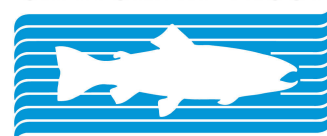


the current

abundant wild fish · healthy waters · better California

Spring 2018

CALIFORNIA TROUT



FISH · WATER · PEOPLE

A Troubled Legacy

The Elk River struggles to recover from the Timber Wars



Bay Area Region

Announcing our new
program in the SF
Bay Area



Craig's Corner

Pyramid Lake and the
'Ladder Day Saints'



A message to you

Our goal with each issue of *The Current* is to bring our stories and projects to life, with more images, videos and links... offering you a rich perspective on the work **your support makes possible**. We are thankful to you, our donors, who help us ensure that there will always be resilient populations of wild fish thriving in healthy waters for a better California.

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An aerial photograph showing a wide, muddy river flowing through a vast, flat landscape of wetlands and marshes. The water is a brownish-tan color, contrasting with the green and brown vegetation on the banks. In the distance, a small town or industrial area is visible near the coastline, with the ocean extending to the horizon under a cloudy sky.

FEATURE

The Elk River's Trouble

It's been almost 20 years since Northern California's Timber Wars, but the e

Almost two decades have passed since Julia Butterfly Hill descended from Luna, the thousand-year-old redwood located near the town of Stafford in Humboldt County. She had been living 180 feet above the forest floor on a wooden platform for 736 days to protest the clear-cutting of ancient redwood trees by the Houston-based Maxxam Corporation, which its owner Charles Hurwitz initiated to increase profits and pay off debt from his purchase of Pacific Lumber Company (PALCO) in 1996. Hill's incredible bravery and personal sacrifice on behalf of the redwoods became a pivotal and symbolic part of the "Timber Wars," a movement to save the ancient forest ecosystems of northern California in the 1990s that resulted in protections of many remaining old-growth trees, the eventual bankruptcy of the Maxxam-owned

WRITTEN BY

Frank Eldredge

*Longtime CalTrout Member
and frequent contributor
to The Current*



Darren Mierau

*CalTrout North Coast
Program Director*



Photos by Mike Wier

led Legacy

ecological fallout still plagues the North Coast's forests and watersheds.

PALCO in 2007, and sweeping reforms of California's Forest Practice Rules. A portion of the forests owned by PALCO received permanent protection in 1999 when the Headwaters Forest Reserve was established, which preserved over 3,000 acres of old-growth forest and an additional 4,000 acres of previously harvested timberlands.

Most people soon forgot about the Timber Wars, but the legacy of environmental damage resulting from years of clear-cutting and unsustainable rates of industrial timber harvest still plagues California's North Coast forests and watersheds.



The legacy of logging

One of the most devastating environmental impacts from this intensive logging was widespread erosion. With each winter's rains, massive amounts of sediment washes down from barren hillsides and chokes rivers and streams. (see Figure 1). No place has suffered these effects as extensively as the Elk River watershed, a focal point of Maxxam's liquidation logging from 1988 to 2000. The Elk River's runs of native salmon and steelhead have diminished significantly over the past three decades because of spawning beds that are buried in silt and poor water quality that makes it difficult for juvenile fish to find food. CalTrout is working with landowners, fisheries agencies, and expert scientists to restore the Elk River and give the native salmon and steelhead a chance to return to a semblance of their former glory. One of the key partners is the owner of the former PALCO properties, Humboldt Redwood Company (HRC), which agreed to purchase forest lands from PALCO during the bankruptcy trial.

Although most people have not heard of California's Elk River, it is the largest

1863


Pacific Lumber
Company (PALCO)
formed

1985


Hostile takeover of
PALCO by Houston-
based Maxxam
Corporation

1997

On 12/10, Julia
Butterfly Hill begins
her 736-day vigil at
the top of the
redwood tree, Luna




CalTrout sees an urgent need to address the most pressing problems in the watershed – both ecological and social – and has been leading technical studies since 2014 to document the issues facing the Elk River and coordinating with other stakeholders to formulate recovery plans.



tributary to Humboldt Bay and historically provided some of the highest quality habitat for salmon (coho and Chinook) and steelhead in the north coast region. In addition to the damage from unsustainable logging, the Elk River has been dramatically altered and impacted by dairy and cattle ranching in the lower reaches of the river and by the wholesale conversion (referred to euphemistically as “reclamation”) of its tidal marshes and estuary. Historically rich and productive tidal marsh areas where juvenile salmon and steelhead once reared in the lower Elk River have been diked and converted to pasture, and much of the tidal flows have been confined by dikes or blocked by tide gates.


1999



Headwaters
Forest Reserve
established


U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

2007



PALCO files for
bankruptcy

2008



Mendocino Redwood
Company purchases
PALCO assets and forms a
new entity, the Humboldt
Redwood Company

People, fish, and other forms of life that depend on the Elk River are suffering the ill effects of a severely degraded waterway.

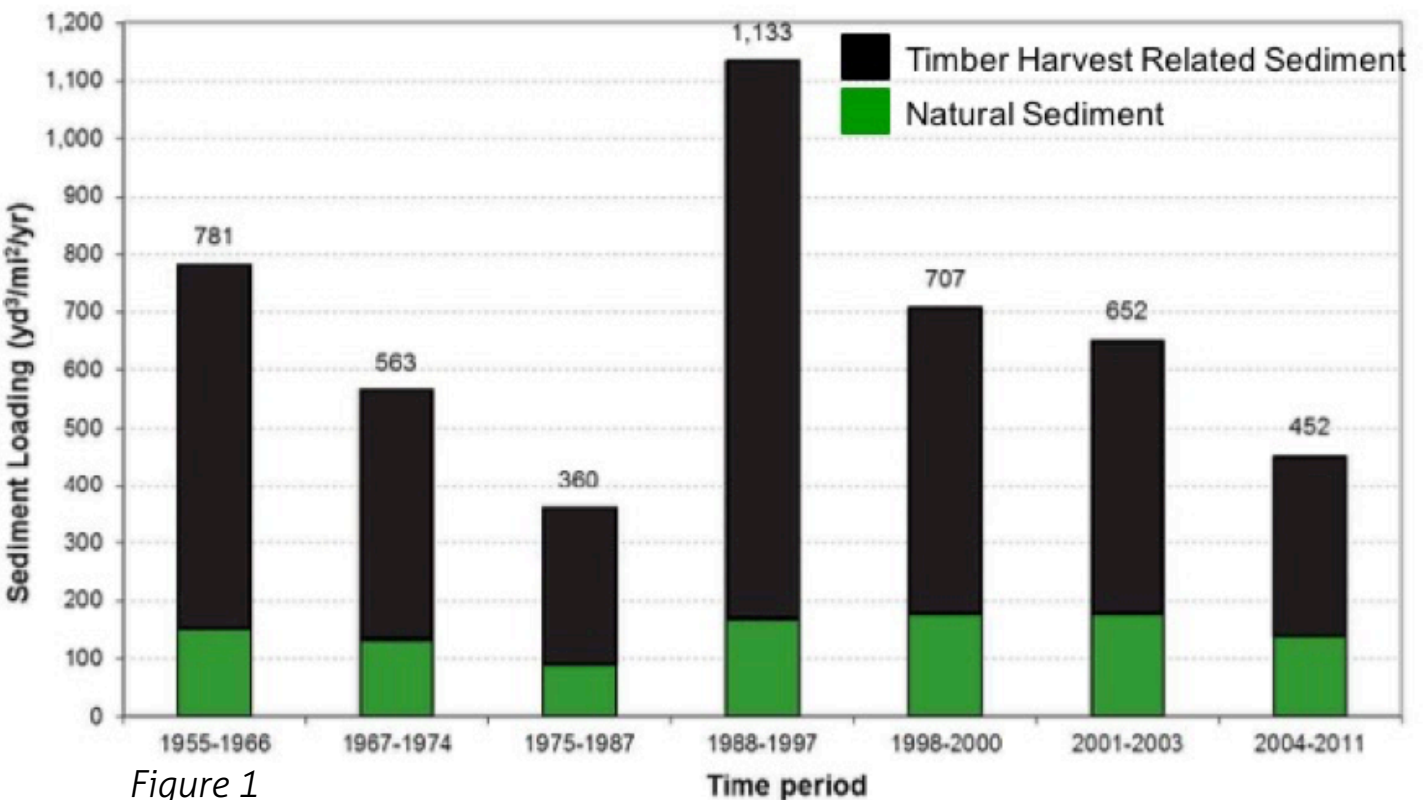


Figure 1

Above: Example of the heavy sediment load in the Elk River. Below: Figure 1, Sediment load graph showing dramatic increase in timber harvest-related sediment during the Maxxam years.

