Winter 2017

the current

abundant wild fish · healthy waters · better California

CALIFORNIA TROUT
FISH · WATER · PEOPLE

Return to Abundance

The Eel River is staging a comeback

JUNE MTN

Reducing fire risk by removing dead trees

HSD IS BACK

Humboldt Steelhead Days - events, fishing and fun for whole family

A message to you

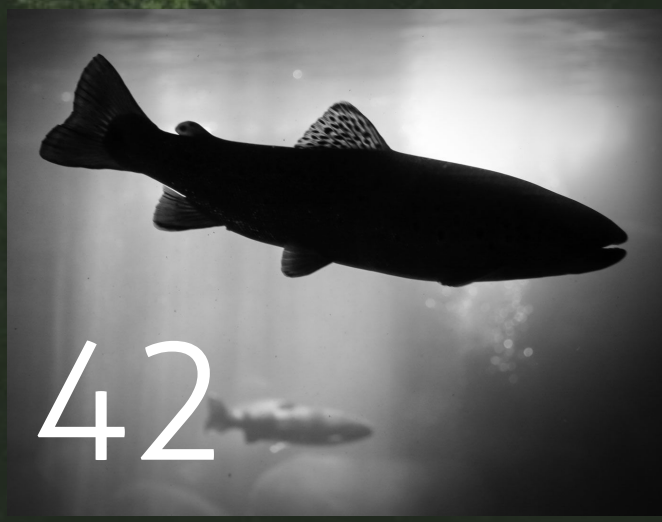
Our goal with each issue of *The Current* is to bring our stories and projects to life, with more images, videos and links... offering you a rich perspective on the work **your support makes possible**. We are thankful to you, our donors, who help us ensure that there will always be abundant populations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

FEATURE

Cover photo: Mike Wier

SCIENCE

EVENTS



PROJECTS

REGULARS

REFLECTIONS

Return to Abundance

Of all the rivers of the Lost Coast, one stands out above all others in its former glory and fame: the mighty Eel River. And it's staging a comeback.

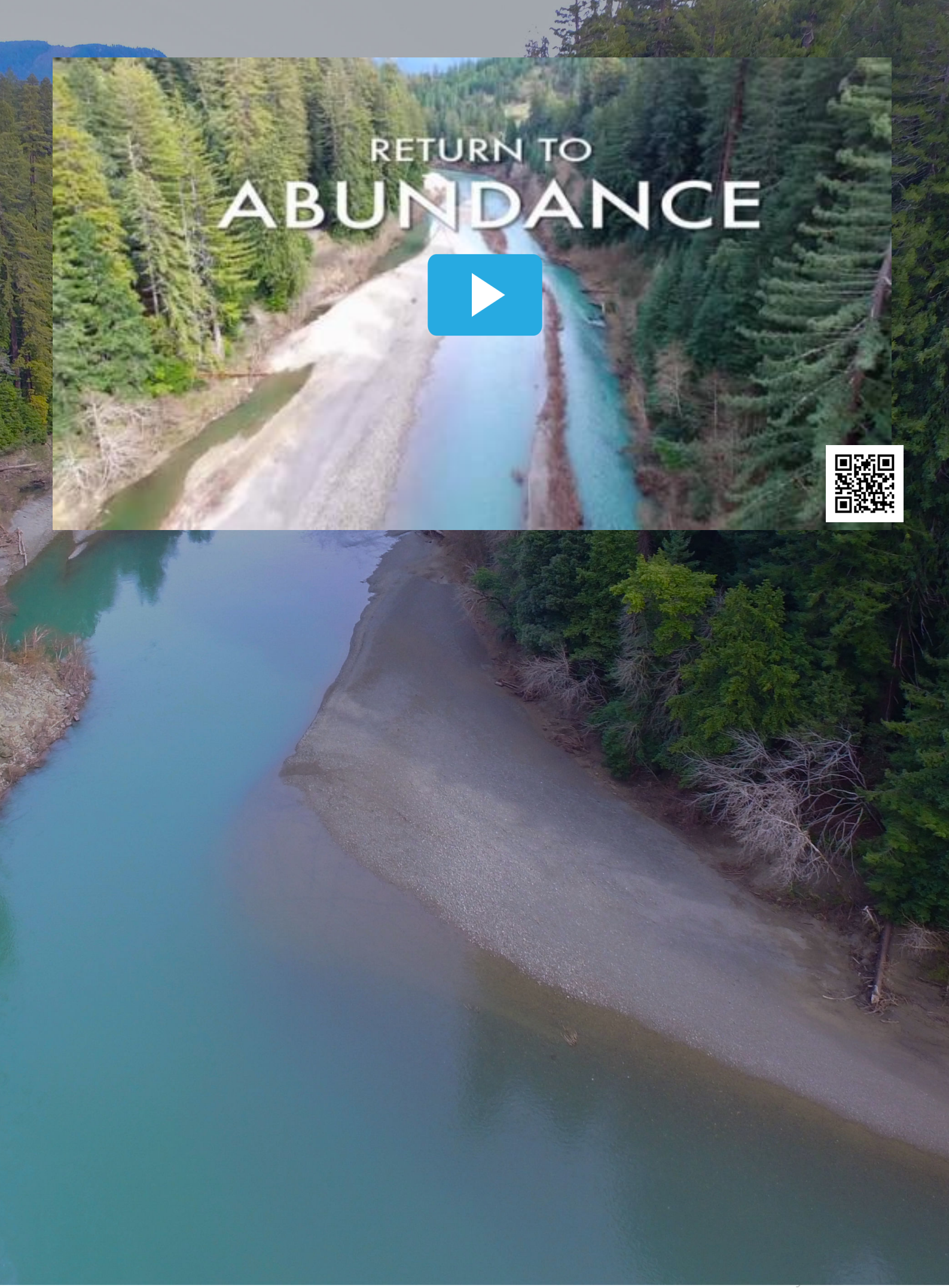
FEATURE CONTRIBUTOR

Frank Eldredge

27-year CalTrout Member

Frank joined in 1989 and is embarking on a second career writing about conservation and fly fishing topics.

