

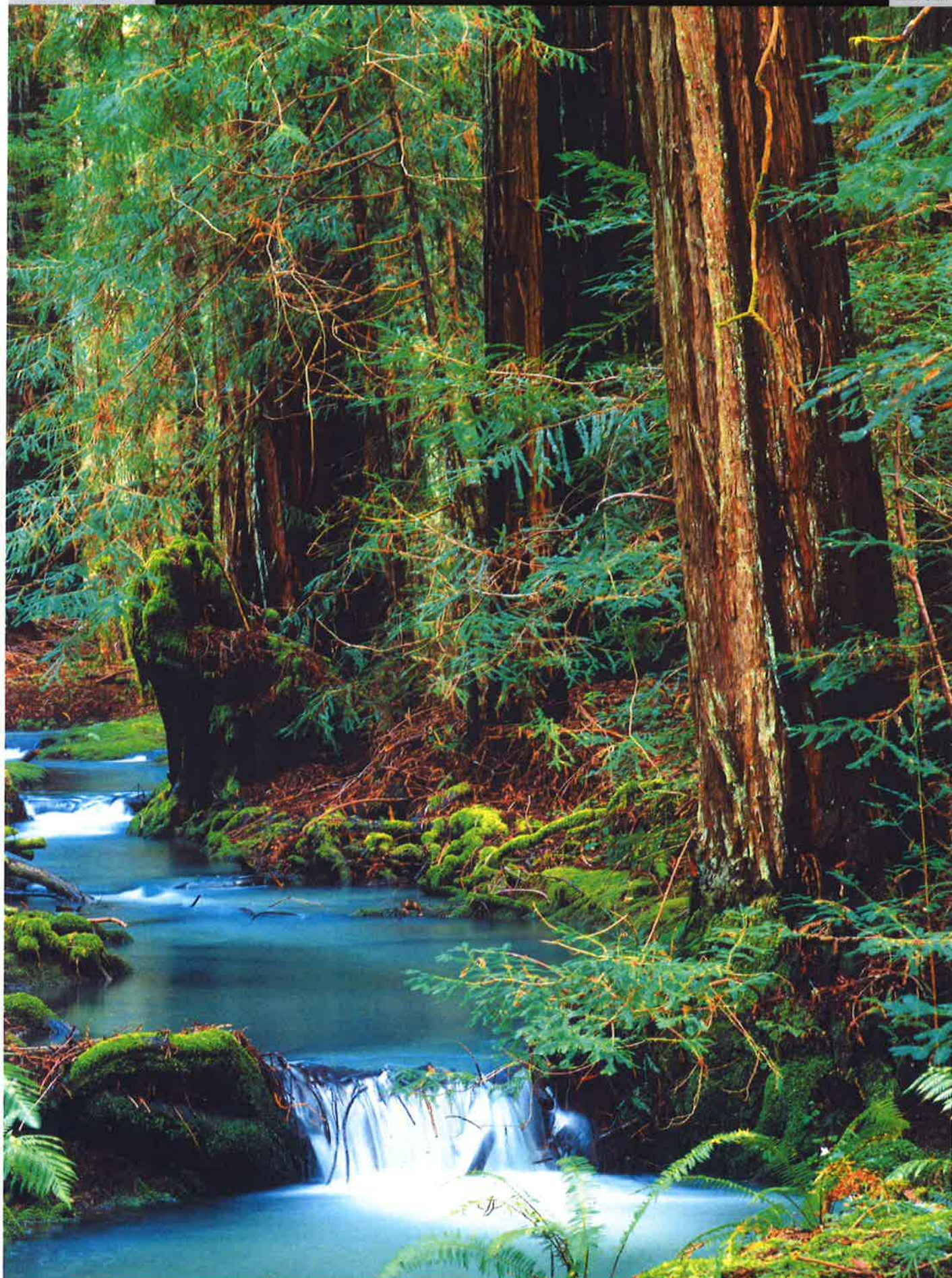
NORTH COAST COHO PROJECT:

BRINGING SALMON AND
STEELHEAD BACK TO NORTHERN
CALIFORNIA'S TIMBERLANDS

BY DAVE STALLING

KER SUESSMAN

Mendocino Coast



LOOKING AT PUDDING CREEK

most of the year—only a few feet wide and ankle deep where it empties into the ocean on the outskirts of Fort Bragg, Calif.—it's difficult to believe salmon and steelhead ever migrate up this river, especially considering that the creek, like most coastal rivers along California's rugged north coast, is entirely cut off from the ocean by late summer when rivers drop. But when heavy winter rains come and Pudding Creek swells up four to five times its normal size, salmon and steelhead do indeed make their way upstream to spawn.

Pudding Creek, Garcia River, Elk Creek, Navarro River, Big River, Noyo River, Cottaneva Creek, Eel River, Russian River—there are dozens of watersheds along the north coast of California, and each of these rivers has dozens of tributaries, and tributaries to the tributaries, forming an intricate web of salmon and steelhead habitat. Also running along these rivers and tributaries is a network of rugged roads, left over from a century or more of logging the redwoods that thrive in this country. Poor roads contribute to sediment running into streams. Where some of these roads cross rivers and tributaries (and there are thousands of such places along the north coast) they often block any possible fish passage, effectively cutting off all upstream spawning. The two factors have led to severely degraded habitat.

What could seem like a hopeless situation is made better by the fact that most of the land where these roads and streams intersect is owned by a handful of timber companies; and better yet, they want to restore and reconnect these streams and habitat to help salmon and steelhead runs return.

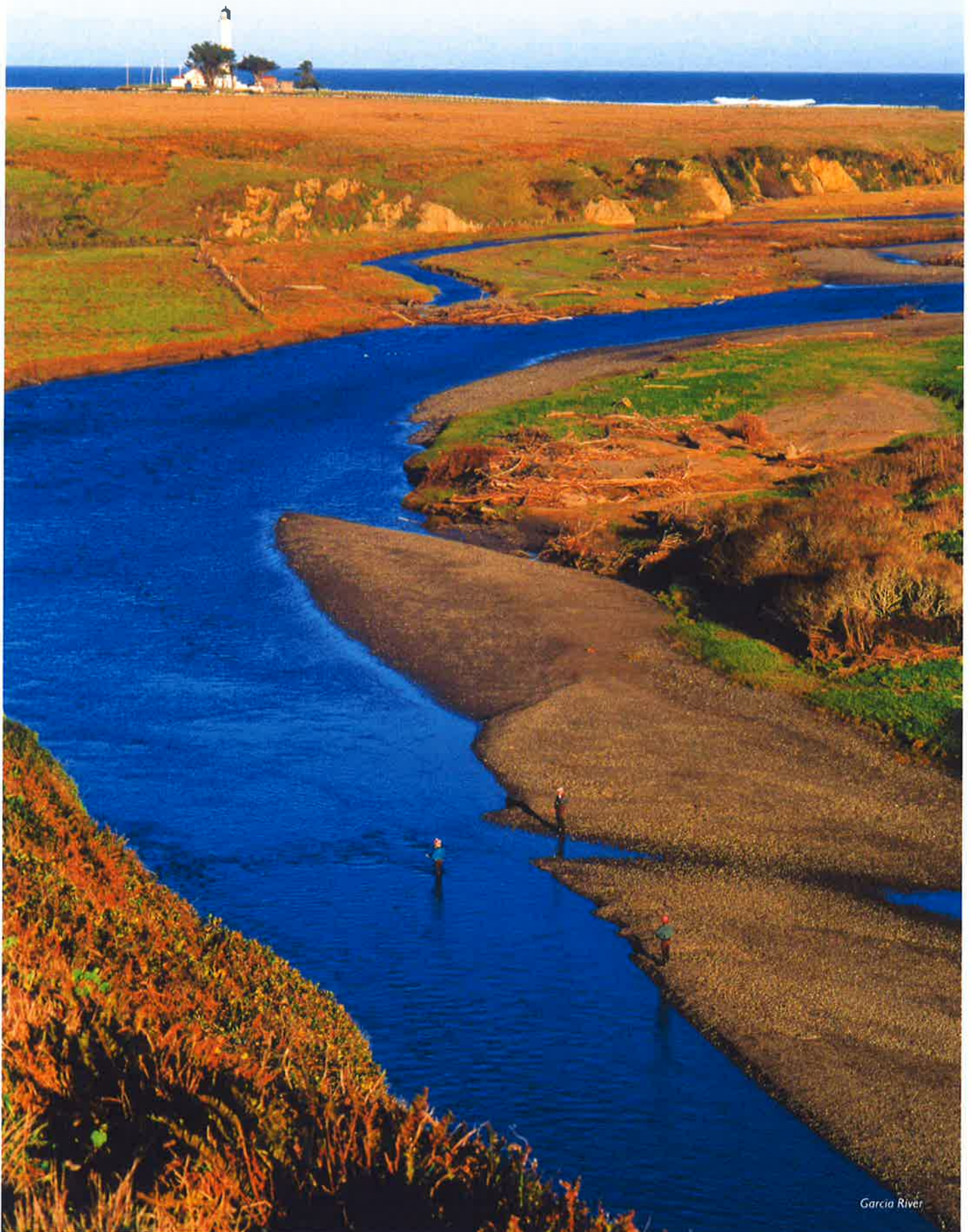
"I am working with timber companies, state parks, state forests and sometimes other, smaller landowners," says Lisa Bolton, the North Coast Coho Project manager for TU in California, which restores and reconnects streams, rivers and tributaries for salmon and steelhead. "A lot of people seemed surprised that these timber



