

# California water plan aims to save Puget Sound orcas

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A plan to restore salmon runs on California's Sacramento River also could help revive killer whale populations 700 miles to the north in Puget Sound, as federal scientists struggle to protect endangered species in a complex ecosystem that stretches along the Pacific coast from California to Alaska.

Without wild [salmon](#) from the Sacramento and American [rivers](#) as part of their diet, the [killer whales](#) might face extinction, scientists concluded in a biological opinion that could result in even more severe water restrictions for farmers in the drought-stricken, 400-mile-long Central Valley of California. The valley is the nation's most productive farm region.

The plan has faced heated criticism from agricultural interests and politicians in California, but environmentalists said it represented a welcome departure by the Obama administration from its predecessor in dealing with Endangered Species Act issues.

The Sacramento plan, they add, is in sharp contrast to the plan for restoring wild salmon populations on the Columbia and Snake rivers in Washington state and Idaho. That plan, written by the Bush administration, essentially concluded the long-term decline in those federally protected runs didn't jeopardize the killer whales' existence because hatchery fish could make up the difference.

The 85 orcas of the southern resident killer whale population travel in

three separate pods, spending much of their time roaming the inland waters of Washington state from the San Juan Islands to south Puget Sound. During the winter they have been found offshore, ranging as far south as Monterey Bay in California and as far north as British Columbia's Queen Charlotte Islands. Each orca has distinctive markings, which allows them to be tracked.

In the mid-1990s, there were nearly 100 orcas in the three southern resident pods. The population fell to fewer than 80 in 2001. In 2005, they were granted federal protection as an endangered species. They have been studied closely for only 30 years or so, but historically there may have been up to 200 southern resident orcas.

Researches think the decline has resulted from pollution -- which could cause immune- or reproductive-system dysfunction -- and from oil spills, noise and other vessel disturbances, along with a reduced quantity and quality of prey.

With the largest 27 feet long and weighing 10,000 pounds, orcas are constantly on the prowl for food. They have been known to hunt in packs. Their meal of choice: salmon, particularly chinook salmon.

By some estimates, the orcas eat about 500,000 salmon a year.

"We are trying to figure out how killer whales fit in," said Bradley Hanson, a wildlife biologist with the National Marine Fisheries Services in Seattle who studies orcas. "We don't have a lot of information on the movement of southern resident whales down the coast. We don't have a lot of information on adult salmon movements off the coast."

Before 2000, Hanson said, no one was quite sure where the killer whales went when they went to sea. It was a surprise when they showed up near Monterey Bay, he said.

The Sacramento and American river systems combined were once among the top salmon-spawning rivers on the West Coast, trailing only the Columbia and Snake rivers.

Prompted by lawsuits, the National Marine Fisheries Service last month published its latest plan for the Sacramento and American rivers' winter and fall chinook salmon runs. Without further curtailments of water for the federal Central Valley Project -- a several-hundred-mile network of dams, canals and pumping plants -- and the California State Water Project -- the nation's largest state-built water and power development and conveyance system, which supplies water for 23 million Californians -- the two runs are in jeopardy of extinction, the plan said.

Without changes, the southern resident killer whales, a run of steelhead and a population of North American green sturgeon almost certainly would disappear, according to the plan.

The killer whale population is extremely fragile, and scientists said the loss or serious injury to just one could appreciably reduce the odds the southern resident pods would recover or survive.

The scientists who wrote the Sacramento plan also said hatchery-raised salmon couldn't be counted on to sustain the killer whales' survival.

"Healthy wild salmon populations are important to the long-term maintenance of prey populations available to southern residents, because it is uncertain whether a hatchery-only stock could be sustained indefinitely," the scientists said.

Not only are there concerns about long-term funding for the hatcheries, but scientists also have questions about whether hatchery fish are as genetically strong and healthy as wild ones. Though changes to the hatcheries could improve the fish they produce, there's no agreement on

what needs to be done and no guarantees the changes would work.

The latest plan for the Columbia-Snake wild salmon runs concluded continued operation of the federal hydroelectric dams on the two rivers was "not likely to adversely affect" the killer whales. Earlier, federal scientists found that "perhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon from the Columbia River basin."

Despite the decline in wild runs, the scientists who worked on the Columbia plan concluded hatchery fish would be able to make up any deficit in the orcas' diet.

Though the Columbia-Snake salmon plan acknowledges the potential problems with hatchery fish, it dismisses, at least for now, their impact on killer whale food supplies.

Lynne Barre, a National Marine Fisheries Service scientist in Seattle who helped write both plans, downplays any differences.

"I think we say the same thing in both opinions," Barre said, adding both plans recognize hatchery fish could be a short-term substitute for wild fish, but there were concerns about whether hatchery fish could be a long-term food source for orcas. "The general principles are similar."

Environmentalists, however, say the differences couldn't be more obvious.

"The contrasts are striking," said Todd True, a lawyer for the Seattle office of Earthjustice, which has challenged the Columbia-Snake plan in a lawsuit in federal court in Portland, Ore.

True said the Sacramento salmon plan was a "candid piece of work that

had a strong independent review and the absence of political interference." As for the Columbia-Snake plan, True said that it "pretends there isn't a problem."

The judge in the Portland case has given the Obama administration until Aug. 15 to indicate whether it will stick with the Columbia-Snake salmon plan written during the Bush administration or offer a new one. True said he'd raise the orca issue again.

Other environmentalists said Jane Lubchenco, who heads the National Oceanic and Atmospheric Administration, which includes the fisheries service, must be aware of the differences in how the two salmon plans addressed killer whales. Lubchenco is a marine biologist who taught at Oregon State University.

"They need to decide which of the contradictory statements are correct," said Pat Ford of Save Our Wild Salmon.

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