

The Klamath River Basin: Decline and Restoration

by Jacques Leslie

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Tom Willson, a Yurok fisherman, looked weary.

We were standing in his tiny boat, barely avoiding submerged rocks as we bounced upstream on a dam-enfeebled tributary of the gravely sickened Klamath River, once the third most productive salmon fishery on the United States’ West Coast. The previous evening, Willson had installed two gill nets in the sort of eddies where salmon take refuge, and now, a little after seven on an uncharacteristically gray July morning, he was returning to collect his catch.

A reformed alcoholic— “I was either going to quit it or it was going to quit me,” he said— he now labors to support his wife and 15-year-old son against increasingly long odds. Without his second job, he said, as a fish counter for his Yurok tribe, survival would be “real hard.” His appearance suggests that it has already been hard enough. He is a short, squat man with a Fu Manchu mustache that lends a fierce overlay to the gentle roundnesses of his face, and a watermelon-sized belly protrudes from between the suspenders that hold up his jeans. His hair is jet black except where a strand just above his forehead has prematurely whitened. When I asked his age, he requested clarification: “How old I am or how old I feel?”

He said he was forty-four, and didn’t need to add that he felt considerably older.

For thousands of years, the Yurok and three other tribes on the Klamath made salmon the foundation of their diet and cultures, yet salmon flourished— as a child, Willson heard stories about how the river once seethed with salmon bank to bank, like a single organism, so teeming with scaly life that horses shied at the sight and refused to walk close to it. Then, in the mid-nineteenth century, white settlers arrived and quickly turned the basin into an industrial cog, a producer not just of salmon but beaver pelts, gold, logs, beef and dairy cattle, irrigated farm

products and hydroelectric power, entirely upending the river's natural regime. The salmon population crashed; some runs went extinct.

“Back in the day,” Willson said, “it'd be nothing to catch 25 or 30 fish.” Now his daily haul ranges from five or six salmon to none at all.

As he maneuvered upstream, Willson stayed wide of the powerful mid-river flow, just as a salmon would. He explained that he places his nets at night because salmon can't see them then. Setting the nets requires experience: if they're too tight, the salmon bounce them off; too loose, and the fish escape before their gills become entangled. We were on the river only a few minutes before Willson found one of his nets and hauled it aboard: it contained a single small salmon. The second net yielded the same paltry result— not nearly enough to sustain a livelihood. “My big catch,” he said sarcastically.

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Compared to most other rivers, the Klamath is geographically backwards— it originates in marshes in high Oregon desert and descends through canyons near its Northern California mouth— and its length, a mere 254 miles, is barely a tenth of the Mississippi's. Thanks to a constantly shifting sand bar at its Pacific Ocean mouth, it is also unnavigable, a major reason why the basin remains some of the continental U.S.'s most remote terrain. Yet, improbably, the Klamath has earned a reputation as the U.S.'s most contentious water basin, pitting farmers and ranchers on one side against native Americans and commercial fishermen on the other, all fighting over the river's dwindling resources. Over the last half-dozen years, the conflict has entangled a raft of Bush Administration officials, conspicuously including Vice President Dick Cheney; investor Warren Buffett, the world's third-richest man; the right-wing property rights movement; at least a dozen government agencies; and numerous environmental and human rights groups.

Yet for all that, the basin's users are now at the brink of a stunning reconciliation, setting a monumental precedent for resolving even the most bitter natural resource disputes. Still undetermined is the fate of four obsolescent, environmentally disastrous hydroelectric dams that

span the Klamath, including two that would become the tallest dams ever taken down— anywhere. The dams' removal is considered the first crucial step towards the restoration of the Klamath and its salmon stocks.

Over thousands of years, humans and salmon in the U.S. Northwest engaged in what fisheries biologist Jim Lichatowich, author of *Salmon Without Rivers: A History of the Pacific Salmon Crisis*, calls “a long ecological dance of coevolutionary change.” By 1,500 years ago, a full-fledged salmon economy emerged in the Klamath Basin, with gift-giving at its core. Instead of accumulating wealth, native American tribal members attained status according to the size of their gifts; indeed, keeping possessions was taboo, while passing them on was expected. Gifts of salmon tempered starvation in lean years and spread wealth in prosperous ones. The gift concept applied even to animals: the fish that humans ate were considered equal beings who gave their lives to tribal members.