A muddied river causes harm to fish and people

The primary issue that CalTrout and its partners are addressing is the heavy siltation of the river. The Environmental Protection Agency included the Elk River on its list of impaired water bodies in 1998 due to excessive sedimentation caused by historical and current logging practices. Over a period of 10 to 15 years, an estimated 640,000 cubic yards of fine sediment and organic debris washed into the North Fork, the South Fork, and the main stem Elk River. This sediment overload, far beyond the river's carrying capacity, caused major channel changes and resulted in "nuisance flooding", damaged homes, and impaired drinking water supplies for local residents. The North Coast Regional Water Quality Board (referred to hereafter as the Regional Water Board) concluded that sedimentation is responsible for filling in much of the Elk River and reducing its channel capacity by as much as 60%. Because the river cannot bear all of the sediment washed into it, residents now experience flooding conditions on an average of four times per year.

There are about 20-25 homes that rely on the Elk River for their domestic water supply, but these residents can no longer use the water because the quality is so poor. The suspended sediment ruins pumps and fills storage tanks, and is extremely hard to filter out to make the water potable. Consequently, Humboldt Redwood Company trucks in fresh water to these residents and maintains expensive water filtration systems.

In 2004, the Regional Water Board received a petition from 64 Elk River residents requesting dredging of the in-stream sediment deposits to reduce flooding and improve the quality of their drinking water. The Regional Water Board rejected the petition citing the need for a lead entity and a feasibility study prior to initiating a major cleanup effort. Since then, CalTrout has stepped forward as a willing and viable lead entity.

For salmon and steelhead, swimming in the Elk River is similar to living perpetually in a smoke-filled barroom. The high concentration of suspended sediment reduces visibility and makes it difficult for fish to find food, abrades their gill surfaces, suppresses growth of algae at the bottom of the food-web resulting in less food availability, and contributes to a host of other negative ecological effects. The net outcome is that juvenile fish grow more slowly and experience diminished chances of survival in successive life stages.

While the Timber Wars were being waged in the 1990s, federal and state fishery agencies were applying laws to protect endangered and threatened salmon and steelhead on the North Coast. Under the Endangered Species Act (ESA), both coho and Chinook salmon gained federal protection. In the recently published *State of the Salmonids II* report, the region's Chinook and coho salmon were assessed scores of "High" and "Critical," respectively, indicating their risk of extinction in the next 50 years.

The listing of Northern California (NC) steelhead as a threatened species under the Federal ESA was for years a contentious issue between state and federal regulatory agencies and other stakeholders, including the fishing and timber industries. The National Marine Fisheries Service (NMFS) initially proposed the protected status for steelhead, but the timber industry pushed back. The California Department of Forestry and Fire Protection (CalFire) waffled on the issue, and initially sided with the timber interests. One of the main reasons for



sources Control Board • Local residents • Northern Hydrology and Engineering • Stillwater
od Company • Green Diamond Resource Company • CA Department of Fish and Wildlife •
tion Service • US Fish and Wildlife Service • Technical Advisors from Humboldt State University

the resistance from CalFire and timber lobbyists was the inevitable regulatory burden and threat to timber harvest rates that would result from an ESA listing. Eventually the state was forced to accept the threatened listing status, which became official in 2000.

Salmon and steelhead recovery efforts in the Elk River have progressed slowly since the official listing, though. One example of the challenges is the difficulty in obtaining permits to proceed with a pilot project to remove excess sediment in a small section of the river. In a classic "Catch-22" situation, the permits are being held up by concerns that limited dredging could potentially harm any salmon and steelhead living in the area of the pilot project.

Both NMFS and the California Department of Fish and Wildlife (CDFW) are involved in the Elk River recovery effort, but they have to balance the mandate of protecting the threatened population of salmon and steelhead with long-term recovery efforts such as dredging that are needed to improve the river's flows, water quality, and spawning habitat..

"This is a very challenging program for CalTrout to manage and participate in, but we're involved and leading this process, in part, because it has to be done and no one else will do it."

- Darren Mierau
CalTrout North Coast Program Director

Efforts to unclog a river

A very similar story of slow progress, competing interests, and uncertain outcomes can be told with the efforts over the past 18 years to regulate water quality on the Elk River.

The Regional Water Board (RWB) is the agency entrusted with ensuring that the Elk River water quality meets federal and state standards. They were compelled to take action because the excess sedimentation in the Elk River is diffuse across a large area and therefore considered a "non-point source" of pollution, which is regulated by the federal Clean Water Act and the state's Porter-Cologne Water Quality Control Act. The RWB takes its responsibility seriously and has been working diligently with stakeholders in the community, commissioning extensive independent and peer-reviewed scientific studies, holding hearings, soliciting online feedback, and drafting proposed regulations.

The RWB is attempting to establish limits on the flow of new sediment into the Elk River by issuing Waste Discharge Requirements (WDRs) and setting pollution limits through a metric called the Total Maximum Daily Load (TMDL). Although local timber companies have improved their practices since the 1990s and adhere to forestry best practices



(limits to clear-cutting, no harvesting in buffer zones adjacent to waterways, repair of roads and stream-crossings, etc.), they have vigorously challenged any proposed limits to their allowable harvests as recommended in the independent scientific studies.

In 2017, the RWB made a determination that the Elk River had "zero assimilative capacity for sediment," which means that the stream channels are so completely clogged that no more sediment can be discharged from industrial timber operations. However, the timber companies are still being allowed to cut timber in the area under new harvest plans. Even if they adhere to forestry best practices, no one doubts that runoff from future logging in the area will eventually result in more sediment discharge into the Elk River.

Whether it is the agencies entrusted to protect the fisheries, the forestry regulator issuing timber harvest permits, or the RWB attempting to clean up the water, in each case lobbying efforts and opposing political and economic interests intervene to undermine or slow down recovery plans for the Elk River.

(continued on page 64)

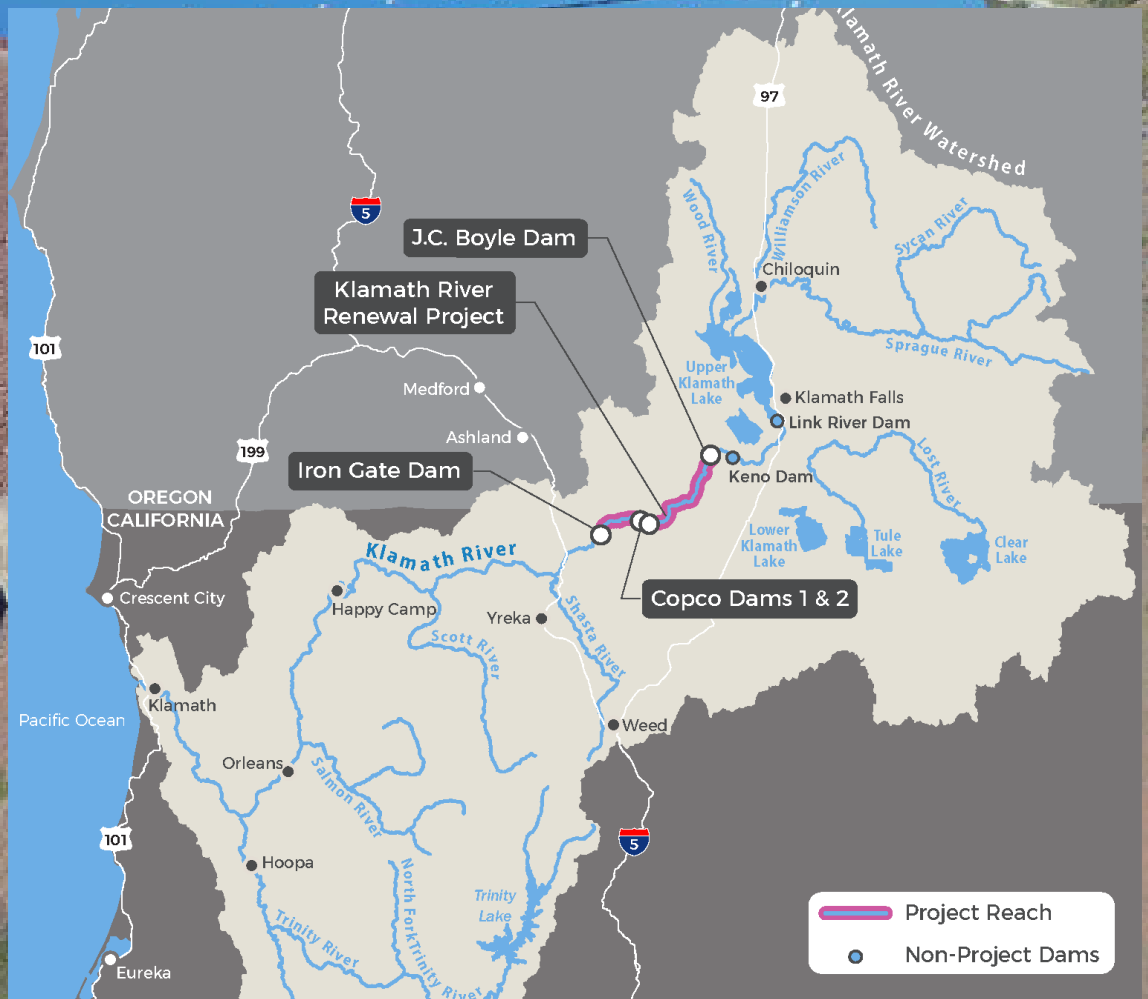


Klamath Countdown

Salmon recovery in the Mid-Klamath Basin

As CalTrout looks forward at our landscape-scale strategic objectives for the next three years, Klamath Dam removal jumps out as one of the most promising salmon recovery opportunities in the history of our organization. Hyped as the largest dam removal project in the world, we find it hard not to get excited about the prospect of spring-run Chinook reaching the headwaters of the Sprague, Williamson, and Wood rivers for the first time in over 100 years.