It was dubbed the "River of the Giants" by *Field and Stream* magazine in the 1930s and adulated by frenzied fisherman who flocked from San Francisco and all over the United States to do battle with its enormous and hard fighting steelhead and salmon. Memories of those legendary days from the early to mid-20th century have faded and been eclipsed by the current reality of a river struggling to regain a semblance of that famous past. Despite a long and precipitous decline that has resulted in native salmon and steelhead runs dwindling to a small fraction of historic numbers, the Eel River somewhat remarkably represents the best opportunity in California for recovery of a major salmon and steelhead fishery. CalTrout has a comprehensive recovery plan for the Eel and is hard at work bringing back this exceptional river ecosystem to its former abundance.


RETURN TO
ABUNDANCE

A Fabled Past

Historically, the Eel was the third largest salmon and steelhead producing river in California (exceeded only by the Sacramento and Klamath rivers). By extrapolating from cannery records from the late 1800s, fishery biologists estimate that in good spawning years over one million adult salmon and steelhead entered the Eel (comprised of approximately 800,000 Chinook salmon, 100,000 Coho salmon, and 150,000 steelhead). It's not surprising that the native people of the area, the Wiyot, used a word in their language that means "plenty" or "abundance" in naming the Eel, and also derived their tribal name from that same word. By the early 1920s, the Eel had a national reputation for offering some of the best freshwater fishing in the country. In the 1930s, The Eel captured 1st through 5th place prizes in the annual *Field and Stream* big fish contest. In the 1950s, the allure of the Eel for fisherman was embodied by Bill Schaadt, considered by many of the time to be the greatest steelhead fisherman of the north coast, who one time flipped his car on an Eel River gravel bar in his mad rush to get down to the schools of giant fish.

But, the glory days quickly came to an end. The list of human activities that altered the Eel and devastated the anadramous fish populations reads like a recipe for destroying a river and its fish: overfishing during the peak years of cannery operations from the 1880s to the 1920s; massive logging, especially in the boom years after World War II, which set the stage for widespread erosion that filled the river with tons of sediment during the epic floods of 1955 and 1964; water diversions for farming and ranching, and more recently for rapidly expanding marijuana cultivation; the introduction of invasive species such as the Sacramento pike minnow, which feeds on juvenile salmon and steelhead; the wholesale transformation of the Eel River delta and estuary into dairy and ranch lands; and, the building of dams that have altered flows and blocked access to spawning and rearing habitat in the upper watershed. It is no surprise that by the 1980s all runs of salmon and steelhead in the Eel were listed as threatened.

An Encouraging Future

In spite of these cumulative human impacts, the Eel has a unique set of factors working in its favor that make it a strong candidate for recovery. The first advantage is the Eel's location in a remote and sparsely populated area, with no major urban centers in its watershed. Thanks to its designation as a National Wild and Scenic River in 1981, no new dams will ever be built on the Eel. There is no fish hatchery, and thus the river can be repopulated with its native wild fish. CalTrout and its partners within the Eel River Forum recognize this golden opportunity and are working hard to implement a broad set of actions to help the Eel and its wild fish make a comeback. There is the potential on the Eel not only to repair the damage humans have done, but to bring back sustainable levels of salmon and steelhead abundance.

Photo by Sebastian Vido

In fact, there are already some encouraging signs of the potential for a major recovery, most notably from several years of Chinook salmon returning in much larger numbers to the river before the drought struck. Darren Mierau, the North Coast Director for CalTrout, sees ample evidence of the turnaround. "Conditions have improved remarkably since the 1970s and 1980s, when population abundance probably hit its nadir," he says. "I think we already have a fairly healthy Chinook salmon run. And some of the fishing guides think there are tens of thousands of steelhead coming into the river based on their fishing success in recent years. It's anecdotal evidence, but it aligns with observations of large numbers of fish from volunteers in the area who are counting fish."

Lessening the Impact of Marijuana Culitvation

One of the threats to the full recovery of the Eel is the damaging effects of marijuana cultivation, which has been expanding dramatically in the region. With the passage of Proposition 64 in November, which legalizes recreational marijuana, new tools are on the way to help deal with the environmental impacts of growing marijuana in sensitive watersheds of the north coast such as the Eel. Thanks to the involvement of CalTrout and other groups, a portion of new taxes on both the cultivation and sale of recreational marijuana will be allocated to addressing the environmental impacts of the marijuana industry. The proposition earmarks 20% of the tax proceeds for enforcement of environmental regulations and the promotion of best practices in how marijuana is grown in the state. This regulation is desperately needed to address rogue marijuana cultivation practices by some growers such as illegally clearing forests, diverting large amounts of surface water and drying up streams during summer months, and contaminating water with herbicides and pesticides.

The legalization of recreational marijuana will gradually bring cannabis production out into the open market, and for the first time the approximately 50,000 growers in the state will be required to apply for water permits with the State Water Board.

Many growers eventually will be required to build water storage, such as ponds or tanks, and collect water for summer irrigation when streams are running full in the winter. Implementing a program that achieves this goal is very challenging, though. It requires multiple agencies such as the State Water Board, regional water boards, and the California Department of Fish and Wildlife to be involved and coordinate on policies and principles. At CalTrout, Mierau will be assisting in this effort by providing input on the guidelines for how much water in winter can be diverted for storage on the Eel and its tributaries. "If the water diversion guidelines are based on good science, and provide the water users a feasible pathway for compliance with state laws, then we can minimize the effects of this impairment on salmon and steelhead," he said.

Walter Collins, Staff Attorney for CalTrout, adds his thoughts on the topic. "It is well known that growers in the Eel River basin are having a major impact on both water flows and water quality," he points out. "These new regulatory measures are a step in the right direction to address stream flow and pollution issues associated with cultivation of marijuana."

The FERC Relicensing Opportunity

In April of 2017, PG&E will formally start the five-year relicensing process of the Potter Valley Project on the upper Eel River as mandated by the Federal Energy Regulatory Commission (FERC). The Cape Horn and Scott dams in the upper Eel River, which were built in 1908 and 1922, respectively, are the two impoundments and main elements of the Potter Valley Project. In addition to supplying water for hydropower, irrigation, and local residents, water is diverted from Van Ardale Reservoir (formed by Cape Horn Dam) to the Russian River watershed.