The respect that Indians extended to salmon prevented overharvesting. For example, each summer, the Yurok, who live near the Klamath's mouth, placed barriers across the river and caught some of the salmon whose upstream path to spawning grounds was blocked; then, after ten days, the Yurok dismantled the barriers. The practice insured both that upstream tribes could catch their share of fish and that enough salmon would reach their spawning grounds to produce another generation. As the salmon completed their migratory life-cycle, dying in the waters where they'd been spawned, they enriched the entire watershed with nutrients ingested during three or more years in the ocean. Among the beneficiaries were at least 22 species of mammals and birds that ate salmon, ranging from wrens to eagles and bears. Even the salmon carcasses that bears left behind on the riverbanks fertilized trees that provided shade along the river's banks, cooling its water so that the next generation of vulnerable juvenile salmon could survive. The human gift economy complemented nature's. The result was a salmon-based economic system that could perpetuate itself indefinitely.

Salmon are adaptable creatures— indeed, their biological family may have started in the age of dinosaurs a hundred million years ago. They've learned to survive in heat waves and

droughts, in rivers of varying flow, temperature, and nutrient load— but they were as ill-prepared for Europeans' arrival as the Indians themselves. As trappers killed the basin's beavers, they eliminated beaver dams, which stabilized the river ecosystem, tempered the effects of floods and droughts, and provided salmon sanctuaries. Gold miners who arrived beginning in the mid-nineteenth century washed entire hillsides into the river with high-pressure hoses and devoured the river's bed with dredges, destroying still more habitat. Loggers used tractors to drag logs to the river's edge and even down streambeds, causing massive erosion; dumped sawdust into the river, smothering incubating salmon eggs; and floated massive log tangles of timber down the river to plywood mills at the mouth, killing salmon in the way and eviscerating huge swaths of habitat. Ranchers allowed their cattle to graze at the river's edge, causing soil erosion that further damaged habitat and raised water temperatures to lethal levels by removing the shade that vegetation provided. Farmers diverted water to feed their crops, reducing the river's flow. Even now, road builders dump sediment into streams, clogging spawning areas. The model of sustainability that had served humans and salmon over thousands of years collapsed.

The dams were the crowning blows. Between 1917 and 1962, six dams were built on the Klamath. The tallest, the 173-foot-high Iron Gate, is the farthest downstream, and definitively blocked off salmon from the river's upper quarter— after it was built, the river's salmon population plummeted. The two small dams at the top of the Klamath system are tools of agriculture: they regulate flows to about 1,400 farms that comprise the century-old complex of irrigation canals, water pumps, drainage ditches and pipes known as the Klamath Project. Those two dams are not in jeopardy now, though it is widely accepted that they should be equipped with fish ladders to help reconnect salmon to two long tributaries that feed Upper Klamath Lake, the Klamath River's source. What are imperiled are the remaining four downstream dams that have generated cheap hydropower to the Klamath Project farmers while also feeding the regional grid. Since the project's farmers must pump water to their fields, the threatened loss of hydropower has been considered nearly as crippling as the end of irrigation itself.

About a third of the Klamath Project's farmers are descendants of World War I and II veterans who won highly competitive national drawings for homesteads on wetlands drained by the Bureau of Reclamation; other farmers simply responded to the Bureau's invitations to settle the land. All arrived to find a 350-square mile expanse of bare homesteads spread across southeastern Oregon and northeastern California. As Greg Addington, executive director of the Klamath Water Users Association, which represents the farmers, explains, "People showed up from New Jersey, having won a homestead, and went 'Holy cow, what did I just get myself into?'" In addition to eking a living from the fields, the farmers built homes, schools, churches and towns. Even now, the sort of large-scale corporate farming that reigns farther south, in California's Central Valley, is unknown in the Klamath basin. Farms are modest, family-owned, and generate incomes estimated at less than \$15,000 a year. Not unreasonably, the farmers assumed that in return for turning swamps into productive acreage, they were owed water and cheap power in perpetuity.

For most of the last century, the farmers were oblivious to the damage that the dams and water diversions caused downstream, while the tribes and commercial fishermen seethed. In addition to isolating more than three hundred miles of spawning and rearing grounds on the Klamath and its tributaries, the dams have flattened natural flow variations and skewed water temperatures to salmon's detriment, and they fostered the rampant growth of blue-green algae, highly toxic to humans, in their reservoirs. The annual salmon run, once so abundant that in some years the Klamath couldn't contain them and people caught them with their hands, was roughly pegged at more than a million fish at its peak; in recent years it has dropped to perhaps two hundred thousand in good years, as low as 25,000— below the minimum believed necessary to sustain the runs— in bad years. Spring chinook, which once comprised the river's dominant salmon run, entirely disappeared. Two fish species— the Lost River sucker and the shortnose sucker— that once helped sustain upper Klamath tribes and even supported a commercial fishery, were listed as endangered in 1988. Coho salmon were listed as threatened nine years later.

