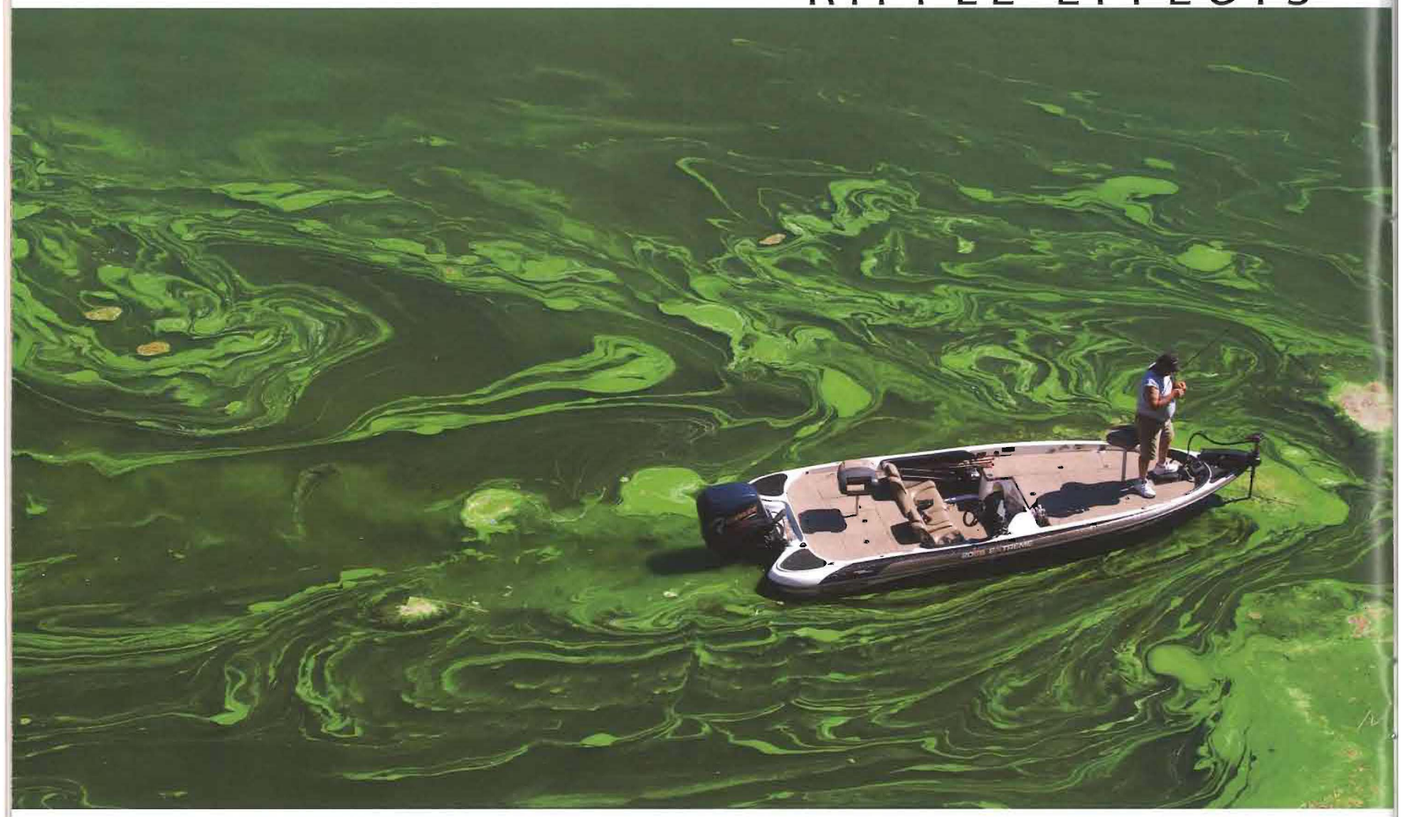
ESSAY | BY DIANA HARTEL

RIPPLE EFFECTS



A bass fisherman casts a line into the algae-clogged waters of the Iron Gate Reservoir, March 2009, in the Klamath River Basin. DAVID MCLAIN/AURORA PHOTOS

Doctor's Orders: Undam the Klamath

Settlement could restore health to rivers and tribes

In recent years, I witnessed the battle over re-licensing of four dams on the Klamath River, which runs from Oregon's high desert country to the redwood and Doug fir forests of the California coast. This watershed is my home, and it filled me with hope that dam removal could bring salmon to reaches of river that had not seen a spawning salmon in nearly a century.