Although there is a fish ladder at Cape Horn Dam, which allows fish to access the 12 miles between the two dams, there is no fish passage at Scott Dam and thus migrating fish cannot reach the upper Eel River above Lake Pillsbury—or the drowned stretch of river under the lake once known as "gravelly valley". As part of the Eel River Action Plan, CalTrout approached the National Marine Fisheries Service (NMFS) and received a grant to conduct studies of potential spawning and rearing habitat above Lake Pillsbury. With help from its donors, CalTrout matched the grant dollars and used the money to hire researchers at Humboldt State University who have been doing field studies and will have published data available in the Spring of 2017, just in time for the opening of the comment period in the FERC relicensing process.

Van Arsdale dam

According to Mierau, "The first step is to determine if there is viable fish habitat above the dam and, if so, that would hopefully lead to a finding that fish passage above Lake Pillsbury is warranted." A project conducted by The Native Fish Society, which installed fourteen water temperature loggers at various points in the river above Lake Pillsbury, has shown that summer water temperatures are suitable for rearing steelhead. (What is even more encouraging is that these measures were taken during the drought when water levels were extremely low.) CalTrout will also be supporting an investigation into whether other reservoirs in the region not connected to the Eel River can be tapped to supply water to the Russian River, thus offsetting the loss of storage from Lake Pillsbury.

CalTrout plans to play an active role during the comment phase of the relicensing period by providing scientific data about stream flows and fish passage. Collins notes that "CalTrout is looking hard at whether PG&E should consider any alterations to how they operate their dams, taking into account the needs of fish, irrigation uses, and hydropower generation."

PG&E holds the water rights for the customers of the Potter Valley Project, and thus another area that CalTrout will be advocating for is how best to allocate water for both human and fishery needs. In addition, native tribes in the area will likely play an important role in the water rights discussions as they hold the highest priority water rights.

"CalTrout is making a realistic assessment of the area and trying to find a solution that balances the needs of people and the native fish. Whether that means dam removal or other means of fish passage remains to be determined," Collins says.

(continued on page 52)

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

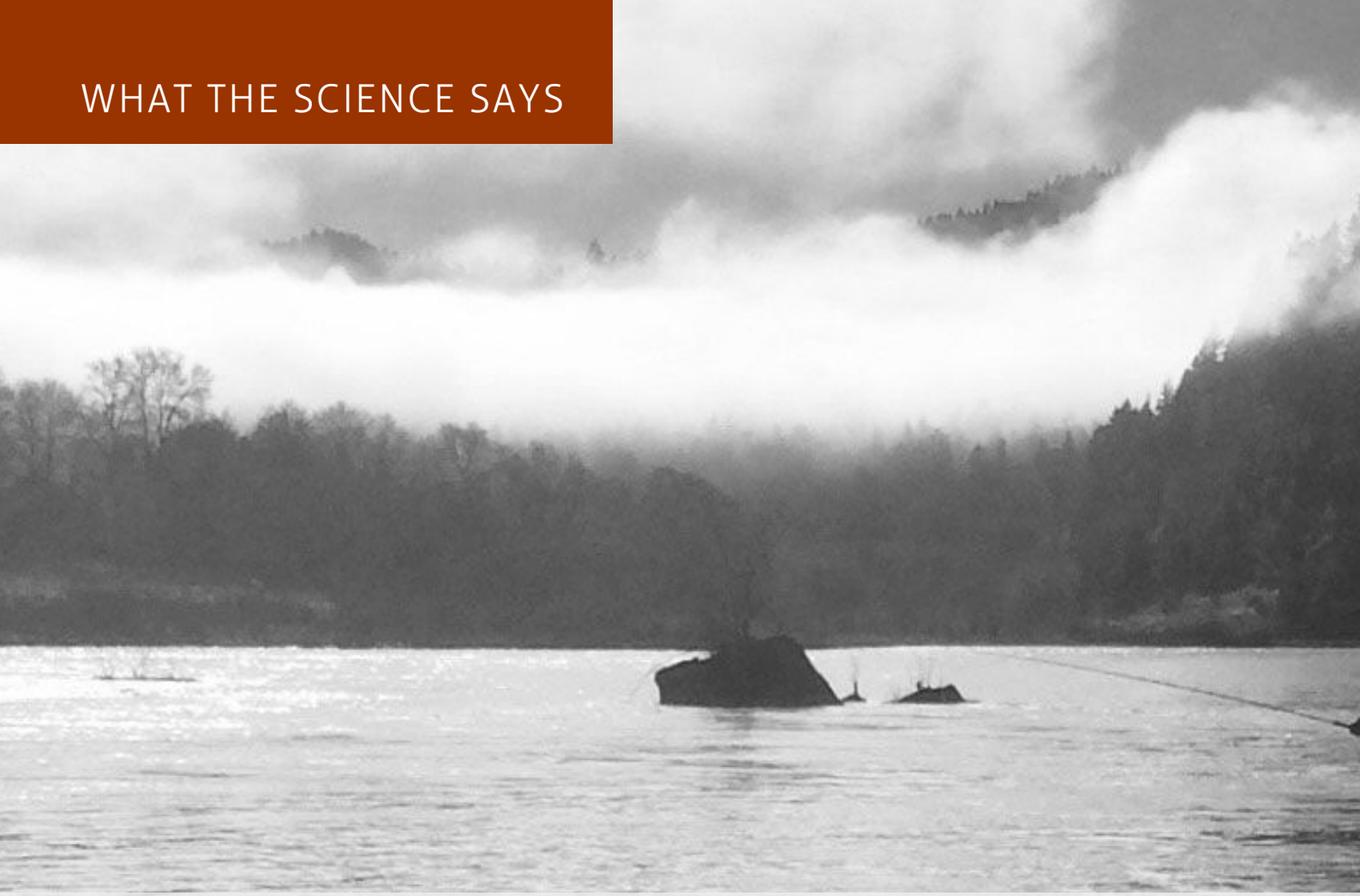
The Eel How winter and summer flow seque

The Eel River is the third largest river entirely contained in California, preceded only by the Sacramento and San Joaquin Rivers. Historically, during wet periods and productive ocean conditions, the Eel River likely supported adult salmon (Chinook and coho) and steelhead returns greater than a million fish annually (Yoshiyama and Moyle 2010). However, numbers of these salmonids declined drastically due to overharvest, logging, and grazing during the 19th century and the mega-floods of 1955 and 1964. While the Eel River is beginning to recover after decades of improved management and restoration, an increasing demand for water during summer and changes to the flow regime associated with climate change (Asarian 2015) may have potential severe consequences for salmonids. In the publication, 'The thirsty Eel: summer and winter flow thresholds that tilt the Eel River of Northwestern California from salmon-supporting to cyanobacterially degraded states', Power et al. (2015) discuss interactions between wet-winter flows and low summer flows, the diverse ecological outcomes produced by such flow sequences, and the potential implications for salmonids and other fishes.