The Klamath River Renewal Corporation (KRRC)—the herculean nonprofit organization tasked with dam removal—shows on their website an ambitious timeline of sub-accomplishments needed to meet the goal of dam removal within the 2020-2021 window. CalTrout and our conservation partners have an appointed seat on the KRRC Board and are active in ensuring that the many steps towards removal stay on schedule.



Most notably, over the next two years, the KRRC will have to work through the highly bureaucratic Federal Energy Regulatory Commission (FERC) process for License Transfer and Surrender. On a parallel path, KRRC will have to navigate the California and Oregon 401 Water Quality Certification Process and the FERC National Environmental Policy Act (NEPA) process. If the FERC and permitting process go well, KRRC will then turn their attention towards the solicitation and contracting challenge of hiring a qualified design and build construction firm. All this must be accomplished while simultaneously carrying out a massive education and outreach strategy to communicate effectively with dozens of special interest groups, government agencies, tribes, farmers, and private landowners.

[Click here for the Klamath River Renewal Corporation timeline for dam removal.](#)



Key nurseries for the Klamath Basin

As the KRRRC prepares to meet these challenges head on, CalTrout is also ready to act. Dam removal will improve water quality and reduce fish disease throughout the mainstem Klamath River. With the lethal impact of these factors diminished, the Shasta and Scott tributaries can resume their historic role as key nurseries in the Klamath Basin for threatened coho and fall-run Chinook. As Dr. Peter Moyle noted, “This is one of the most productive river systems in the entire Klamath Basin, so if you improve conditions in the Shasta River for salmon and steelhead, you’re improving conditions for in the entire Klamath Basin.” Historically, the Shasta River produced more than 50% of all the returning adult Chinook in the entire Klamath Basin while the Scott River consistently generates one of the largest returns of wild northern California coast coho salmon in the state (NRC, 2004). When the Klamath Dams come down, the Shasta and Scott need to be ready.

Significant work remains, however, to prepare these basins for an influx of healthy returning adult salmon. Over the next three years, CalTrout is uniquely



positioned to carry out large-scale restoration projects on private lands. Both the Shasta and the Scott Rivers suffer from water diversions to support agriculture, which degrades flow and water quality at critical times of the year for salmon. Diversion dams also restrict access to important spawning and rearing habitat. To directly address these issues, CalTrout engages water users—primarily multi-generational family farmers—by offering incentives for voluntary cooperation in restoring habitat for salmon. In 2017, CalTrout partnered with the Hart Ranch on the Little Shasta River to secure a multimillion dollar grant to completely retool the ranch’s irrigation infrastructure. By replacing leaky pipes and valves, improving water management, and being more efficient with agricultural operations, the Hart Ranch was then able to use California water code 1707 to dedicate meaningful water savings back to the stream for salmon. Not only did the Hart Ranch upgrade their infrastructure and improve their water efficiency but in doing so they drastically reduced their exposure to environmental litigation under the Endangered Species Act.



CalTrout is currently working with other landowners in the Shasta and Scott rivers to replicate this voluntary, incentive-based model. By bringing partners to the table voluntarily, farmers often take great pride in the stewardship of natural resources, better water management, and the recovery of threatened or endangered species. As Blair Hart is fond of saying, “We know how to grow cows. We don’t know how to grow fish. But we’re going to learn.” CalTrout facilitates this learning process by offering the technical and financial assistance landowners need to understand how their agricultural operations affect aquatic ecosystems and the complex life history strategies of salmon and steelhead. CalTrout also develops partnerships with leading academic institutions like the UC Davis Center for Watershed Sciences to ensure that all our work and restoration strategies remain grounded in science. Finally, CalTrout taps into tools and policies like voluntary Safe Harbor Agreements and California Water Code Section 1707 to find legal solutions for landowners that want to support salmon recovery efforts but might be discouraged by regulatory roadblocks or fear of litigation.

As Klamath Dam removal moves closer and closer to reality, CalTrout continues to work as part of the KRRRC and with a broad coalition of long-time partners to ensure that the FERC license transfer and surrender goes smoothly at the federal level. In rural Siskiyou County, CalTrout continues to work towards restoring two of the most important salmon producing tributaries in the entire Klamath Basin Combined, these strategies ensure that when the Klamath Dams do finally come down, fish will return to healthy waters for a better California.

NRC 2004. *Endangered and threatened fishes in the klamath river basin causes of decline and strategies for recovery*. Washington, DC: National Research Council, National Academies Press.

Vote Yes on Prop 68

The California Clean Water & Safe Parks Act

To protect our communities from ecological degradation and flooding and provide a better California for future generations.

"We need this important funding to support our state's water needs and struggling fish. This is a valuable investment in our water security."

Curtis Knight,
CalTrout Executive Director



Prop 68 will invest \$4 billion in protecting our own unique natural resources, fighting climate change, and ensuring every Californian has access to clean drinking water and safe, accessible parks.

\$1.6 of the \$4 billion will go towards:

- ensuring clean drinking water
- increasing local water supplies
- protecting our state from future droughts

Announcing the Bay Area Conservation Program

CalTrout is launching a new regional conservation program focused on efforts in the San Francisco Bay Area, headed by Program Manager, Patrick Samuel. Samuel has recently completed an eight-month fact-finding mission – meeting with stakeholders and conducting site visits throughout the greater Bay Area - to assess fisheries conservation, restoration, and educational outreach opportunities from Marin to Santa Cruz counties. The addition of the Bay Area program brings the number of CalTrout's regions to six along with North Coast, Mt. Shasta/Klamath, Central Valley, Sierra, and South Coast.


The Bay Area program will implement a mix of restoration projects in highly productive estuaries and heavily altered urban/rural watersheds both on the coast and in San Francisco Bay itself, and develop targeted outreach and education on how the salmon and steelhead in our backyards are indicators of healthy watersheds that we all depend upon.

This program is critical to addressing the recovery of critically endangered Central California Coast (CCC) coho salmon and threatened Central California Coast steelhead. Marin County is the southernmost extent for wild CCC coho salmon. According to the 2017 *State of the Salmonids* report by CalTrout and UC Davis, their populations have declined in excess of 95% in the last half-century due to habitat degradation, dewatering, and impacts from climate change – increased stream temperatures, streamflow variability, and changing ocean conditions - that dictate salmon growth and survival. Nearly all the remaining CCC streams with coho have populations of fewer than 100 spawning adults, unless enhanced through hatcheries. The Bay Area program will prioritize watersheds for restoration that have the most promising potential to support salmon recovery and are in most need of attention. These areas will include estuaries, critical land-sea interface habitat for salmon rearing and growth; working agricultural and ranching landscapes surrounding coho streams; and waterways that have been blocked by infrastructure, prohibiting volitional fish passage.




*Pescadero Marsh as it feeds into the
Pacific Ocean. Photo by Patrick Samuel.*

NEW REGION

A photograph of a small, clear stream flowing through a dense forest. Large, mossy rocks are visible in the water, and the surrounding trees have green foliage. The water is calm, reflecting the surrounding environment.

*Walker Creek lies near the southernmost extent of wild Central California Coast coho salmon's range.
Photo by Patrick Samuel.*

A photograph of a river flowing through a forest. The water is turbulent, creating white rapids. The banks are covered in green vegetation and trees. The scene is captured from a low angle, looking down the river.

*The Napa River supports a healthy population of Central California Coast steelhead but also is threatened by increasing demands on its water.
Photo by Patrick Samuel.*

Evaluating opportunities

Combing the Bay Area from Marin County east to Solano County and south to Santa Cruz, Samuel evaluated opportunities where CalTrout could get involved with the following criteria in place:

Tier 1 - Which watersheds historically had abundant runs of salmon and/or steelhead in the Bay Area?