All this has had a devastating impact on the Klamath's tribes. Traditionally able to sustain themselves throughout the year on the distinctly timed seasonal migrations of the river's salmon, trout, and candlefish, tribal members suffered greatly as the runs declined or went extinct. For four decades beginning in 1933, the basin's native inhabitants were even deprived of the right to fish the river, while commercial fishermen faced no restrictions. Through the first half of the twentieth century, the native American confederation known as the Klamath Tribes of Oregon was entirely self-sufficient: it relied on sustainable logging of its reservation's Ponderosa Pine trees. Then, in 1954, the group lost the reservation to "termination" decreed by the U.S. Congress, ostensibly to promote native American assimilation. As a result, the Klamaths, previously one of the nation's richest tribes, became one of its poorest. A similar fate befell the Karuk, who live along the river's middle reaches. Whereas each Karuk once consumed an estimated average of 450 pounds of salmon a year, a survey found that in 2004 tribal members were eating only five pounds a year. The survey linked the absence of salmon in the Karuks' diet to epidemics of diabetes and heart disease that now plague them.

The conflict between the river's irrigators and its tribal and commercial fishermen boiled over in April 2001, when the federal government suspended water diversions to farmers for the first time in the Klamath Project's history. Anticipating a dry year, the Interior Department was compelled by the Endangered Species Act of 1973 to reserve all of the river's flow to protect the listed suckerfish and coho salmon. By then, the farmers had already planted their crops, and were shocked to realize that their effort was wasted. Many charged that the government had betrayed them, and drew upon pro-property rights ideology to attack the Endangered Species Act. Over the next four months many farmers performed repeated acts of civil disobedience, most notably when a bucket brigade passed pails of banned water from its lake storage to an irrigation canal while thousands of onlookers cheered. The protests attracted pro-Christian, anti-government and property rights advocates from throughout the American West; many camped out in the Upper Klamath for months and didn't go home until September 11, when the World Trade Center and Pentagon attacks refocused their attention. In the meantime, some farmers went bankrupt, and

one committed suicide. Many of the largely Latino farmhands who'd worked the farms for many years also left, and surrounding communities languished.

The next year, it was the tribes' turn to suffer. In the 2000 U.S. Presidential election, George Bush lost Oregon by less than half a percentage point, and Administration officials believed supporting the Klamath Project's predominantly Republican farmers was essential to winning the state in 2004. As a result, in February 2002, Bush and political adviser Karl Rove visited Oregon to reassure the farmers that this year they would get their water despite the continuing drought. Meanwhile, Cheney was making sure that the federal bureaucracy complied, even though the law seemed to favor the salmon. According to a June 27, 2007 Washington Post report, Cheney made clear to a mid-level Interior Department official charged with following Klamath developments that he expected the government to deliver water to the farmers. He eventually called on the National Academy of Sciences to review the opinions issued by federal biologists that underpinned the 2001 decision to cut off the farmers' water, and the Academy followed through with a preliminary report that found "no substantial scientific foundation" for the cut-off. Mike Kelly, the National Marine Fisheries Service lead biologist in developing the biological opinion, later testified before Congress that the Academy's review "used an inappropriate standard for evaluating" the opinion, and that he was convinced that the review "was engineered to give the Bush Administration its desired answer."

With U.S. Secretary of Agriculture Ann Venneman and Oregon Senator Gordon Smith (a Republican facing re-election in November) at her side, Interior Secretary Gale Norton herself opened the head gates launching the 2002 release of water to the Klamath Project farmers, while approving farmers chanted "Let the water flow!" But six months later, the carcasses of tens of thousands of chinook and coho salmon suddenly washed up on the banks of a 33-mile-long stretch of river near the Klamath's mouth, in what is considered the largest adult salmon die-off in the history of the American West. The immediate cause of the kill was a parasitic disease called ich, or "white spot disease," which is commonly triggered when fish are overcrowded. Given the presence of a unusually large fall chinook run in 2002 and a paucity of Klamath flow,

the 2002 water diversion probably caused the die-off. Yurok representatives said that months earlier they begged government officials to release more water into the lower river to support the salmon, but were ignored.