My relatives and their neighbors were against dam removal. Their arguments had a lot to do with settler pride of place, how we took this wild river and made it useful — building cheap hydropower, irrigating onions, growing potatoes for Frito-Lay, watering livestock. My family's arrival in California in 1870 was an oft-told tale that gave us our rightful place in the West. But the land had changed since then. In summer, the river was too warm, its color a neon yellow-green. In some years, stretches of the Shasta and Scott tributaries dried up.

It was at a California Water Board meeting in October 2008 that I got a good look at settler pride in action. At the highway turnoff into Yreka in Siskiyou County, the moon cast long shadows from the statue of a bearded miner panning for gold beside his mule. Inside the meeting room, fluorescent tubes lit the stained walls of the conference room and its restless inhabitants. "Coho, chinook, steelhead, Pacific lamprey and green sturgeon could disappear from the watershed forever," a voice lamented through the microphone. Collapse of First Nations fisheries had brought deepening poverty and with it soaring rates of diabetes among the tribes. For farmers and ranchers, higher water releases from reservoirs for fish brought nightmare images of empty fields and abandoned ranches. There were angry voices on all sides. But the speakers I found most difficult to hear were those with settler backgrounds like my own, proud of their place in the West and sadly ignorant of the plight of the tribes on the river.

Diabetes began ravaging the First People of the Klamath well after the Gold Rush ended. But the 19th century laid the foundation for the fisheries collapse — and that in turn caused the most important shift in the Native diet.

There were, and are, many causes of the collapse: stream-bank degradation from mining and livestock, deforestation and erosion, commercial overfishing, dams blocking river flow and access to spawning habitat, heavy water withdrawals and diversions, pollutants from agricultural runoff, drought and now global climate change.

But there's a larger story behind it all, involving Native displacement from ancestral lands and the breaks in cultural knowledge created when generations were forcibly removed to Indian boarding schools. Most important of all is the loss of salmon. In pre-contact times, the Salmon Nation diet consisted of an estimated 450 pounds of salmon per person per year. Today, it's less than five pounds per person per year.

Ron Reed of the mid-Klamath Karuk Tribe remembers that his family could still fish and feed everyone as recently as the 1960s, when Iron Gate, the last dam, was completed. By the mid-1980s, Karuk families found it difficult to catch enough salmon, lamprey, steelhead, freshwater mussels and sturgeon to sustain themselves. Acorns, game and dozens of other foods were also scarce in the logged-out lands. By the 1990s, Klamath coho were listed as threatened and spring chinook runs were dangerously small. As fisheries declined, Native families increasingly filled their bellies with store-bought and government commodity foods — cheap starches, fats and sugar. Chronic unemployment, despair and addictions rose in the gap left by the vanishing life in the river.

By the 1870s, when my great-grandmother came to California, the indigenous population on the Klamath had already declined by 75 percent. A century later, diabetes, once virtually unknown in the tribes, stalked the descendants of the survivors.

AMONG THE SETTLERS, diabetes was known long before the Gold Rush. My own family has known diabetes for many generations that include my great-grandfather, my grandmothers, several uncles and aunts, and my father. Most recently, my sister was diagnosed with metabolic syndrome and insulin resistance — strong precursors of diabetes. One of my earliest childhood memories is of Grandma Nellie standing at the dining room table as she tested her urine over a flame. I watched as she pulled up her floral print skirt to a few inches above her knee and drew down beige woolen stockings to slide a needle into her thin thigh. Her chin was set, mouth firmly shut. "Your grandma has 'The Sugar,' " my mother told me. But I could not possibly link the word "sugar" to what I had just witnessed. That day, my grandmother's life seemed as forbidding as the mineshaft with fallen timbers next to her land.