KEN SUSMAN



Pudding Creek



Garcia River

companies are so dedicated to fisheries improvements, but their interest is serious, sincere and genuine.”

When the region was first logged in the late 1800s, it had the largest redwoods on the continent, and you can still occasionally see the grand stumps of these giants. The redwoods that have replaced the originals are big in their own right—big enough that it’s difficult to get your arms around them. In the early days, as Bolton points out, when loggers built a road across a creek, they used what was called a “Humboldt crossing”—they simply piled logs in a creek and covered them with dirt or created a “log stringer crossing” in which they built a small log bridge and filled it in with dirt. Many of these crossings still exist and they block fish from passing upstream to spawning waters during the winter rains. With time, some of these crossings were replaced with small culverts, but these quickly clogged up or were washed away and many now block fish passage as well.

What is being done to improve fish passage? In the case of Little Jack Creek, a tributary to the North Fork of Navarro Creek, the old culvert was recently removed and replaced with a large, high bridge.

“We were concerned about the culvert being completely washed out,” says Kirk Vodopals, a hydrologist with Mendocino Redwood Company. “Yet we have good steelhead and salmon habitat above the culvert, so we removed the culvert and replaced it with a bridge.”

The efforts may already be paying off: Last September, Vodopals says that David Ulrich, the lead aquatic biologist for Mendocino Redwood Company, and his crew found a steelhead, at least one-year-old, in Little Jack Creek about 400 feet upstream of the new bridge. “We’re hoping to see some coho up there soon, too,” he says.

In addition to the bridge, about one-mile of roads were “decommissioned” along the creek, and Vodopals says he

hopes some of the logs left behind in the creek will help improve habitat as well.

At the turn of the century, loggers used to leave the stream beds clogged with logs and debris, and also used stream beds as chutes to transport logs downstream. Years later, and until the mid-1980s, early restorationists began taking all the logs and debris out of the creek. “They thought they were doing the right thing,” says Bolton.