The die-off deprived many tribespeople of the salmon they relied on for sustenance and abruptly ended the river's fall sport-fishing season, but its impact didn't fully register until four years later, when the offspring of the prematurely deceased 2002 salmon would have made their spawning run up the Klamath. By then the Klamath stock was so depleted that to protect it, the federal government placed 700 miles of Pacific Ocean coastline, from San Francisco to central Oregon, off limits to commercial salmon fishing for most of the 2006 season. Because Klamath salmon are indistinguishable from other salmon once they enter the ocean, the decision was forced on the government even though Sacramento River salmon were abundant that year. Because of it, commercial ocean fishermen lost about \$100 million in income, forcing many into bankruptcy.

By then, the Klamath's rotating crisis had touched virtually all the basin's residents, and anger reigned. In 2001, in the town of Chiloquin, at the heart of Klamath Tribes of Oregon territory, a drunken argument over water prompted a white boy to kick in the head of a young Indian, killing him. Two drunk white goose-hunters shot up Chiloquin store fronts with their shotguns while yelling "Sucker lovers!", a reference to the fish species whose endangered status helped trigger the 2001 suspension of water deliveries to farmers. Though poverty is rampant in the basin, tribes and farmers filed at least a dozen lawsuits against the federal government and each other, spending tens of millions of dollars on legal fees they could barely afford.

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Individual acts of leadership laid the foundation for reconciliation. At the height of the furor over the suspension of water deliveries to the farmers in 2001, a Klamath Tribes of Oregon leader named Jeff Mitchell knocked on farmers' doors to express his condolences for their plight.

He was motivated in part by his hope that the farmers could now understand the comparable feelings of betrayal that his tribe members felt when Congress terminated their reservation. He

also believed that the continued existence of the farming community was essential to the upper basin's ecological recovery— he thought farmers would be far better caretakers of the land than the retirees who would probably replace them and chop the farmland into suburban plots. At one point Mitchell, who sports two long black braids that instantly establish his native American identity, agreed to meet some farmers in the back room of a restaurant in the farming town of Merrill, Oregon, but first had to walk through the restaurant's main room, which was filled with about forty farmers who'd been idled by the water cut-off. "Everybody just stopped and stared at me, and some of those stares were pretty icy," Mitchell said. "That was one of the toughest things I've ever done." Mitchell believes his gesture "helped the farmers to understand that the tribes weren't going to leave them isolated through this ordeal."

Meanwhile, Becky Hyde, an Upper Basin cattle rancher, had become deeply distressed by the river's decline. After stumbling upon a badly eroded, thoroughly overgrazed parcel of riverside ranchland, she and her husband Taylor bought it in 2003 and moved their ranch to it, taking a substantial financial loss in the process. They immediately began restoring it. With guidance from a Portland-based nonprofit called Sustainable Northwest, they devised a conservation easement for the property that obligated them and future owners to limit ranching to a fraction of its former scale and promote the land's environmental recovery. Then, stunningly, they turned the easement over to the Klamath Tribes of Oregon, effectively returning the land's stewardship to the native Americans who'd once lived on it. This act not only nodded to the basin's ancient gift economy, but seemed to revitalize it; it leapt across the chasm between ranchers and Indians and established connections based on trust.

According to Mary Wood, a law professor at the University of Oregon, the Hydes' gesture marked the first time that native Americans have been made the sole holders of an easement on white-owned property, and it is part of a growing movement to rely on conservation trusts to protect the environment instead of legislation and litigation, which are commonly viewed to have failed.

“The tribes are in a position now where they’re losing the meaning to their treaty rights because the resources around the reservations”— such as the Klamath salmon fishery— “are collapsing,” Wood said. “So they’re looking at the end of their way of life if they don’t somehow find a legal mechanism to assert their environmental prerogative across their ancestral lands. The conservation trust movement has evolved in response to the failure of environmental law to protect natural resources, but it hasn’t really involved tribes in any meaningful way. Tribes are just now learning to use trust mechanisms to gain a voice off the reservation, and the Klamath example is at the leading edge of this. It’s path-breaking.”

More acts of courage followed. In 2005, Troy Fletcher, a Yurok tribesman, proposed at a meeting of basin leaders that the two sides declare a ceasefire on denunciations of each other in the media— surprisingly, the farmers agreed, leading to an end to public recrimination and the beginning of genuine negotiation. Addington, the Klamath Water Users Association official, endured fierce criticism from some of his members for his conciliatory approach to negotiations. And even though the Bush Administration is notorious for its disdain for environmental concerns, it has not impeded the Klamath negotiations, even though they are predicated on dam removal. This may be because the farmers, the Administration’s allies, no longer oppose dam removal themselves. “Here’s a case,” Fletcher said, “where the Bush Administration did something that was awesome.”