Tier 2 - Which of these watersheds offers an opportunity for CalTrout to significantly improve the status of fish? Some watersheds have significant challenges of human population and development that are not going to be reduced, but others still retain physical processes that could allow them to recover more easily with targeted effort.

Tier 3 - Where can CalTrout be a good partner by adding capacity, expertise, and input without simply being another conservation group in the room?

To apply these criteria, we sought out information from these various sources:

- 1) CDFW, NMFS, local Resource Conservation Districts, water districts, land trusts, county governments, other non-profits, and restoration practitioners.
- 2) Published literature from the NMFS 5-year status review updates of listed salmonids, CDFW reports and surveys, published studies of specific watersheds from consulting firms and environmental non-profits, and others.
- 3) Professional opinion and input of biologists and scientists that have spent their careers working in these watersheds and are familiar with the salmonid species and the unique constraints/opportunities.

Finally, there are some efforts that CalTrout has been engaged in for over a decade with outside counsel, such as Searsville Dam and Santa Clara Valley Water District's engagement on Guadalupe River/Coyote Creek, that Samuel will continue pushing forward.

Projects that rose to the top

Through this rigorous evaluation, the areas highlighted below have risen to the top of the list for high potential for engagement. In the coming months, we'll be evaluating these opportunities to determine the best course of action and how CalTrout can have the greatest impact on the project and return salmon and steelhead to Bay Area backyards.



Walker Creek

Tomales Bay, Marin County

Walker Creek is a strategic location providing a critical population link between Lagunitas Creek and the Russian River, where significant investments have been made to recover coho salmon. Engaging here can help realize return on significant investment in these neighboring watersheds.



Pescadero Marsh

San Mateo County

Pescadero Marsh is an important refuge and stronghold for the threatened Central California Coast steelhead and represents perhaps the best opportunity to help meet Endangered Species Act recovery targets for fish south of the Golden Gate. However, the marsh suffers from poor water quality, sedimentation, and mismanagement of the lagoon, resulting in significant fish kills nearly every year for over a decade.

Support the
Bay Area
Program
[CLICK HERE](#)

en to the top for targeted
nities further to determine the
on restoring our local watersheds



Napa River

Napa County

Historically, the Napa River watershed supported the greatest runs of salmon and steelhead of any of San Francisco Bay's tributaries. Today, it retains perhaps the healthiest population of Central California Coast steelhead in the bay, while boasting world-renowned wineries, agriculture, and tourism industries that depend upon its waters.

CALIFORNIA TROUT



FISH · WATER · PEOPLE

We asked, you answered.

Last month we conducted a poll to find out what's most important to you with the implementation of our Bay Area Program. Here's what you said:

You're altruistic.

Knowing that CalTrout is reviving native fish habitat in the Bay Area and witnessing salmon and steelhead return to your local streams were ranked as most important.

You're involved.

Volunteer opportunities to assist with restoration came in second.

You're curious.

Learning about Bay Area freshwater ecology and attending site visits and educational tours scored next.

You're social.

The opportunity to attend events, meet-ups, lectures, and discussions rounded out the poll.

WHAT THE SCIENCE SAYS

In this column we highlight important scientific publications by CalTrout staff and others that expand upon our understanding of the management or science regarding trout, steelhead, and salmon in California.



By DR. ROB LUSARDI
CalTrout/UC Davis Wild &
Coldwater Fish Research Lead

Incorporating food into salmon

When I say “salmon and trout habitat”, what comes to mind? Temperature? Flow? Riparian cover? Large woody debris? Cobble substrate? Undoubtedly these all represent important types of habitat for trout and salmon. But what about food? Food (e.g., stream insects) and its role in salmonid habitat has largely been ignored. There may be good reason for this. Many streams and rivers are nutrient poor and relatively unproductive, suggesting that food is typically hard to come by. However, there are several exceptions to this. Delineating and restoring productive rivers, tributaries, and habitats that produce abundant food resources is, at least in part, critical to restoring robust and resilient salmonid populations throughout California. If these habitats are indeed rare, that’s all the more reason to conserve them. Rare habitats can improve life history diversity and species resilience to change (e.g., climate change).

Very few papers in the scientific literature point to food as an important



Photo by Val Atkinson

inid habitat

characteristic of juvenile trout and salmon habitat. Overwhelmingly, physical habitat such as stream temperature or flow are identified as the primary factors affecting juvenile salmon or trout during rearing. For instance, Welsh et al. (2001) found that juvenile coho salmon sought colder water when weekly maximum averages approached $\sim 62^{\circ}\text{F}$ on the Mattole River in Northern California, and that temperature threshold is broadly applied to other watersheds throughout the state. Yet, Bisson et al. (1988) found strong rates of juvenile coho production in Washington streams exhibiting temperatures above $\sim 77^{\circ}\text{F}$. The authors speculated that the abundance of invertebrate food played an important role in those observations. In another study, Railsback and Rose (1999) found that food, not temperature, limited the growth of rainbow trout during summer. So, how do we reconcile these results? Watersheds are an amalgamation of context specific habitats. Importantly, ample food can change the playing field and allow salmonids to either occupy or take advantage of slightly warmer water habitats and, in some cases, improve growth rates.

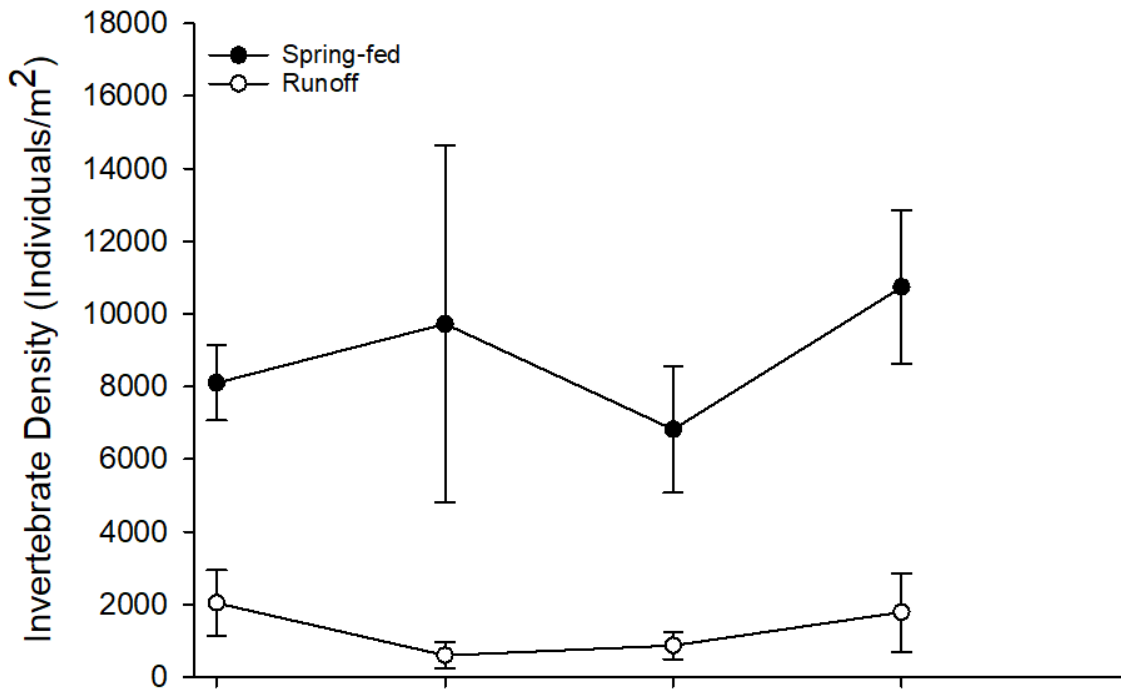


Figure 1. Relative amounts of fish food between spring-fed and runoff rivers in northern California. Spring-fed rivers exhibited up to a 16-fold increase in food density.

Food-rich ecosystems

Volcanic spring-fed rivers are a good example of productive river ecosystems that are of high conservation value. Lusardi et al. (2016) found that spring-fed rivers in the upper Sacramento drainage, on average, exhibited food densities 7-fold greater than adjacent runoff rivers in the same river basin and up to 16-fold greater during winter (Figure 1). Lusardi et al. (in prep) also showed that juvenile coho salmon could compensate for warmer water temperatures and exhibit high growth rates when they took advantage of high densities of aquatic invertebrates in the Shasta River, a tributary to the Lower Klamath River. Recent work by Jeffres et al. (in prep) compared *O. mykiss* growth rates between the Shasta River (spring-fed) and Scott River (runoff) and found that Shasta River fish exhibited daily growth rates 20% greater than those from the Scott River and attributed the difference to a combination of food and water temperature during rearing.