This “restoration” left many of the streams lacking structure—no hiding cover and shade, or cool, deep pools needed by salmon and steelhead for the first 18-months or so of their lives after they hatch in the spring. TU now is working with various partners throughout the north coast to drop trees into creeks and add structure that eventually settles into the stream bottoms. As water pushes around and under the logs, it scours out deep, cool, shaded pools for young salmon and steelhead fry.

Less than a quarter mile upriver



VAL ATKINSON

ALASKASTOCK.COM



MICHAEL CARL

from where Pudding Creek meets the ocean is a small, aged dam that now serves as a life cycle monitoring station where fisheries biologists have spent years collecting comprehensive data on numbers of spawning salmon and steelhead migrating both upstream and downstream, and juvenile populations of smolt leaving the streams and heading for the ocean.

"We've seen sharp declines of the number of fish returning to the rivers each year," Bolton says, "and others, at other research facilities, are seeing similar declines." Many experts attribute the declines to cyclic oceanic conditions. The continental shelf lies close to the California shore, and winds often drive strong underwater currents that "uplift" along the shelf and bring nutrients that feed and nourish all forms of life—including salmon and steelhead that have returned to the ocean. These uplifts are stronger in some years than others, and salmon and steelhead populations can fluctuate accordingly. Some scientists believe that, with climate change, the uplift cycles are growing more frequent and intense, therefore causing more frequent and intense disturbances to salmon and steelhead cycles. In addition, some winters do not experience the same amount of rain as others, influencing whether or

not salmon and steelhead can make it up the coastal streams. In other words: There are a lot of complicating factors affecting salmon and steelhead runs on the north coast of California, and lately the runs have not been good.

In spite of these factors, one thing is critically important to the fish: When the rains do come, and salmon and steelhead are on an upswing, and fish do swim up north coast rivers and streams to spawn, it's critical that they find clear, easy passage to their spawning beds; clean, clear, healthy streams to spawn in; and clean, cool, clear pools to live in after they hatch and before they return to the ocean.

In addition to working with Mendocino Redwood Company, Humboldt Redwood Company, Hawthorne Timber Company and other timber companies, Bolton is also working with other landowners, including a tourist train company called the Skunk Train, which is now considering projects to ensure fish can pass under bridges where the train crosses creeks, rivers and tributaries. The company is also looking at reducing sediment into the Noyo River watershed.

After working with landowners to identify potential projects, TU, through Bolton's work, often secures grant money

continued on page 46



LARRY ULRICH



Eel River

NORTH COAST COHO PROJECT

continued from page 38

from agencies, primarily the California Department of Fish and Game, and then works with various subcontractors to get the work done. Projects focus on entire watersheds, and can entail many phases, with each phase involving up to dozens of sites including stream crossings, landslides and other habitat improvement sites—restoring and reconnecting entire watersheds one site at a time. In addition to building bridges, restoring passages and putting woody material and structure back in streams, projects include treatment of roads to reduce sedimentation, and decommissioning old roads and restoring the habitat to more natural conditions.


"We have a great relationship with Trout Unlimited," Vodopals says. "We couldn't do half the work we do on the landscape without their assistance. We are seeing fish populations return to certain areas where we haven't seen them for a lot of years. Hopefully this trend continues as we complete more restoration projects."

