

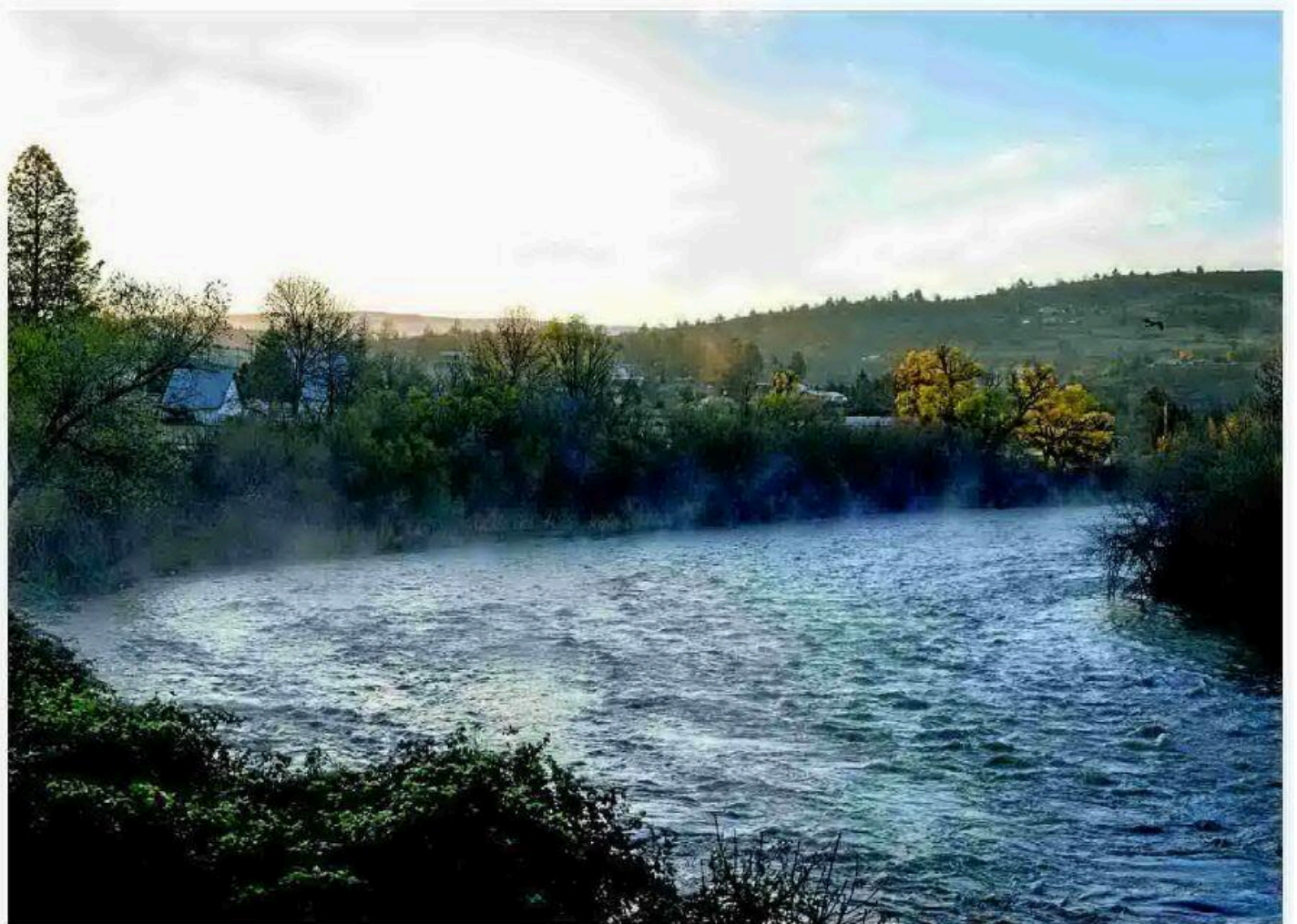
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With dams removed, salmon expected to flourish

SOUMYA KARLAMANGLA

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Mist rises from the Klamath River near Hornbrook, Calif. When hydropower dams were built on the river, its ecosystem was upended and the salmon were cut off.

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YREKA, Calif. – The Klamath River was once so flush with fish that local tribes ate salmon at every meal: flame-roasted filets on redwood skewers, stews flavored with fish tails, strips of smoky, dried salmon. In the language of the Yurok, who live on the river among California's towering redwoods, the word for "salmon" translates to "that which we eat."

But when hydropower dams were built on the Klamath, which wends from southern Oregon into far northwest California, the river's ecosystem was upended and salmon were cut off from 420 miles of cooler tributaries and streams where they had once laid their eggs. For decades, there has been little salmon for the tribes to cook, sell or use in religious ceremonies. The Yurok's 60th annual Salmon Festival this summer served none of its namesake fish.

But tribal members hope the situation is about to dramatically change. Four giant dams on the Klamath are being razed as part of the largest dam removal project in U.S. history, a victory for the tribes who have led a decades-long campaign to restore the river. This week, as the final pieces are demolished, a 240-mile stretch of the Klamath will flow freely for the first time in more than a century – and salmon will get their best shot at long-term survival in the river.

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"The salmon are going to their spawning grounds for the first time in 100 years," said Ron Reed, 62, a member of the Karuk tribe who has been fighting for dam removal for half his life. "There's a sense of pride. There's a sense of health and wellness."

Salmon play an outsize role in nourishing and holding together ecosystems, scientists say, and their plight has fueled a growing trend of dam removals nationwide. Of the 150 removals on the West Coast in the past decade – double that of the previous decade, according to data from American Rivers, an environmentalist group – most have benefited salmon. Chinook salmon, or king salmon, in the Klamath are predicted to increase by as much as 80% within the next three decades.