Floodplain habitat has also been shown to be extremely productive. Katz et al. (2017) found that juvenile Chinook reared on experimental floodplains in the Central Valley exhibited extremely high growth rates (average=0.76 mm/day), which was attributed to the abundance of large bodied zooplankton. Corline et al. (2016) found that these experimental floodplains exhibited densities of zooplankton up to 1000 times greater than those found in the river (e.g., Figure 2). Other studies in the Central Valley have come to similar conclusions. Mostly notably, Jeffres et al. (2008) also found differences in juvenile Chinook growth rates between those reared in a natural floodplain and in-river enclosures and attributed those differences, at least in part, to abundant food resources. Though less studied, freshwater lagoons can also be

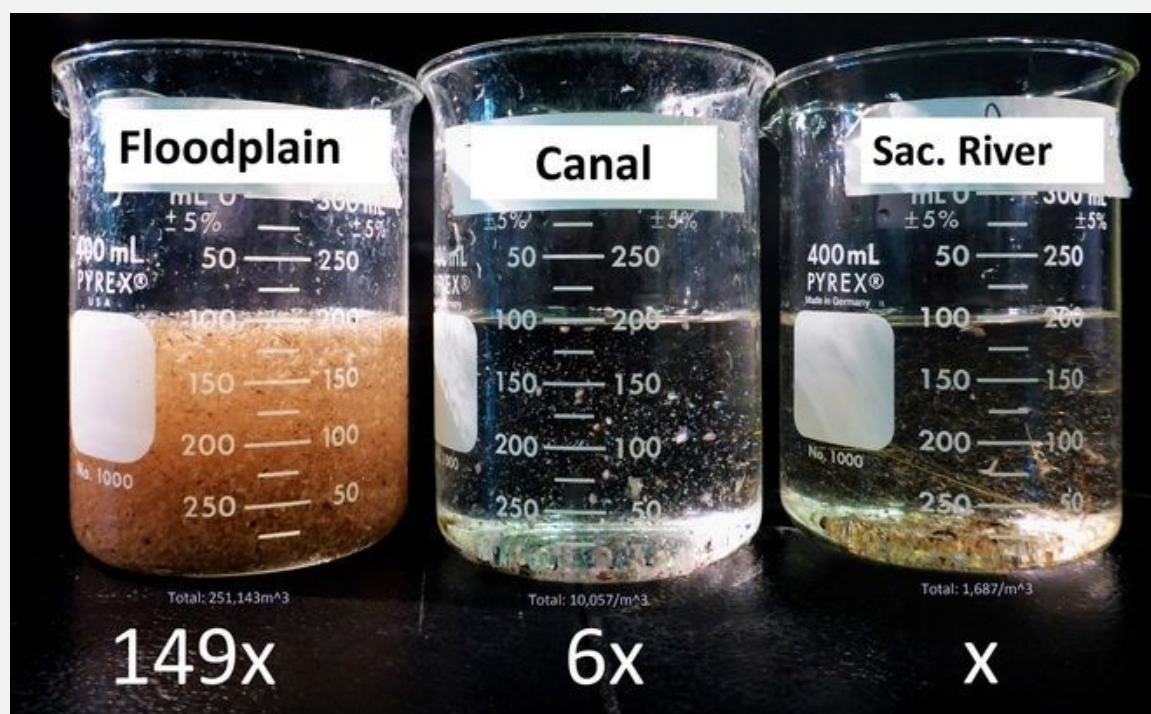


Figure 2. Photograph of relative zooplankton densities between an experimental floodplain, adjacent slough habitat, and the Sacramento River. Photo: Miranda Bell Tilcock.

extremely productive habitats. Recent work by Osterback et al. (2018) found that both steelhead and coho occupied a freshwater lagoon during periods of relatively high water temperature and low dissolved oxygen, yet exhibited high growth rates during these periods. The authors proposed that elevated growth rates were a function of high rates of food availability in the lagoon.

To be sure, sufficient cold water is absolutely vital for the long-term persistence of salmonids. Warmer water temperature can increase stress, agnostic behavior, and increase disease virulence. However, rare habitats that are rich with food likely confer growth advantages to salmon and trout during rearing. Growth and size of juvenile fish is important because research has shown that fish entering the ocean at larger size generally have a better chance for survival and eventual adult return. Additionally, climate change predictions suggest earlier snowmelt runoff and an increase in stream water temperature, particularly in California. Under such conditions, food rich habitats are well positioned because coldwater fishes would likely be able to metabolically compensate for slight increases in water temperature with abundant food resources. Unfortunately, floodplains, lagoons, and other food rich habitats are some of the most threatened in California. Identifying, conserving, and improving access to these habitats is vital and will strongly aid in the recovery of imperiled salmonid populations.

Dr. Robert Lusardi is the California Trout-UC Davis Wild and Coldwater Fish Scientist. For the list of sources, click here.

CALTROUT GEAR

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\$50

Spe

Help fund and share our work in a unique way.
These fresh new items are now available.
Check them out at caltrout.org/store.

\$30

Steelhead
t-shirt



\$15

Water bottle
Stainless steel





Special Offer! New CalTrout illustrated pint glasses – set of four



Save The Redwoods
L E A G U E®



Save the Redwoods League marks 100 years of protecting big trees and big fish

Salmonids have reason to celebrate the centennial of California Trout partner Save the Redwoods League this year. For 100 years the League, one of the nation's oldest conservation organizations, has protected and restored the redwood forests that the big fish depend on to keep their river habitats cool and clean.

The League's work followed in the wake of the 1849 Gold Rush and the timber rush, when California's explosive demand for lumber pushed the ancient redwood forests toward extinction. Since 1918, the League has protected more than 200,000 acres of irreplaceable forest and helped create 66 redwood parks and reserves, connecting generations of visitors with the giants' beauty and serenity.


In a world increasingly defined by the deterioration of global natural treasures—receding glaciers, dammed and dying rivers, unprecedented rates of species extinction—Save the Redwoods League has a story of hope and resilience to tell. The League's first chapter was dedicated to saving treasured examples of the wild and ancient groves that once dominated California's coast and the western slopes of the Sierra Nevada. After all, coast redwoods and giant sequoia are two of California's quintessential symbols and some of the Golden State's greatest natural treasures.



Photo: Prairie Creek in Prairie Creek Redwoods State Park by Max Forster for Save the Redwoods League.

PARTNER PROFILE





Save the Redwoods League envisions vibrant redwood forests of the scale and grandeur that once graced the California coast and the Sierra Nevada, protected forever, restored to grow old again, and connected to people through a network of magnificent parks and protected areas that inspire all of us with the beauty and power of nature.

However, the work to protect redwood forests is only just beginning. What the League has protected is not truly saved. The primeval forests today resemble islands of disconnected old-growth stands that are pinched at the edges by clearcuts, development, and agriculture. They depend on streams choked by sediment. Now, at the start of the League's second chapter—the organization is striving to heal the young redwood forests that surround and sustain the protected ancient groves and the waters that flow through and from them. The League has a vision to set in motion the regeneration of the redwood forest across the state and restore resilience back into California's most iconic ecosystem. And we will endeavor to inspire future generations to continue this critical work all the while renewing our human connection to the natural world through these treasured redwood parklands.

Photo: CalTrout North Coast Program Director, Darren Mierau, on Prairie Creek in Prairie Creek Redwoods State Park by Mike Wier.

The League and CalTrout work to restore Prairie Creek

On California's North Coast, approximately halfway between Eureka and Crescent City, the League began protecting portions of Prairie Creek in 1923. Dozens of transactions later, and after thousands of protected acres had been secured, the vast majority of this amazing waterway lies within today's Prairie Creek Redwoods State Park and Redwood National Park. These protected lands are dripping with superlatives. Collectively they are a World Heritage site. The world's tallest trees have been found here. The region is home to numerous endangered and threatened species including coho salmon and marbled murrelets. And, hundreds of thousands of people visit these magnificent redwood parks yearly.


Although the Prairie Creek watershed has been impacted over the years by roads and a history of logging, the creek remains vibrant. It is the lifeblood for the lush riparian ecosystem adjacent to the creek as well as the nearby forest. In addition to coho, and murrelets overhead, today it is home to Chinook salmon, and steelhead, as well as coastal cutthroat trout.

Working together last year on the Lower Prairie Creek Restoration Project, the League and California Trout received funding from the National Oceanic and Atmospheric Administration. By focusing on the confluence of Prairie and Redwood creeks, near the southern gateway to Redwood National and State Parks, the project is working on restoring rearing, spawning, and over-wintering habitat for three species of endangered salmon—coho, Chinook, and steelhead. These funds, and this collaborative relationship, are helping to restore a critical section of the larger watershed. By doing so, the League and California Trout plan on creating some of the best potential habitat to contribute to the recovery of these species.