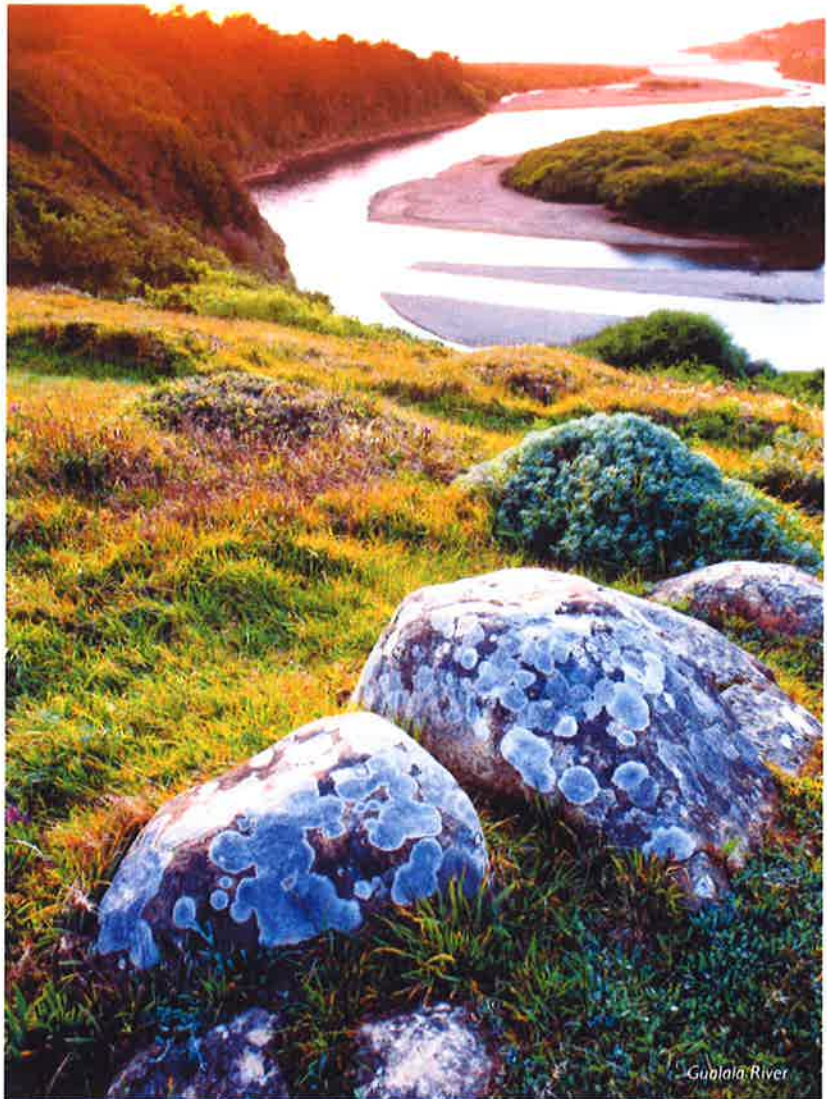
All in all, since its inception, the North Coast Coho Project has resulted in more than 20 watershed-level projects; 20.5 miles of stream re-opened to fish migration; the removal of nine major migration barriers; the creation and installation of 730 instream features; 731 miles of roads evaluated; 470 miles of roads decommissioned or upgraded, and over 438,000 cubic yards of sediment (about 43,800 dump trucks full) prevented from entering streams.

Every year for 40 years, Fort Bragg has hosted the annual "World's Largest Salmon Barbecue," in Noyo Harbor, where up to 5,000 people gather to eat wild salmon, salad, corn on the cob, listen to live music and dance. The event was conceived in 1971 by four men during a car ride home from a meeting held by the conservation organization Salmon Unlimited—representatives of commercial and sport salmon fishing who got together to discuss problems and issues affecting salmon and salmon

fisheries. Thus was born the Salmon Restoration Association, which puts on the annual salmon barbecue and uses the money raised "to take positive, measurable action to restore the natural wild salmon runs to rivers of Northern California." Last year, the association presented California TU with a check for \$30,000 toward the North Coast Coho Project, to be used for restoration efforts.

When the "World's Largest Salmon Barbecue" started, local fishermen donated locally caught salmon for the

feast. In more recent times, unfortunately—with the local salmon fishery all but shut down the last several years—most the fish are shipped in from Alaska. Hopefully, within the next 40 years—thanks to the cooperative efforts of TU and its partners—nothing but local salmon will once again be served at the barbecue and the mouths of rivers like Pudding Creek, during heavy winter rains, will be full of salmon as they head to their spawning grounds from the ocean. 



VAL ATKINSON