nces affect salmonid habitat

Flow is often referred to as the 'master variable' because of its ability to broadly affect geomorphic and ecological processes in river ecosystems. For salmonids, flow affects physical habitat (e.g., pool depth, temperature), but can also indirectly affect river food webs, especially the quantity and quality of stream invertebrates consumed by juvenile salmonids. Not surprisingly, different sequences of winter and summer flows promote different physical habitat and ecological responses. For instance, large winter floods during wet years promote scour of fine sediments and large wood recruitment, but during dry years winter flows may not be of sufficient magnitude to elicit such responses. Conversely, summer flows during wet years are usually higher than those of dry years, promoting connectivity between surface and groundwater and between upstream and downstream reaches. Higher summer flows can also provide cooler over-summering water temperatures for juvenile salmonids.

Photo by Mike Weir



High flows in winter and summer ideal

Power et al. (2015) argue that different sequences of wet-winter and low-summer flows also greatly affect river food webs on the Eel River. During wet years, the authors argue that high magnitude winter flows remove large over-wintering cased caddisflies (*Dicosmoecus spp.*, AKA October caddisfly) that graze on algae; this disappearance, in turn, releases algae from grazing and encourages algal growth during summer. If summer flows are of sufficient magnitude and temperature (i.e., non-drought flows), they promote the growth of nutritious filamentous and diatom algal species. These algae species are important food resources for numerous soft-bodied caddis and mayflies, which are important food sources for over-summering salmonids. According to Power et al. (2015) these are ideal conditions in the Eel River—high winter flows followed by relatively high and cool summer base flows. Such a flow sequence promotes ideal physical habitat conditions (hydrologic connectivity, cool water temperatures, etc.) and a robust aquatic food web capable of supporting over-summering juvenile salmonids.

Other flow sequences, however, are not as favorable. When high winter flows do not occur, such as during dry years, cased caddisflies are retained within

the Eel River enabling them to suppress algal growth and outcompete other invertebrate grazers such as soft-bodied caddis and mayflies. This suggests that important prey items for juvenile salmonids are not as plentiful and, if summer flows are low, means that over-summering salmonids likely experience high water temperatures with fewer food resources.

The worst case flow scenario occurs when high winter flows occur (i.e., promoting bed scour and the removal large overwintering algae grazing cased caddisflies) but are followed by a precipitous decline in summer base flow. Here, pools on the Eel River can become disconnected from one another, ungrazed mats of rotting filamentous algae form on the top of the water column, water quality significantly declines, especially dissolved oxygen, and water temperatures rise dramatically. According to Power et al. (2015), these conditions encourage the proliferation of cyanobacteria within the Eel River. Thus, while filamentous algae and diatoms support healthy river food webs under certain winter-summer flow sequences, winter floods followed by drought like summers may encourage proliferation of cyanobacteria which may contain neurotoxins lethal to fish.

(continued on page 54)

Photo: Daniel Kowalski

CalTrout is delighted to present these

North Coast - Arcata
Date and location TBD
More info coming soon

Marin - Larkspur
Thursday, March 16
Lark Theater

East Bay - Orinda
Wednesday, March 22
Orinda Theater

e iF4 screenings:

Penninsula - Menlo Pk
Thursday, March 23
Guild Theater

Sacramento
Thursday, March 30
Tower Theater

presented by

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THE VENTURING ANGLER

FLY FISHING SPECIALTIES
WILD RIVERS TO BLUE WATERS

LOST COAST OUTFITTERS
SFCA
LIFE IS BETTER AROUND A CAMPFIRE

patagonia®

PARTNER PROFILE

Photo: Mill Creek Conservancy

Wild Salmon Center

Investing in California's Strongholds

BOB VAN DYK

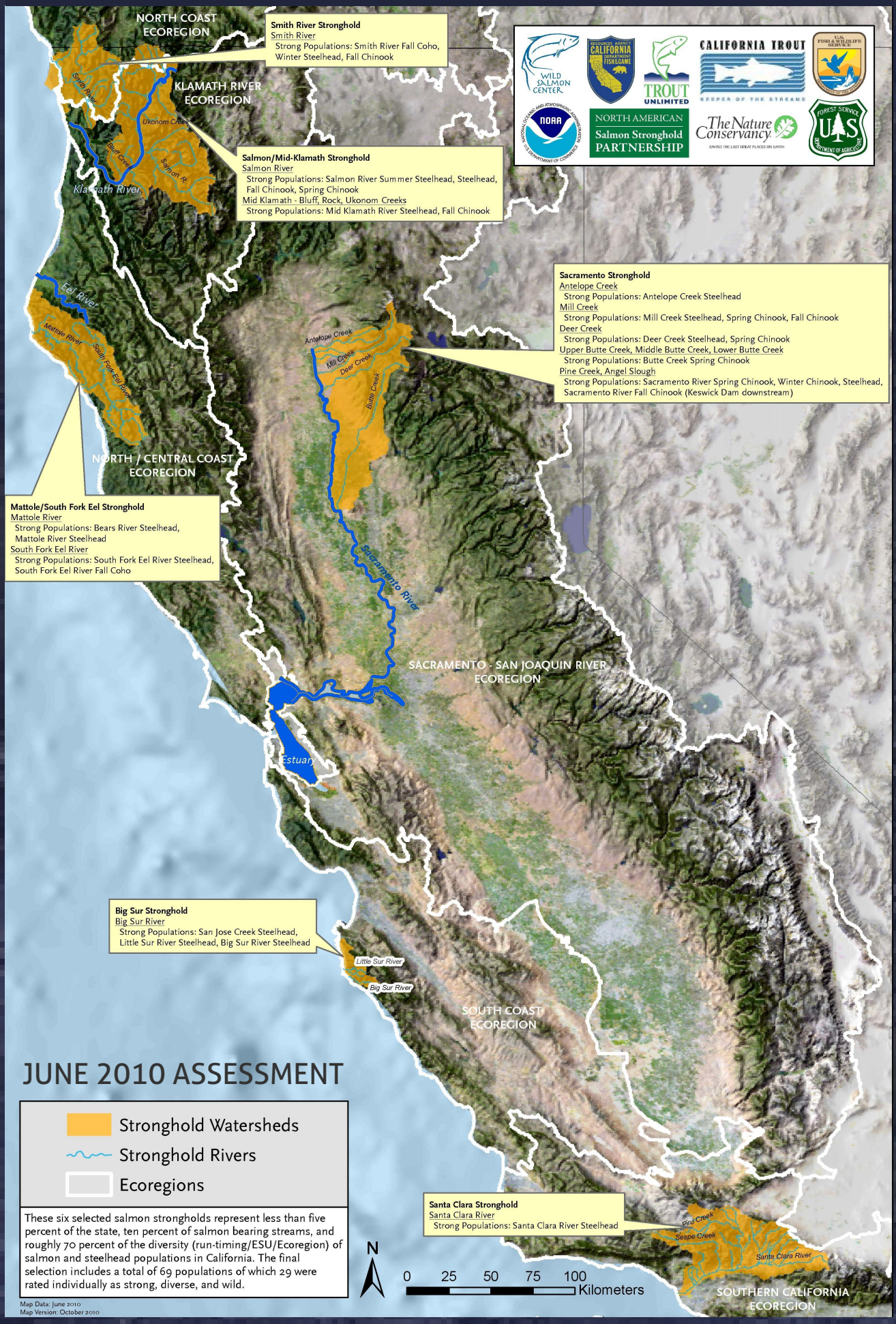
Wild Salmon Center Oregon and California Policy Director