To be sure, the inability of the two sides to win a clear-cut victory probably made compromise possible. “Everyone of us would have rolled the others if we could have,” Fletcher said. “We all tried to go to court, to go through the political process, but it didn’t work— we might win one battle today and lose one tomorrow, so nothing was resolved. We spent millions of dollars on attorneys, plane tickets to Washington, political donations, but it didn’t make any of us sleep any better, because the big issues were still out there, and we still had to resolve them.”

The negotiators also were the recipients of several lucky breaks. The biggest may have been that the four dams’ license came up for renewal in 2006, as the conflict raged. This made it possible for all the parties to consider a river without the dams, particularly since PacifiCorp, the

utility that owns the dams, announced that under a new license the company would no longer be obligated to provide cheap power to the farmers— and informed them that their energy rates would increase seventeen-fold on average. Virtually all the farmers considered themselves pro-dam, but they suddenly realized that they needed to develop alternative energy sources to survive.

The negotiations have required some 26 parties— representing farmers, ranchers, tribal members, fishermen, government agencies, and environmental groups— to put in 80-hour weeks encompassing thousands of day-long meetings. Once the negotiations were invigorated in 2005, two more years passed while the negotiators developed mutual trust; then, in January 2007, they reached a “settlement framework” and began working earnestly towards a final agreement. The result is that the farmers are poised to give up their opposition to the key tribal demand— the removal of PacifiCorp’s four dams— while the tribes and commercial fishermen support diversion of sufficient water from the river to enable the farmers to survive. Both sides are now striving to develop a resilient economy that is compatible with a flourishing environment.

“I think what’s really motivating the players is that we’re sick and tired of arguing,” Fletcher said. “What it comes down to is that our values aren’t much different from each other. The farmers are from hard-working, honest rural communities, and I feel way more of an obligation to work with those guys than I do radical environmental groups from outside the area.” The key “radical” environmental group in the Klamath dispute is Portland-based Oregon Wild, which left the negotiations in January 2007 after opposing concessions to farmers.

The four dams at the heart of the conflict indirectly provide power for the farmers’ energy-intensive water-pumping system. In 2005 a subsidiary of Buffett’s company, Berkshire Hathaway, bought PacifiCorp, the utility that owns the dams. In response, a protest delegation representing the Klamath tribes and commercial fishermen attended Berkshire Hathaway’s annual meeting in Omaha in May 2007, and asked perhaps the only substantive question during Buffett’s day-long appearance in front of otherwise fawning shareholders. (Buffett, who answered other questions extemporaneously, answered by reading a prepared statement denying

responsibility for the dams' fate.) Oddly, the purchase seemed to run counter to the wishes of Buffett's two sons, Howard— himself a Berkshire Hathaway board member— and Peter, who together provided a million dollars in 2001 to endow, of all things, the “Buffett Award for Indigenous Leadership,” a prize for native Americans in the conservation vanguard. In fact, in 2005 one of the award finalists was Leaf Hillman, a Karuk tribesman honored for spearheading opposition to the dams.

Whatever role Warren Buffett envisions for himself in the Klamath struggle, chances remain good that PacifiCorp will eventually agree to dismantle the dams, for their continued existence has little financial justification. The Federal Energy Regulation Commission has already ordered PacifiCorp to equip the dams with fish ladders and screens to facilitate the movement of salmon up and down the river, but installation would cost as much as a hundred million dollars more than dam demolition. The dams also generate so little power that their continued operation under FERC's new requirements would be a losing proposition, costing PacifiCorp an estimated \$28 million a year. It is possible that PacifiCorp is holding out against dam removal only until it can fashion a favorable deal, conceivably receiving government aid to remove the dams. Or perhaps, more ominously, PacifiCorp simply reflects the views of the defensive, backward-looking U.S. utility industry, which fears that dam removals could become contagious.

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Back at his house, Willson gutted his meager catch, then placed the fish in an outdoor smokehouse to cook for a couple of days. Willson is counting on a rejuvenated river to improve his fortunes, and not just because he'd catch more fish: before I left, he showed me the modest lodge that he and his son have built, in hopes of accommodating recreational fishermen drawn to the revitalized river. When I thanked him for showing me his operation, he presented me with salmon he'd packed in a jar of oil. The gift economy lives.

(Jacques Leslie's book, Deep Water: The Epic Struggle Over Dams, Displaced People, and the Environment, won the J. Anthony Lukas Work-in-Progress Award and was named one of the top science books of the year by Discover Magazine.)