Insulin injections kept Nellie alive in her tarpaper-shingled home in the mountains, far from medical offices, long enough to briefly know her grandchildren. These days, I cannot recall my grandmother's voice, but I remember her death. I sat on the linoleum hallway floor drawing people, trees, the sun, birds, and dogs. Nellie DeWolf died of kidney failure and a diabetic coma in 1956. She was 65.

I believe that we — the settlers and their descendants — effectively introduced the spike in Native American diabetes rates in the watershed through our culture. By far the most common form of diabetes for Native Americans is Type 2, which progresses from insulin resistance to full-blown disease. This is the form that is most strongly related to too much fat and sugar, processed foods and sedentary living. Diabetes is like the Japanese knotweed, fish infections and algal blooms that proliferate unchecked in our disrupted watershed and its blocked waterways. Our bodies, designed to handle alternating periods of natural abundance and scarcity, cannot cope with unrelenting, invasive plenty. The pathways between insulin and the mitochondria, the energy organelles of the body, become overwhelmed and damaged. Endocrine-disrupting chemicals and reactive nitrogen compounds from agricultural runoff, industrial waste and consumer products add to the internal chaos. There is no doubt that Type 2 diabetes is fostered by our way of life — poor eating habits and a sedentary car-centered culture, surrounded by electronic media. Even the less common autoimmune Type 1 diabetes is increasing — not due to genetic shifts but to environmental triggers and cofactors. For the descendants of white settlers, the loss of food natural to our bodies is tangled up in centuries of migration and dislocation. We barely know what we have lost. But we know that as we gain weight, fish species go extinct.

It is through the tribes on the Klamath that the deep roots of the diabetes epidemic are most clearly seen. Karuk Tribe medical records reveal a 21 percent occurrence in 2005, compared to 7 percent in the general population that year. Among those aged 65-74, 50 percent of the First People had diabetes compared with 20 percent of the country's population in the same age group. And all groups, Native and non-Native, are still showing increases in Type 2 diabetes, especially among the most impoverished. Also, among similar Native tribes, 55 percent of those aged 45 and older show pre-diabetes or metabolic syndrome — double that of the U.S. population. Metabolic syndrome is a combination of medical disorders that increases the risk of diabetes along with kidney, stroke and heart disease. While all the tribes on the river now have diabetes risk reduction and medical care embedded in their health services, the issues extend far beyond these sorely needed clinics. We also need sustainable local foods — thriving fish and farms in a healthy, restored watershed.

Merv George of the Karuk Tribe, at a protest in front of PacifiCorp's Salt Lake City offices, holds a photograph of a traditional Karuk fisherman and his sons holding a salmon.
TRENT NELSON, SALT LAKE TRIBUNE

A member of the Hupa Tribe on the Trinity tributary of the Klamath told me of a time when white soldiers had killed a great number of Natives in retaliation for a small number of soldier deaths. One tribal elder walked out to meet the soldiers, carrying a notched staff – one side marked with the soldier deaths and the other with the much higher number of Indian deaths. He displayed it silently. The soldiers asked him to sign a piece of paper, so he made his mark, believing justice would be done. Instead, he was told he had signed away the people's land. It was an incomprehensible idea for him but it was later violently enforced.

Violence is at the root of every broken place in the land, in the wanton extraction of metals, timber and wildlife for short-run gain. It is at the root of the breakdown of communities and of dynamic natural cycles. In the Klamath River watershed, it left a land in which diabetes could flourish as Native food ecology was destroyed.

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MUCH AS ALL WESTERNERS, Native and non-Native, might wish this history away, we have to face it together. We live in one watershed. In these times, we are easily disconnected from life rhythms millions of years old. And once disconnected, we can wreak havoc on everything around us. The diabetes epidemic that robs us of vitality, making us crave hollow substitutes for the true sweetness of life, is an indiscriminate killer. On the tribal elder's scored war staff, we need to include the uncounted lives lost to diseases in our disrupted landscape.