Bob has been with WSC since 2010. He has a Ph.D. in political science from the U of WA, and is a professor emeritus at Pacific University in Forest Grove. In his spare time, Bob tends a big garden, travels with his family and explores the Pacific Northwest's fabulous public lands.

In northeastern California, Mill Creek tumbles clear and cold from 8,000-foot-high Lassen Peak and down to the mainstem of the Sacramento River. The creek's headwaters provide some of the highest-elevation spawning areas for Chinook in North America. And Mill Creek has one of the last strong populations of wild spring Chinook in California, with up to 20,000 returning fish in a good year.

Mill Creek's exceptional spring run is one reason it was selected as part of the Sacramento River salmon stronghold, during an extensive scientific process involving federal, state, local and conservation partners working throughout California. Our organization, the Portland, Oregon-based Wild Salmon Center, facilitated the stronghold identification process which was led by California Dept. of Fish and Wildlife, CalTrout, The Nature Conservancy, and Trout Unlimited. The goal was to identify wild salmon runs in California with the highest levels of species diversity and abundance, and promote the protection and restoration of the watersheds that sustain those runs.

NASSP CALIFORNIA STRONGHOLDS



Along with Mill, Deer, Antelope, and Butte creeks in the middle Sacramento, identified salmon strongholds include the Smith; Salmon/Mid-Klamath ; Mattole; South Fork Eel; Big Sur; and Santa Clara river systems. These rivers are the hubs of salmon recovery in California. Now CalTrout and Wild Salmon Center are redoubling our joint efforts to protect these strongholds through the California Stronghold Initiative.

The challenge is clear: in a drier and more competitive water environment in California, we need to be more strategic about how we restore and protect access to cold water in the state's best salmon streams. Despite being identified as salmon strongholds, many of these rivers face imposing threats due to the multi-year drought. In Mill Creek, for example, just 300 spawning adults returned last year.

Fortunately, California took a big step to address its water challenges by earmarking $1.5 billion for ecosystem management under the state's 2014 water bond. Hundreds of millions of dollars are available for salmon protection in the years ahead, and Wild Salmon Center and CalTrout will be working to drive those investments into the strongholds.

To make that happen, we are jointly developing an investment portfolio that will promote projects that are critical to conserving the state's best wild salmon runs. One focus will be getting fish access to clean, cold water.

Wild Salmon Center and CalTrout have already collaborated on one such project on the South Fork of the Eel River, where we are working to understand the minimum cold water flows necessary to sustain juvenile coho salmon during summer months. Once those needs are understood and a water flow assessment developed, local project partners hope to use the information to establish minimum streamflow objectives in the South Fork Eel. They'll also work with private landowners to implement voluntary water conservation projects.

The South Fork Eel could be a pilot approach to maintain cold water that may be replicable throughout the state's strongholds.

The need to drive money into water conservation projects in strongholds across the state could not be more urgent. Salmon returns are expected to remain low in the next few years, due to three poor water years in 2013-15. And the future of salmon in the Eel, the Sacramento, and across California depends in part on protecting the remaining harbors of locally adapted genetic diversity found only in wild fish.

We're looking forward to working more closely with CalTrout to make sure these salmon strongholds are protected for the future.

Photo: South Fork Eel by Mike Wier

PROJECT UPDATE

Re

Over the next several years, CalTrout will be embarking on a project aimed to restore the health of a unique forest type, Whitebark pine, on June Mountain. The first phase of the project is slated to restore 110 acres, working in partnership with Inyo National Forest and Mammoth Mountain Ski Area and made possible by a generous National Fish and Wildlife grant. Over 70 years of no fire activity, combined with periods of extended drought, have resulted in unnaturally dense and stressed forested stands. Bark beetles, native to California, are making the situation worse. They thrive on defenseless, dying trees, eating layers of the tree that carry nutrients and infesting the tree with a fungus.

The project is targeting to remove approximately 145 decaying whitebark pine trees per acre, starting in July 2017. Removing the infested trees will improve overall forest health and decrease the risk of high intensity wildland fires. "Public water supplies are at stake, as are fisheries, which affect tourism and people's livelihoods", stated Dr. Mark Drew, CalTrout's Eastern Sierra

untamed forest fire wou
dry pines, flushing large
downstream watersheds
to the June Lake Public
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waterways also pose a bi
Trout that live there and
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decreases the amount of
is necessary for a healthy

Over the course of this th
will be monitoring the site
tree removal using photo
forest understory, worki
Wildlife Service. Dr. Drew
infested trees will fare wit
trees: "These trees are str
best thing we can do is tr
the living trees and to

June Mountain

educing Fire Risk to Improve an Ecosystem

Photo by Dr. Mark Drew

n Manager. A large-scale, ld move fast through the amounts of sediment into that directly supply water Utility District and City of diment flushes into the g threat to the wild Brown d their historic spawning ent obscures the gravel ut lay their eggs, and f oxygen in the water that y aquatic ecosystem.

ree-year project, CalTrout e conditions pre- and post- o-print monitoring of the ng with the US Fish and v discussed how the non- th the removal of damaged essed due to drought. The y to improve the health of o remove dead ones to eliminate dead wood for the beetles." The project does not involve clear-cutting large swaths of forest, which would impact wildlife, but rather selectively choosing dead and dying trees that pose the largest threat.

