tally of delta smelts, by a substantial margin. Another species, the longfin smelt, hit its second-lowest number.

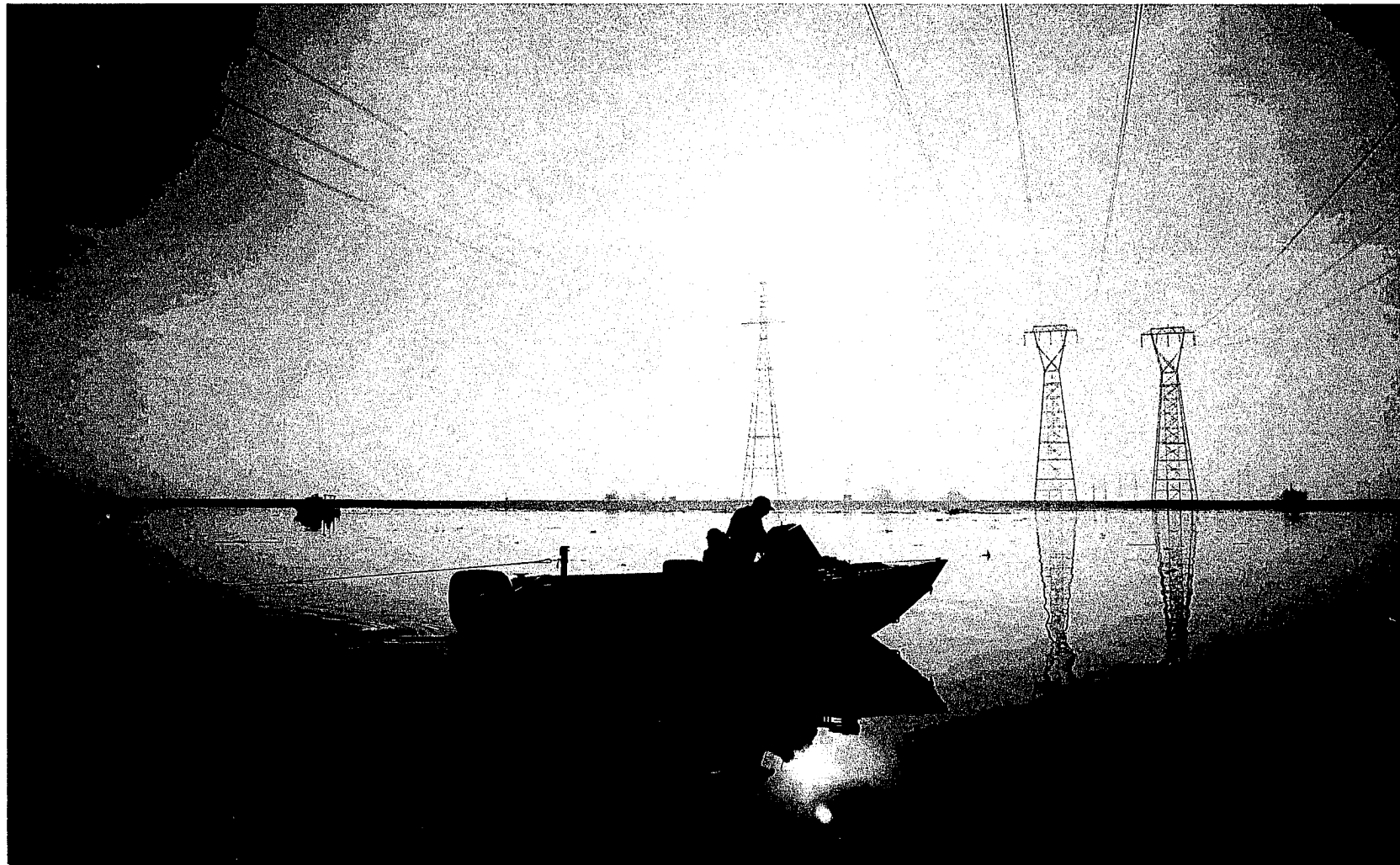
Salmon, too, have taken a hit, not only from the drought but also from last year's record-breaking heat, which warmed the water above their comfort level. Most salmon in California swim through the delta to and from the ocean, and scientists have estimated that 95 percent of salmon eggs and young that were spawned last summer in the upper Sacramento River died because of the heat. Partly as a way to recoup the losses, hundreds of thousands of salmon were recently released from a hatchery to swim to the ocean.

"I sure hope we don't see another year like that this year," said John McManus, executive director of the Golden Gate Salmon Association, which advocates protecting salmon habitat.