The first year of this multi-year award provided funds to continue design, planning, and permitting activities. Subsequent funding for 2018 and beyond will be awarded annually, depending on needs and available federal funds.

The League and California Trout are also partnering on other projects in the watershed for the benefit of redwoods and fish, and look forward to continuing that relationship well into the next 100 years.

Yes, redwood and fish—perfect synergy.



*"Save the Redwoods
League and CalTrout
working together in the
Prairie Creek watershed is
perfect synergy for the
protection of redwoods
and fish."*

*Christine Aralia
Senior Conseration Manager
Save the Redwoods League*

*Photo: Prairie Creek in Prairie Creek Redwoods State Park by
Max Forster for Save the Redwoods League.*

A photograph of Frank Eldredge, a man with glasses and a beard, wearing a dark grey rain jacket and a matching cap. He is smiling and holding a large, vibrant rainbow trout in a shallow river. The fish has a silvery body with a prominent pinkish-red stripe along its side. The background shows a forested riverbank with bare trees.

Frank Eldredge

Longtime CalTrout member
and frequent contributor to
The Current

A lifetime of devotion to wilderness and fly fishing

I'm a fifth-generation San Franciscan who was introduced to camping and fishing in the Sierra Nevada at a very early age. My aunt and uncle took me camping on the Clark Fork of the Stanislaus River when I was a young boy, where I started out catching hatchery trout with salmon eggs and lures for the first years.

When I was 14, an uncle who was a fly fisherman let me try out a fly rod and take some casts. I soon discovered the fly casting ponds in Golden Gate Park where I received instruction from some of the local experts. During my summers in high school and college, I took my Fenwick fiberglass rod and Pflueger reel with me on backpacking trips in the High Sierra, Trinity Alps, Rockies, and other destinations.

After spending five years of my early career in Europe, I returned to California in 1989 and immediately reimmersed myself in the fly fishing opportunities on the West Coast. I had known about the important work of CalTrout for many years, and so it was natural that one of the first things I did upon my return was to become a member.

"My concern about the threats to our fisheries in California has grown over the years and strengthened my commitment to conservation and the critical work being done by CalTrout."

When I was getting ready to retire a few years ago, I contacted Curtis Knight and told him that I was interested in finding a way to contribute my writing skills to the cause of CalTrout's mission. Over a cup of coffee across from the CalTrout office on Pine Street, we hatched the idea of having me write articles for the new online magazine, *The Current*.

Over the past few years I have authored six feature articles about the core work of CalTrout, which in addition to being personally satisfying has given me a much deeper appreciation of CalTrout's talented staff and incredibly important work.

Just recently I decided to take my support of CalTrout one step further by making a legacy gift to do my part to help ensure that CalTrout remains a vibrant organization long into the future.

As it turns out, it was simple to do: I filled out a beneficiary form for my 401(K) account and assigned a percentage to CalTrout, which my wife and I signed and had notarized.

I would encourage other CalTrout members to consider leaving your own mark on the future by making a legacy gift. Your values will live on, benefiting watersheds and the people who love and preserve them.

Frank Eldredge

Member, Richard May Legacy Circle

CALIFORNIA TROUT

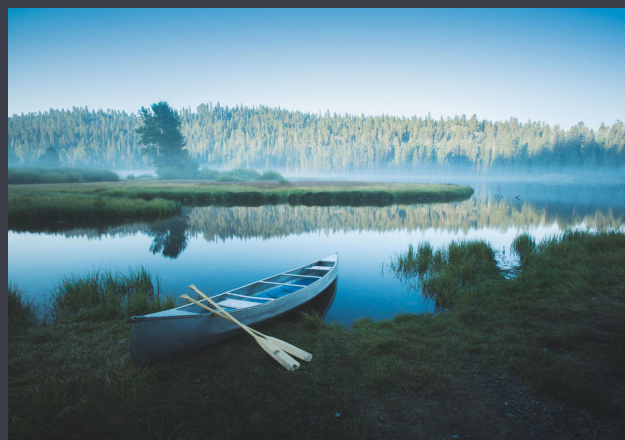


The Richard May Legacy Circle

Whether it's because of our restoration work on Hat Creek or other rivers in California, basing our work on solid science, or being the voice for fish in Sacramento, some of our supporters have included CalTrout in their wills.

Why? They appreciate our work ensuring wild fish will thrive in healthy waters now and in the future. Will you consider joining these supporters by making a legacy gift? All sizes are welcome. You'll ensure your legacy and the future of CalTrout!

We'll thank you by enrolling you in the Richard May Legacy Circle. We have special events for members and listing in publications. You can remain anonymous if you wish.



To find out more, contact Julie Seelen, CFRE, Advancement Director (415) 392-8887 ext.102

Restoring access in South

Update on the Matilija and Rindge Dam removal process



WRITTEN BY

Alisan Amrhein

CalTrout Communications Associate

Alisan has a Masters in Environmental Science and Management from the Bren School, UCSB and has been an invaluable member of the team since she joined CalTrout in 2016.

Two dam removal projects in Southern California are moving forward. Rindge Dam on Ventura River have degraded their surrounding watersheds and the native fish threats to trout, steelhead, and salmon are dams. CalTrout has been fighting for steelhead and fish passage improvement in these areas for decades. Dam removal is a complex process that requires a lot of coordination between multiple agencies and organizations. The complexity of the process complicates matters.

Rindge Dam Plans

A removal plan for Rindge Dam is set to be finalized within the next couple months by the National Marine Fisheries Service, U.S. Forest Service, U.S. Department of Parks and Recreation and the U.S. Army Corps of Engineers. This plan has been in development since 2018. The dam was built in 1967 after filling with sediment. Since its construction, salmon have not been able to reach high quality spawning grounds in upper Malibu Creek watershed, one of CalTrout's Key Initiatives. The NMFS' Southern Steelhead Recovery Plan identifies Core 1 populations as those populations identified as the highest priority due to a variety of factors. The dam limits access to high quality aquatic spawning areas and alters flow, impacting the amount and quality of downstream habitat. Though Rindge Dam, the project will likely not begin until 2025.

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RINDGE DAM FACTS

1926: Construction completed.
1955: Reservoir completely
filled with sediment.
1963-65: Damaged from storms;
pipelines broken.
1967: Decommissioned.

Impounds: Malibu Creek

Primary use: Water supply for
agriculture and
household use.

Height: 100 feet

Current
reservoir
capacity: None (originally
574 acre-feet)

dam on Malibu Creek and Matilija Dam
ish have suffered. One of the largest
r the recovery of Southern California
val is an incredibly slow process due
hefty price tag to do the job further

nths by the California Department of
in the works since the 1990s. Rindge
construction 90 years ago, steelhead
reek. Southern steelhead recovery is
a classifies Malibu Creek as a Core 1
priority for recovery actions based on
d rearing habitat, captures sediment
ugh we're a step closer in removing

Photo by Mike Wier

Matilija Progress

As for Matilija Dam (a site CalTrout has been involved with for decades), recently the Ventura County Board of Supervisors approved a contract for technical studies on removing the dam. They've hired engineering firm AECOM to find a way to reduce the impact from the built-up sediment behind the dam, while minimizing costs and time.

This is Phase 1 of the \$3.3 million Matilija Dam Removal 65% Planning Design Project that CalTrout helped develop, and is the last planning part of the project. Field work is expected to begin this summer and the final feasibility report to be completed summer 2019.

CalTrout is pleased that we can help guide these dam reoperations to ensure that climate change is adequately incorporated, ecological resilience is built, and the needs of both fish and people are balanced.

MATILIJA FACTS

1948:	Construction completed.
1964:	Condemned and removal considered; County elects to notch.
1978:	Notched a second time.
1998:	Decommissioned; County moves to remove dam.
Impounds:	Ventura River
Primary use:	Flood control and water storage for agriculture
Height:	168 feet, 198 feet originally before notching
Current reservoir capacity:	Less than 500 acre-feet (originally 7,000 acre-feet)





Genevieve Chiu-Schaepe

CalTrout Member since 2016

For me, fly fishing is a meditation. The rhythm of stripping streamers, the intentionality of every mend, the sharp focus of a timely hookset— all of these things draw me into the present moment. It is a humbling process of realizing all that you are and all that you could be. Loose knots and lost flies for the hundredth time. Knowing better, but anxiously palming a screaming reel well into its backing. The joy of fly fishing is rooted in overcoming these frustrations. I am forever in debt to all of the rivers I've waded in since I was a little girl, for they have taught me what it means to be aware. Coming into my 17th

year, I am only beginning to realize what being a responsible outdoors woman entails.