CalTrout will also develop and implement an education and outreach program centered on forest health and expected outcomes from this restoration project.

The overarching goal of the restoration project is to remove dying trees across 518 acres of National Forest System lands over five years. CalTrout is pursuing additional funding to accomplish this, and intends to leverage funds to implement further scientific research to measure long-term ecosystem changes and determine best alternatives for biomass utilization. How the removed trees will be used is still under consideration; some will go to local wood use, commercial firewood, and biofuel.

EVENTS


CALIFORNIA TROUT
KEEPER OF THE STREAMS
Hello
Candice
Our Offices
• Central California
• Eastern Sierra
• Mount Shasta
• North Coast
• Northern Sierra
• Southern California
CalTrout's 30+ Projects Across 6 Regions


CITY CORPS
Trash

Engaging the Community in Santa Clara Watershed

Led by CalTrout's Candice Meneghin, the Santa Clara Steelhead Coaltion has been focused on implementing one of their key strategies: outreach, education and community engagement. The coalition hosted 14 outreach events in 2015 and 2016.

Coastal Cleanup Day

September 2016

The Coalition partnered with Nina Danza of the local Sierra Club chapter for Coastal Cleanup day and hosted the Santa Clara River Gateway inland site on the lower main stem. Seventy-five volunteers came together to clear 0.5 square miles of critical steelhead habitat on The Nature Conservancy's property, which is part of the Santa Clara River Parkway. Over 640 lbs. of trash were collected with some unusual finds such as a car bumper, barbecue, and cash register.

The California Coastal Commission awarded both Candice Meneghin, CalTrout's Southern California Conservation Program Manager, and Nina a certificate of recognition and appreciation for outstanding public service in protecting and enhancing the beauty and natural resources of California's coast and shorelines for the benefit of present and future generations.

A Santa Clara River Parkway Conference

September 2016

CalTrout and the Coalition had great representation at the Point Me to the Parkway conference, which gathered a crowd of 85 participants. Alasdair Coyne with Keep Sespe Wild was the keynote speaker, Friends of the Santa Clara River did a tribute to the past, The Nature Conservancy highlighted their present restoration work on parkway properties. And the crowd spoke about a future vision for the Parkway. Also, UC Santa Barbara RIVRLab showcased their work on invasive species management.

CalTrout brings these passionate groups together through our coalition to restore steelhead in the watershed.

Photos by Nina Danza, Candice Meneghin

Point Me to the Parkway

Engaging the Community in Santa Clara Watershed

(continued from previous page)

Patagonia's Annual Salmon Run

November 2016

CalTrout tabled on behalf of the Coalition at Patagonia's Annual Salmon Run. Other Coalition members in attendance were Friends of the Santa Clara River and Keep Sespe Wild. Over 300 runners participated, with a crowd of more than 800 attendees throughout the morning. The Coalition handed out a number of educational materials, such as Southern California Steelhead: Against All Odds DVD, and steelhead stickers.

2nd Annual Steelhead Summit

October 2016

CalTrout's Southern California Conservation Program Manager, Candice Meneghin presented "It Takes a Watershed: Integrating Science, Policy, and Management to Protect Strongholds, Restore Headwaters, and Reconcile Landscapes" at the Prioritizing Steelhead Recovery Actions Presentations and Panel Discussion at the 2nd Steelhead Summit in San Luis Obispo. Candice outlined CalTrout's SoCal strategies for steelhead recovery in the region, and provided a Coalition update on funded projects, and those identified as priorities in the New Year. CalTrout was a sponsor of the event and displayed outreach and educational materials during the poster session.

About the Santa Clara River Steelhead Coalition: *The Coalition serves as a vehicle for coordination among non-profit organizations, government resource agencies and interested stakeholders with a goal to facilitate and advance recovery of the endangered Southern California Steelhead in the Santa Clara River watershed.*

Thanks again to event participants and all our volunteers!

CALIFORNIA TROUT
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Santa Clara River Steelhead Coalition

WaterTalks is an ongoing program of educational events designed to provide people with a place to learn about water-related topics by bringing together community members and experts.

For more information, contact Candice Meneghin, cmeneghin@caltrout.org.

The 2017 WaterTalks Series Santa Paula & Ventura, CA

February
Steelhead Life History

Steelhead are rainbow trout that travel from creeks and rivers to the ocean and back again. These fish need access to local streams to complete their life cycle. We will look at their life history, how to manage for diversity, abundance, and enhance resilience.

March
Water Quality and Steelhead

We'll discuss steelhead water quality needs, Ventura County's Ag Waiver, Best Management Practices, how land use impacts runoff, and explore options and resources available to address water quality goals.

April
Stewardship

We will share examples of what landowners are doing to benefit steelhead and the ecological function along the Santa Clara River parkway. We will also gauge landowner needs, incentives, best management practices.

May
Invasive Species and Steelhead

Weeds are sucking our groundwater and surface flows dry. Pests threaten crops, orchards, livelihoods, and riparian and stream habitat. We will discuss identification, threats, management and control of key invasive species in the watershed.

June
Connectivity: Fish Passage & In-stream Flows

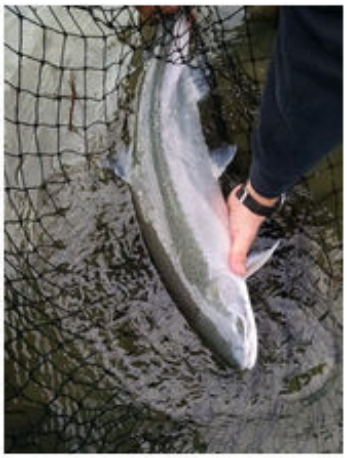
We will discuss the fish passage challenge steelhead face, how to design multi-benefit projects and enhance instream flow to support migration and connectivity to habitat in different life cycle stages, water conservation opportunities, and identify resources for stakeholders when upgrading road crossings, diversions, and assistance in meeting regulatory burden.