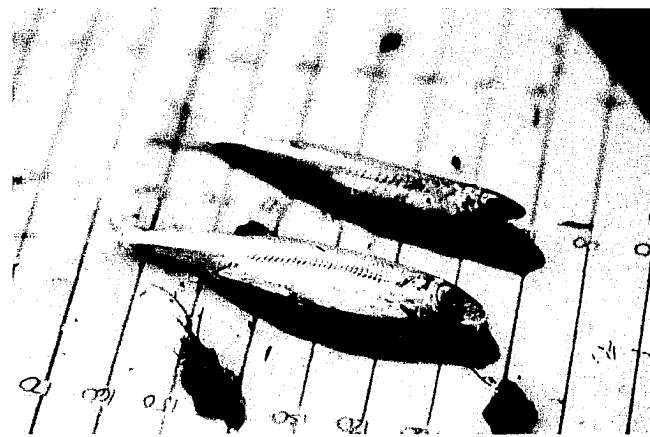
Farmers are hoping the same. They have been walloped by drought, which has forced some to reduce their crop acreage. The 2014 "water" year, which ran from October 2013 to September 2014, was one of California's driest on record. The problems could even have an impact on food prices across the nation, because California's Central Valley holds a central place in the nation's food supply.

"As you drive around, you see vacant, barren fields," said Thomas Birmingham, general manager of the Westlands Water District, the nation's largest agricultural water district, which relies heavily on water pumped from the delta. "You see permanent crops that are being taken out of production — almonds, grapes, wine grapes, trees."

Over the last few years,



PHOTOGRAPHS BY JIM WILSON/THE NEW YORK TIMES



Above, staff members of the United States Fish and Wildlife Service conducting a survey of fish in the San Joaquin-Sacramento River Delta in California. They were in search of the delta smelt, left, a threatened species. Far left, Greg Nelson, a researcher with the agency, pulled up a water hyacinth from the delta.

drought and cutbacks in the water pumped from the delta have forced farmers in his district to pump 40 percent more groundwater, another dwindling and contentious resource.

In the 2014 water year, California's State Water Project, one of two major delta water-supply operations, met just 5 percent of users' requests for water — among the lowest in the project's history.

Also last year, the state ordered thousands of water users to stop pumping from a watershed that supplies the delta, in a sign of the drought's severity.

Amid the crisis, the smelt has become a potent symbol of the

Drought and pumping imperil an ecosystem, and bring restrictions.

tensions in the delta, as well as the national debate over how to manage endangered species. The federal government has listed the smelt as threatened, entitling it to protections under the decades-old Endangered Species Act and sparking frantic efforts to revive it. These measures include occasionally shutting down the pumps that send water from the delta to farmers and cities via hundreds of miles of canals and pipes. Some chinook salmon also have gained federal protection that sometimes lead to a reduction in pumping. Pumping can also be reduced for other reasons, like generally dry conditions and low reservoir storage.

Some farmers, furious at having less water to grow their crops, have focused some of their

anger on the delta smelt.

"There isn't any question that we are experiencing a hydrologic drought, but the impacts of that drought are being greatly exacerbated by federal water policy that isn't doing a damn thing for the environment," Mr. Birmingham said. "It isn't doing a damn thing for fish," he added, noting the scarcity of smelts despite the pumping restrictions.

Environmentalists say the smelt is a barometer for the ecology of the delta. "This battle is not really about the health of the delta smelt," said Kate Poole, a senior lawyer with the Natural Resources Defense Council. "It is about whether we're going to restore this estuary, and everything it supports."

Urban users have not yet felt the delta situation as acutely as farmers, but they could if the drought persists. The Santa Clara Valley Water District, home to Silicon Valley and the state's technology giants, gets about 40 percent of its water through the delta. It has already cut back its supplies, but if dry conditions persist through the winter, which is California's rainy season, the district could be forced to call on its customers this spring to reduce their water consumption by 20 percent to 40 percent. Over the long term, the district is preparing for further reductions in pumping, said Cindy Kao, a district official.

"We wouldn't be surprised if the pumping constraints became more severe over time as the fisheries decline," she said.

Protections for the fish have gathered legal momentum. Last month, the Supreme Court left in place a lower-court ruling that allowed pumping protections aiding the smelt to stand despite the considerable economic impact. The blow to farmers was slightly softened, however, when in a sep-

arate move, the Obama administration last month increased the number of fish that could be accidentally killed at the pumps.

Experts say the legal wrangling is unlikely to end. A revised

long-term conservation plan for the delta and San Francisco Bay, due out for public comment soon, is bound to bring more challenges. This plan includes an effort to build two expensive tun-

nels under the delta to carry water and save the region's fragile ecology.

"It's kind of par for the course for things to be challenged legally," Ms. Hanak said.