I've learned that fostering a personal connection to the land is essential for contextualizing all that is happening to the natural world. These intimate moments spent in nature bridge the space that leaves so many people detached from headlining environmental issues. I feel fortunate to be able to fish rivers like the McCloud because I know my experiences on it are uncommon to many people.

WILDHER

Genevieve is the founder of wildher.com, a website that features female writers and their experiences in the outdoors in order to promote a more accessible outside.

In the spirit of fly fishing, encourage all of you to embrace the privilege of fishing California waters by being stewards of the ecosystems you wade into and promoting equitable engagement in the outdoors."



CalTrout has three screenings left. Hope you can make it!

Encino

Wednesday, April 25
Laemmle Town Ctr
7pm

San Diego

Thursday, April 26
Hillcrest Cinema
7pm

Tahoe City

May date and location to
be announced

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CALIFORNIA TROUT



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— THE VENTURING ANGLER —





Spot Check

By Mike Wier

Fly Fishing & Community
Outreach

Putah Creek

A nice surprise

Putah Creek. Yeah, I know, Putah Creek. I used to be a little skeptical of the place but it's actually a pretty cool wild trout fishery. If you've been there, then you already know. If you haven't, then it's definitely worth a trip sometime. The fishing can be quite challenging and fun but fishing aside, it's also a really beautiful little canyon and great place to escape for some nature time and river relaxation.

From Monticello Dam at Lake Berryessa to Solano Lake there is a great tail water trout fishery that is open year round to catch and release fishing with single barbless hooks. The whole stretch resembles a fishing park. There are plenty of trails and access points for all skill levels as well as a campground and small general store that is open in the summer months.

Living up in the mountains and being surrounded by killer rivers and lakes, I'd never paid much attention to Putah Creek or had a reason to drive that far to catch trout. I figured it was too close to the Bay Area so it was probably crowded or degraded. A decade or so ago I started hearing stories of some pretty big trout coming out of there. After a friend showed me a photo of a big wild buck pushing 30" my interest was definitely captured.





Photo: Mike Wier

Spot Check continued

To this day I must admit I've still only fished Putah a handful of times. CalTrout meets annually with our Science Partners at UC Davis Center for Watershed Sciences. A few years back I snuck out to Putah Creek after one of our meetings and was instantly impressed by the quality of habitat and natural beauty of the canyon. That first session, I pulled up to a likely looking run and it didn't take long to spot a couple feeding trout. After a few casts, I was into a really nice fish. Needless to say I was pretty stoked. This winter I finally had an opportunity to spend a few days up there really checking the place out and getting to know the fishery a little more intimately.

The last time I had visited the river was for the inauguration ceremony when it was officially inducted into the California Department of Fish & Wildlife (CDFW) Wild Trout Program in 2014. The next year, Solano Lake was also included in the official CDFW Wild Trout Waters. As a new Wild Trout Water, CDFW will implement a resource management plan to monitor and protect the wild trout fishery, while supporting public access and enjoyment. This designation helps keep the fishery healthy while groups such as Putah Creek



Trout, a local non-profit, continually monitor the fishery, searching for ways to improve in-stream and riparian habitat, water quality, and angler experience and engagement.

Flows in Putah Creek can fluctuate dramatically throughout the year. Summer flows usually average between 400-700 csf while winter flows typically drop below 200. Winter can be a great time to fish the creek, but some anglers don't advocate fishing Putah in the winter because the rainbows in that system have adapted to winter spawning. The key is to be aware of where you're fishing and taking the time to look for fish and cleaned out gravel. Typically, the bows will be spawning in the tail outs and slower sections of the runs. In many cases they will be fairly visible. Please take precaution when wading so as to not step on redds and avoid fishing to fish that are visually spawning. Those spawning fish are the future of the wild trout fishery! If you stick to the fast water and minimize wading as much as possible, you should be alright. I looked around quite a bit at lower flows this March and couldn't spot any spawning activity. There was however a nice caddis hatch and plenty of happy fish rising.

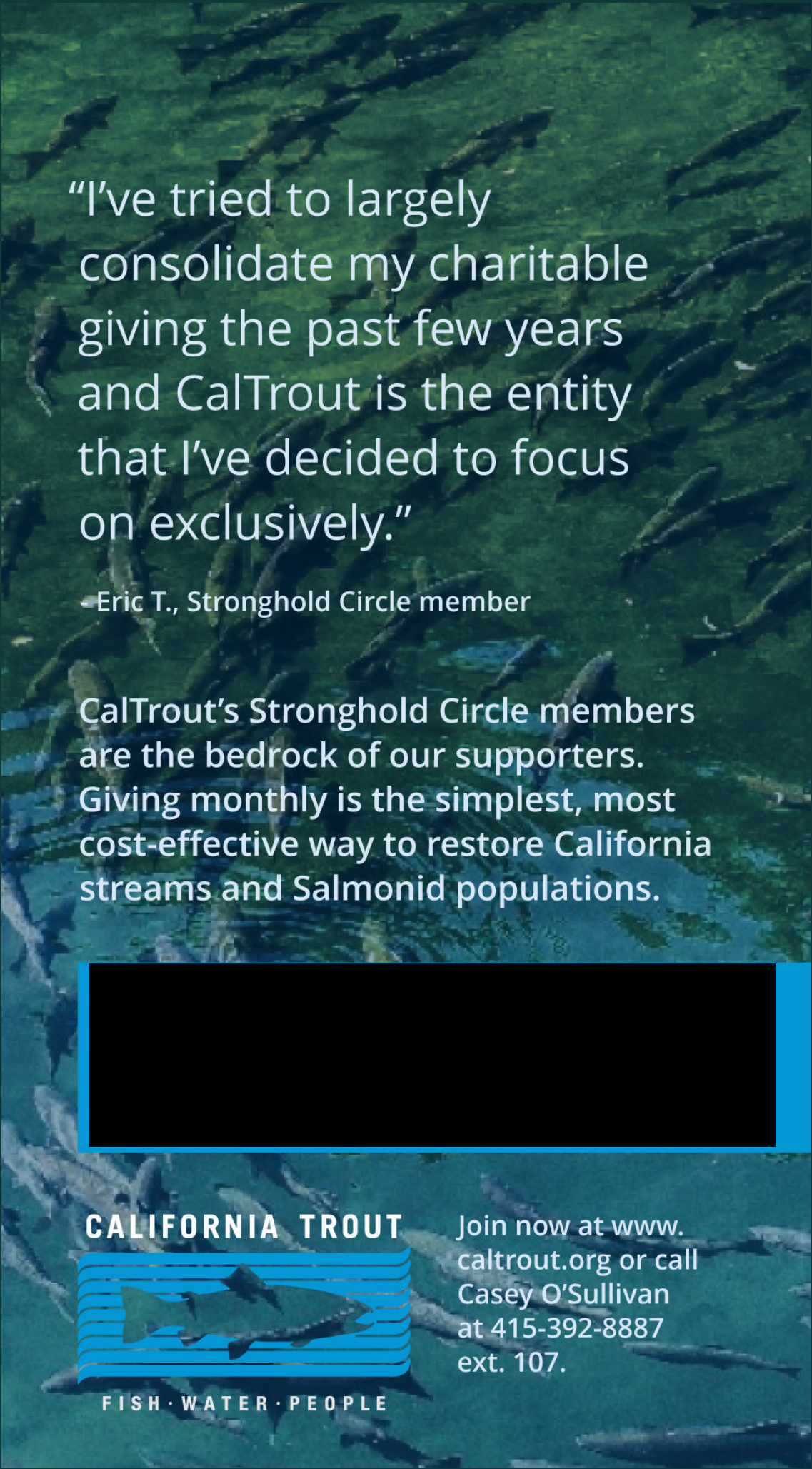




Fishing on Putah can be a bit tricky for a novice angler. One of the most preferred ways to fish is with nymph set ups and very small flies like beatis imitations and midge patterns. Either under indicator or tight line Euro nymphing can both produce fish in the likely looking riffles and runs. However, there's also a ton of slow water and big pond-like pools on Putah that can hold feeders at certain times of the year. I've found it's best to fish these stretches with small streamers like leech patterns and leaches. You can roll cast a single hand rod far enough to cover most pools but a switch rod can really come in handy for some of the spots where you need to cast a bit further to really cover the waters. Fishing single or double nymph set ups on a floating line with long leaders and slowly twitching them through the slow water can also produce fish.