Coming in April:
Technical Workshop: Regulatory Agency Permit Streamlining







4th Annual Humboldt Stee

January 1 - March 31, 2017

elhead Days

January thru March there are more steelhead in Humboldt County than anywhere else in California. Experience Humboldt in the wintertime: Eat, drink, fish, and be merry amidst renown natural beauty AND the legendary steelhead.

Celebrating all things Steelhead! Biggest Fish competition, Essence of Angling photo contest, special Mad River Access, casting and rigging clinics, steelhead expos & seminars, spawning and restoration tours, a steelhead-themed fine art exhibition, fishy films & live theater and much more for the angler and non-angler alike. Family-friendly events throughout Humboldt County. So bring the kids! Get a chance to fish the peak of the run and have a ton of fun!

www.humboldtsteelheaddays.com

Humboldt Steelhead Days has returned!

www.humboldtsteelheaddays.com

Join us as we celebrate all things Steelhead! CalTrout is hosting the following events:

Jan 13th Eel River Opening Reception, premiering our new film, "Return to Abundance"

Jan 28th Restoration and Spawning Tour of the Van Duzen, tributary to the Eel

Feb 4th Humboldt Steelhead Days Fine Arts Exhibition in Eureka – *Arts Alive!*
CalTrout is participating as a main collaborator.

February 25th International Fly Fishing Film Festival
at Arcata's Miner Theater

Mar 11th Eel River Steelhead Days Expo
Family-fun activities, speakers, workshops and demonstrations about steelhead, steelhead fishing, and restoration.

As the Eel River host, CalTrout is excited to participate in this annual event, a three-month-long celebration bringing awareness to the iconic steelhead thriving in the wild waters of Humboldt County. Held during the "Peak of the Run", from January 1 to March 31 2017, Humboldt Steelhead Days (HSD) brings anglers from across the nation to compete for a chance to catch the legendary fish of a thousand casts, with a prize pool of more than $10,000!

HSD promotes a wide array of weekend events such as the popular IF4 film festival, steelhead expos, photo competition casting and rigging clinics, watershed tours, farm-to-table dinners, films and art exhibitions. All proceeds go toward building community awareness, protection, and river restoration activities on three watersheds: Eel, Mad and Trinity Rivers. These activities are overseen and coordinated by three key HSD beneficiaries, The Mad River Alliance on the Mad, California Trout on the Eel, and the Trinity's Mountain Community and Culture.

Find the full schedule of events for anglers and non-anglers alike on the Hunboldt Steelhead Days website.

Hosts and Partners

Mad River Alliance, Mad River host:
A community driven group working to protect clean local water and the ecological integrity of the Mad River watershed for the benefit of its human and natural communities.

Mountain Community and Culture, Trinity River host:
Dedicated to bringing a community center to the Trinity River Valley as well as promoting the Trinity River Restoration Program which is designed to restore naturally-spawning populations of salmon and steelhead to near pre-dam levels.

Humboldt Lodging Alliance:
Discounted rates for Humboldt Steelhead Days participants from January to March 2017.

CALTROUT GEAR

Cool blue 2017 CA Republic t-shirts are in!

$22 Khaki or navy ball cap

$25 Trucker cap

$20 Neck gaiter

$30 CA Republic t-shirt
Men's and women's

$10 CalTrout stainless steel water bottle

the design on the back >

Photo: Mike Wier

Spot Check

By MIKE WIER

South Fork Eel – the good, the bad and the ugly

Some people are going to be mad I even wrote about it but here's the deal, The South Fork Eel isn't really that great of a steelhead fishery. It's big, flashy, dirty, remote, inconsistent and sometimes even sketchy. Most of the time it's just going to kick your..... BUT, on the right day, in the right place, it can produce some nice wild fish. The South Fork Eel is also no secret. It's right along Highway 101 for close to 70 miles. There are no hatcheries on the SF so it's predominantly all wild fish. There are also no dams controlling flows on the SF Eel so it's very subjected to high flow events in winter and very low summer flows. It's a wild system full of wild fish, not like your more consistent tail water and hatchery fisheries for steelhead like the Trinity or Rouge.

The South Fork Eel is in a state of recovery. It's had a legacy of abuse. Many factors from logging, road building, fires, agricultural diversions, gravel mining, invasive species, toxic algae and, most recently, illegal diversions for Cannabis farming have led to a decline in fish numbers from it's historic abundance. The result is that Coho salmon are now listed as endangered, steelhead trout are listed as threatened and Chinook populations also plummeted in the 70's, 80's and 90's. But it has been on an upswing this past decade. Today, it's only open to fishing from Rattlesnake Creek near Leggett down to its confluence with the main stem of the Eel. The SF, for the most part, is only open to catch and release fishing. You are allowed to keep two hatchery trout or steelhead, but since it is not stocked it's primarily only wild fish anyway. Very seldom does it receive a stray hatchery fish from the Mad or other stocked fishery further down the coast. While only barbless hooks are allowed, there is still a short and controversial season during mid-winter when bait is permitted.

Spot Check continued

There are fish returning to the South Fork Eel but no one really knows how many for any given year. There are no data collection sites on the SF Eel that count fish. Fish reports are based on local's experience and some occasional fish spawning surveys in the upper watershed by the California Department of Fish and Wildlife. Only one flow gage exists on the SF Eel so it's very difficult to get a read on flows remotely. There are 60-70 miles of river below that gage and LOTS of tributaries that can significantly contribute to flows and clarity. And if that's not enough to shy you away, the first trib below the fishable line has a propensity to blow out from mudslides and turn the clear green water of the upper watershed to chocolate milk on any significant rain event.

With all that being said, the SF Eel can offer some great fishing for the keen catch and release fly-fisherman if you catch conditions right. Don't expect to have banger days like the hay day on the Trinity where people were catching 10 to 20 steelhead a day. If you get one fish, or even a grab on any given day of working hard, it's a good day. If a fly angler lands two fish on the SF Eel in one day, well, that's a really darn good day! Fishing conditions on the SF are

super variable. In some years, like 2012 and 2013, stars can align and you will have decent runs of steelhead in the river and good water conditions to fish them. Otherwise, it's usually one or the other.