The Klamath River begins at the foot of the Cascade Mountains in the deserts of southern Oregon and flows southwest into California through lush redwood forests before emptying into the Pacific Ocean.

The Hupa, Karuk, Klamath and other tribes who have lived for thousands of years along the 263-mile river were secluded enough to largely avoid the Spanish missionaries who pushed Bay Area and Southern California tribal members into forced labor. But outsiders flooded into the remote region decades later, in 1850, after the discovery of glittering flakes in the Klamath and its tributaries. The Gold Rush also brought a government-backed campaign to exterminate Native Americans that killed as many as two-thirds of some Klamath area tribes over 25 years, historians estimate.

The dams were erected between 1918 and 1962 by the California Oregon Power Co. to supply electricity to the growing rural region. By that point, the Klamath had already suffered from overfishing, logging, agricultural development and mining operations that spit sediment and chemicals into the river. The dams choked its flows, ruined water quality and fostered toxic algae blooms that often made the river unsafe for summer recreation.

Salmon hatch from eggs in stream beds and then migrate to the ocean, where they mature and feast on krill, squid and shrimp. Years later, the salmon return to their natal streams to reproduce and die. Upstream of the Klamath dams, salmon disappeared because they were unable to return from the ocean. Below the dams, the salmon population dropped to less than 5% of what it had been, with some species extinct.

"My grandpa said that there were so many salmon when he was younger that you could walk across their backs to the other side," said Brook Thompson, 28, who grew up on the Yurok reservation. "It's just so hard to express to people who are so used to fishing for sport or fun that salmon is really everything for us. The health of the river is literally our health."

Catalyzed by a huge salmon die-off in 2002, the Klamath area tribes kicked off an aggressive campaign to remove the dams, collaborating with scientists, environmental organizations and commercial fishermen, who together wrote letters, staged rallies and traveled as far away as Scotland to protest outside the headquarters of ScottishPower, which owned the dams at the time.

When salmon return from the ocean, they deliver enriching nutrients, such as carbon and nitrogen, to the Klamath ecosystem. Bears, raccoons, minks and other animals benefit from eating the salmon, and riverside vegetation grows in the soil where fish carcasses decompose. Studies have found that the bigger a salmon run, the more a nearby redwood tree grows that year.

"We don't view that as by accident. We view that as by design," said Keith Parker, senior fisheries biologist for the Yurok Tribe, who said that Indigenous traditions had long reflected the essential role of migratory fish in the ecosystem. "They have this ripple effect, not just biologically – but for our people," he said.

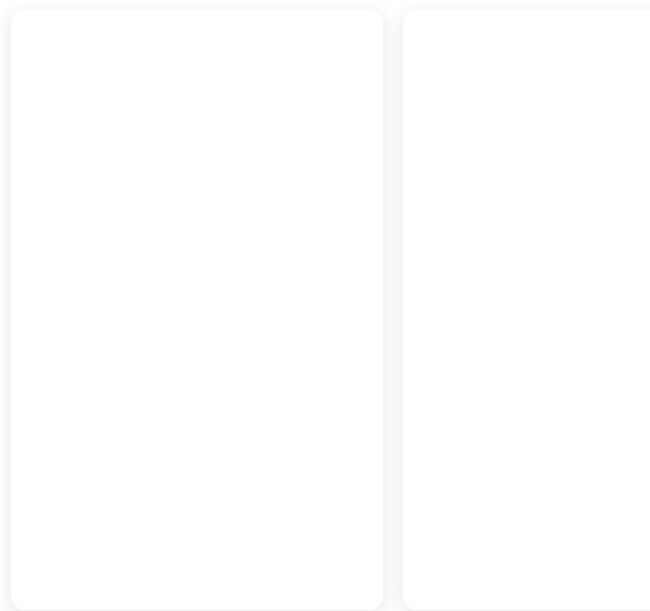
After more than 20 years of advocacy from the tribes, federal regulators in 2022 approved an agreement to demolish four dams on the Klamath. The dams were providing less than 2% of the energy portfolio of their current owner, PacifiCorp, and

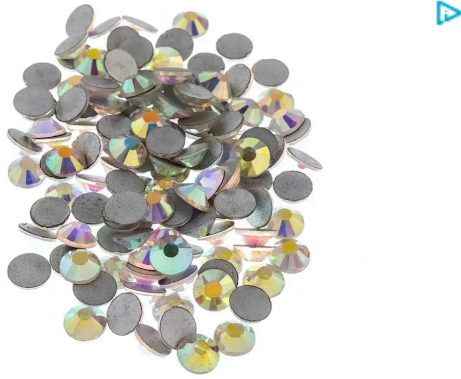
the company would have had to pay more to upgrade them than to take them down. The \$500 million cost of the demolition project has been split between California taxpayers and surcharges paid by PacifiCorp customers in Oregon. Two dams will remain farther upstream on the Klamath to collect and divert water to farmers in Oregon.

Parker, whose ancestors hail from the Yurok, Hupa, Karuk and Tolowa tribes of northwestern California, recently drove his truck along the desolate gravel roads beside the Klamath River until he reached what had once been a stagnant, algae-filled reservoir between two of the dams. This time, he witnessed a river winding through fields of orange flowers – sprouted from seeds planted by a revegetation effort that was part of the dam demolition. Thousands of bees swarmed around the blooms. Deer tentatively waded into the rippling waters. Parker began to cry.

"Those birds and all the living things up there haven't heard running water in over 100 years – it's a completely different landscape," Parker said. "The ecosystem is healing itself."

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