Of course the creek really comes to life if there is a hatch. A 4 or 5 weight rod, stealthy color, long leader and thin tippet with a small beatis or EC caddis and it can be lights out if you catch one. This past March after another CalTrout meeting at UC Davis, Pat Samuel, the new Bay Area manager and I caught just such an evening. We left Davis after our meeting and got out around 6:00 PM hoping to catch an evening session. It was an overcast day with light rains off and on. We spent the first hour or so checking out a couple spots and nymphing some likely looking water. A light squall came through and we changed spots heading up river a bit. As soon as the rain cleared the fish started to rise. I started seeing some size 14 Glossosoma caddis fluttering around and rising on the water. Pat switched over first to a classic Elk Hair Caddis and it wasn't too long until he was hooked up on a nice rainbow. We took turns sticking fish for a couple hours until the sun went down over the horizon line and the temps dropped just a few degrees the fish disappeared and the fish went down. We slapped a couple fives over a cold drink in the parking lot then headed down to Winters for a nice meal. Putah Creek is definitely worth a stop. Especially when all the coastal waters are blown out, it's too cold to bass fish, and the inclement weather can bring out some nice hatches!

Cheers, *Michael E. Wier*



"I've tried to largely consolidate my charitable giving the past few years and CalTrout is the entity that I've decided to focus on exclusively."

— Eric T., Stronghold Circle member

CalTrout's Stronghold Circle members are the bedrock of our supporters. Giving monthly is the simplest, most cost-effective way to restore California streams and Salmonid populations.

CALIFORNIA TROUT



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Join now at www.caltrout.org or call Casey O'Sullivan at 415-392-8887 ext. 107.



Craig's Corner

by Craig Ballenger, CalTrout Ambassador

The "Ladder Day Saints" of Pyramid Lake

When my alarm goes off at 4 am, it better be good. A text immediately follows: "meet in the parking lot?"

I wandered out into the night from the hotel in Sparks. Snow drifted down, illuminated by parking lot lights overhead. Trucks lined up, warming in the cold. Wandering around outside, as well as in the corridor indoors, groups of anglers be-decked in waders, headlamps and other accouterments of flyfishing began to assemble.

Our convoy lurched out onto the highway. "follow my white truck," was the last I heard from Kevin until we turned off the highway and onto the North Nets beach at the lake.

Hatches on camper shells opened, ladders rolled out, quivers of fly rods were stacked vertically on magnetic windproof keepers. Mercury construction lights on tripods cut the night. Tables, chairs, pots and pans quickly assembled. Stoves hissed, and steaming cups of coffee and hot chocolate were served. Anglers began wading out into the water, just headlamp spots out in

the waves. I'd fished here with some success, but was having difficulty with this like organization. The snow breeze momentarily let up. The light of the sky on the eastern horizon began to dawn on me. Ah, as the ladders roll, ladders mark spots where trout can purloin.

This is the Pyramid Lake area, where experts, driving up from Lodi, are the Lohontan cutthroat. I had to find the "Ladder Day Saints." They will put their ladders on their ladders, come with their ladders, season.

These are the world's largest trout, that they should be here, on the North Nets. Some trout in the world are the rainbows in British Columbia, the related Taimen in Mongolia, the Taimen in northern Canada, and the Taimen in northern Canada, and the Taimen in northern Canada, but few end



...e before, and with some
difficulty grasping this military
...ow had stopped, the cold
There began a faint bluing
horizon. The whole scene
I thought, this is the way
...s no other group of anglers

...ngling cult. These are the
LA each year in search of
to name them the "Ladder
in the bone chilling hours
ind or snow, season after

...t cutthroat. It is remarkable
a lake in the Nevada desert.
I do grow large: Gerrard
ia's Kootenay Lake, closely
, Lake trout (though a char)
a few others in certain
ough to be rare

Equally remarkable, seventy years ago, the fish of this lake were considered extinct. According to an article in Nevada Today, a publication of UNR, isolated stocks were discovered in a small creek on the Nevada-Utah border, the result of nearly forgotten plants nearly 100 years ago. Genetic analysis conducted by biologist Mary Peacock of the University tested them against fifty other populations.

"Even though they were in that tiny, dinky stream on the edge of Utah, they had maintained that capacity to grow into this big fish...people just went completely wild," Peacock effervesced.

In some mysterious way, these fish grow at a rate of 1/2 inch per month. Yup, not a typo. She claims in six years they can reach 24 lbs. While the Pyramid Lake-Truckee River-Lake Tahoe conduit is still broken, perhaps Nevada's state fish might someday find their way back into California.

REFLECTIONS

In celebration of opening day, some of our favorite na

RICHARD ARNER, "*Kern River Rainbow*"





REFLECTIONS

In celebration of opening day, some of our favorite n

JOEY GUZMAN, *"Liquid"*



ative trout and angling photos by CalTrout members and friends



REFLECTIONS

In celebration of opening day, some of our favorite n

SCOTT OTVOS *"My two boys doing it!"*



ative trout and angling photos by CalTrout members and friends



REFLECTIONS

In celebration of opening day, some of our favorite n

MICHAEL CARL, *"Golden Trout"*



ative trout and angling photos by CalTrout members and friends



Who we are

IN THE SPOTLIGHT



MARY BURKE

North Coast Program Coordinator

Mary has been with CalTrout since 2013. With a degree from Humboldt State University, Mary brings to her job keen skills in stakeholder engagement and project management. Her knowledge of ecosystem restoration is matched only by her talents on the flag football field. In her free time, Mary serves on the Board for McKinnleyville Community Services District and enjoys sharing her love for the outdoors with her family.

Photos: Mike Wier

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Developing a Plan for Recovery

Despite these challenges, CalTrout recognizes that the Elk River has the potential to be a productive watershed. With sufficient investment, it could once again sustain robust salmon and steelhead populations. The Elk River has plenty of low-gradient tributary habitat for adult spawning, and its main stem has a 12-mile long, meandering section that could provide excellent summer and winter rearing habitat for juveniles. Water temperatures are moderated by the nearby marine environment and thus remain favorable year-round. And, its estuary could once again provide highly productive tidal marsh lands that offer excellent nursery habitat for young salmon and steelhead.

The initial technical feasibility project that emerged, the Elk River Recovery Assessment, was launched in 2014 and will result in a Recovery Framework, a comprehensive set of actions intended to hasten improvements in water quality and its “beneficial uses” – regulatory-speak for the public trust values that the watershed once provided. The program will initially carry out smaller-scale tests of various recovery actions such as dredging. This approach is aligned with CalTrout's strategy of using scientifically-based studies and data to inform how conservation efforts should proceed,

and then scaling up. This project also fits with CalTrout's investments in “working landscapes” where resources are being extracted but with the goal to maintain functional habitats for fish and wildlife. CalTrout's Central Valley “Nigiri” project, where rice farming and floodplain salmon rearing coexist, exemplifies this approach to land management.

The results of these pilot projects will inform the scientific basis for recovery efforts. In the next phase, to be launched in late 2018, CalTrout and its partners will form an Elk River Stewardship Program to seek consensus with Elk River residents, regulatory agency partners, and other stakeholders on the best approach to achieve recovery of the Elk River. How quickly this next phase proceeds depends on cooperation from the historically divided mix of stakeholders.

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A Path Forward

After more than a century of logging and other human impacts to the Elk River watershed, time alone won't be enough to bring back this severely impaired waterway. Strong regulations and significant restoration efforts will be necessary. But with multiple constituencies competing and advocating for different goals, it is exceedingly hard to gain any momentum on river restoration efforts. The actual work to restore the river already exhibits the characteristics of a "wicked problem": full of complex interdependencies where solutions often have unintended consequences that themselves become problematic.

From the point of view of the fish and the health of the ecosystem, the ideal course of action would involve a temporary moratorium on logging and road building in the headwaters of the Elk River; replanting hillsides and taking other steps to limit further erosion, some of which is ongoing; reducing sedimentation through dredging; and, taking steps to restore a healthy, functioning estuary. These actions would also benefit the residents who can no longer rely on the Elk River for their drinking water. However, the reality of the current political and economic situation makes this ideal scenario challenging. Progress will have to be made incrementally and painstakingly.

The Elk River is in a way a microcosm of California's competing economic and political interests. The owners of the timber companies have a bottom line and keep pushing for allowable harvest of trees in sensitive areas, which in turn provides jobs in the local community. The Regional Water Board has a mandate to protect water quality, but it meets with stiff resistance from timber companies and their employees if they try to impose a moratorium on logging. State fishery and forestry agencies have divided loyalties due to hard lobbying by the timber industry and other business interests.

Recovery will be slow at best. CalTrout is in the struggle for the long haul, and has the necessary experience in solving complex resource issues that require balancing the needs of fish and people. We have no illusions about the obstacles that must be overcome along the way, but it is a fight worth waging for the protection of this public trust resource.

Darren Mierau, CalTrout's North Coast Program Director, offers this perspective: "This is a very challenging program for CalTrout to manage and participate in, but we're involved and leading this process, in part, because it has to be done and no one else will do it."



Thanks for spending time with

The Current

Please send us your emails, photos
and comments to current@caltrout.org
We want to hear from you!