In January 2008, the Klamath Settlement Group, which included representatives of tribes, irrigators, ranchers, fishing associations, government agencies and conservation groups, offered a proposal for public review — a comprehensive plan to restore the watershed. During the years of settlement meetings, people began to create lasting friendships across disparate groups. They sat in motel meeting rooms learning of births of grandchildren, divorces, graduations, river ceremonies, festivals, the deaths of parents and friends. And in their new relationships they found a way to restore the Klamath. As Roger Smith, a biologist with Klamath Falls Fish and Wildlife, put it: "It is beyond my wildest dreams."

Still, until recently, the Settlement was missing one important signature — PacifiCorp, the company that owns the dams. It is a subsidiary of Mid-American Energy Holding Company, itself an affiliate of Berkshire-Hathaway Inc., which is run by one of the world's richest men, Warren Buffett. PacifiCorp removed itself from Settlement talks because it was seeking 50-year renewals on dam licenses that expired in 2006, a key issue in the restoration.

Tribal and environmental activists traveled together to protest at Berkshire-Hathaway public meetings. Merv George Jr. brought his Brush Dance regalia and hitched up a trailer to carry his family's antique redwood canoe to Buffett's headquarters in Omaha, Neb. Few were allowed in to address Buffett. Merv George's wife, Wendy, spoke to an image of Buffett's face on theater-sized conference screens. She sobbed as she asked him to remove the dams. "Sir, I have heard you are kind. The dams are killing the fish and destroying my people's way of life." The enormous Buffett lips asked if she had finished, then explained utility company politics as if to a child. Even *Forbes Magazine* wondered how he could be so heartless. Surely this monetary Great Oz presiding in the Midwest could do something.

But nothing was done until the dams became too expensive. One of the oldest forms of life on earth held a key. Farmers, ranchers, fishermen and reed gatherers call it an algal bloom, but its real name is cyanobacteria – a photosynthesizing single-cell organism over 3 billion years old. Over the past few decades, cyanobacteria has shown up with increasing frequency in livestock watering holes and irrigation ditches. It forms huge mats in the reservoirs. And along the river, in the summer months of dusty pine scents, the acid-green mats pile up below the willow-covered riverbanks. With its seasonal appearance, hazard signs are planted along the river. Its decay byproducts poison dogs and wildlife that drink the water or swim in it, and injure human skin, liver and brain tissue.

Ron Reed and fellow Karuk Tribe members make their way across rocks at Ishi Pishi Falls on the Klamath River, using a handmade dip net to fish for fall run Chinook salmon in October 2007. DAVID MCLAIN/AURORA PHOTOS

The diabetes epidemic that robs us of vitality, making us crave hollow substitutes for the true sweetness of life, is an indiscriminate killer.

Cyanobacteria thrive in the warm artificial lakes, low-flow waters, and agricultural run-off of the dammed and diverted river. Klamath Riverkeeper, a citizens' group, and tribal ceremony leaders sued PacifiCorp for fostering the toxic blooms — and won. The process of re-licensing the dams was terminated in 2009. Even if the dams could have been re-engineered for fish passage as required by law, it would not have stopped cyanobacteria. In the end, PacifiCorp joined the Settlement, saying the dams were too expensive to fix. Cyanobacteria was not named in the final PacifiCorp documents but it certainly lurked there, hidden in the torpid, stagnant language of the relicensing paperwork.

On Feb. 19, 2010, Interior Secretary Ken Salazar, PacifiCorp, the governors of Oregon and California and the Settlement representatives signed the Klamath Basin Restoration Agreement. It pledges to restore and sustain natural fish species throughout the Klamath Basin, maintain water for the National Wildlife Refuge, establish reliable water and power supplies for agricultural and community use, and develop the sustainability of all Klamath Basin communities. On May 5, the California Public Utilities Commission added its voice, recommending removing the Klamath dams to help restore salmon.

We work toward a time when the Klamath is restored to full health and the tragedies of the disturbed river ecology and its people, including the diabetes epidemic, remain but a cautionary tale of the past. The work of restoration is multigenerational. There is much to be done to bring back the health of these riverlands, their wildlife and people. No doubt there will be political roadblocks ahead. But I think about what Smith said, when he described the Settlement: "It is beyond my wildest dreams." It is time to raise the standards for our dreams. □

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