Last year, for instance, the SF Eel was only fishable for about a week or two the entire winter season. Heavy rains had the river blown out most of the season and there were only a couple windows where the water was fishable with flies. To top it off, there were not many fish around—most had already entered the system, spawned and left. On the opposite end of the spectrum were years like 2014 and 2015. In the midst of drought, water levels were low and fishable most of the winter, but there were low returns of fish.

This winter is looking like it may be similar to last season. We'll be lucky to see a couple fishable weeks on the SF Eel. And with an atmospheric river hitting the coast right now with up to a foot of rain predicted, it could be a while until it's back in shape.

Spot Check continued

The SF Eel has a variety of water to choose from including killer swing runs down low to nice pools and pocket water up high. There are two ways to fish the SF, from a drift boat, or wading. If you are in a boat, it's nice because you can cover a lot of water. Many people fishing nymphs or eggs under a bobber set up prefer to drift the river. This can be an effective way to cover water and pick up moving or holding fish. There are a number of great floats on the SF that are easily available for day trips. The main problem these days, is that with so few fishable days, there can be a lot of people wanting to float the same runs. This can put excessive pressure on some stretches of river. I've seen days where it's just boat after boat coming down the choice stretches. So get there early or be prepared to fish behind other people. If you get stuck behind a couple boats that are using bait and you are using flies, good luck! Also, fish often move through the system in waves. Sometimes there will be a lot of fish in a ten mile stretch one week and the next they will all be up higher, lower or even gone. It's hard to determine where the fish are without just getting out there and putting in time working the water, talking to other anglers in the area and comparing notes.

Wading is the preferred method for spey fisherman interested in swinging flies to aggressive fish. Typically, the lower river is the best for swing runs. Not all runs are accessible by foot so bank anglers are limited in the places they can fish. My suggestion is to scope out some runs ahead of time and know where you intend to fish before you head out in the morning. If it's a section you know will have boats, your best bet is to fish the lower runs before the boats get there. You will always have a better chance of hooking an aggressive steelhead on a swung fly if you're the first person to swing to that fish that day. Once a few boats have come through and the fish have had row balls and glow bugs bouncing in their face, they will be less likely to roll or aggressively attack a swung fly. One the other hand, fish that have had flies swung to them and did not move, are still likely to grab a fly or bait that is presented down deep and slow. Point is, never loose faith and believe in every swing.

I'm not going to list off specific fishing runs or access points for floats. I'll let you all figure that out on your own like I had to. But I will say, the SF Eel is a great river to explore. Fish or no fish, a day spent on that river is never a day wasted. The beauty and ruggedness of the watershed is of the highest quality. There's something really special about being in the redwoods of Humboldt County in the winter. Take some time to look around and take in your surroundings.

Tight lines and be sure to check out all the fantastic work Darren Mierau and Mary Burke from CalTrout are doing up on the North Coast and visit Humboldt Steelhead Days for fishing information and great events in the area this season.

Cheers,

Michael E. Wier

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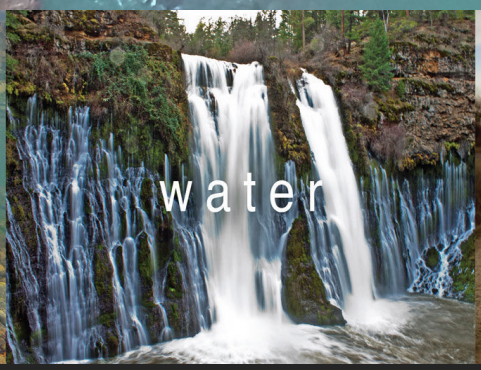

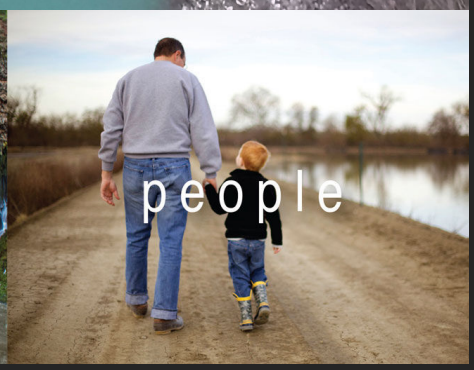

Craig's Corner

by Craig Ballenger, CalTrout Ambassador

Weather and fish

Weather this past autumn was curious and fascinating. October caddis season on both the Upper Sac and McCloud was sparse and eratic. As anglers and river folk, high water on both streams seemed unprecedented. Yet we seemed to find micro windows of opportunity to get out on the water. What we got was the typical beauty of these streams combined with the adventure of watching nature doing it's thing.

Along the Trinity and Klamath rivers, runs of steelhead we had become accustomed to, even throughout the drought, were sparse and head scratching. Fish that were in the rivers were spread out; flows were all over the map, and all drifts seemed the same, even to the river gurus.

The fall back stream turned out to be the Lower Sacramento, around Redding. While the water was big, this remarkable fishery lived up to it's reputation and we hit it during both storm and bluebird days.

Following another storm, we trudged back to Klamath basics. Carl 'The Pig Farmer' guide lives overlooking the river. So we caught it on the drop after a few phone calls and chasing weather reports. The air was cold and the river empty. Patience and persistence is an old rule. A nice pulse of fish were in, and they seemed less than particular about our fly patterns.

Weather and fish. Chasing steelhead is never supposed to be easy. Turns out that's true. Welcome to California, where water and weather are as extreme as the landscape.

REFLECTIONS

REFLECTIONS

Photos by CalTrout Members and Followers

PHIL REEDY, "*Spring Thaw*"

TIM HUCKABEE, *"The Golden Trout, Treasure Lake"*

ROBERT LORTON, *"Winter fishing on Hot Creek"*

JAMES SCOTT, *"Taylor Creek, South Lake Tahoe,*

CA, Cutthroat Trout"

CALTROUT VIDEO VAULT

CURTIS AND THE BROWN TROUT

CalTrout Executive Direct Curtis Knight fights a nice wild Brown Trout this fall on the McCloud River where he once managed the Nature Conservancy's McCloud River Preserve. Where's the net?

DAMS

Over 1,400 dams alter California's rivers and streams, diverting flows and blocking fish from returning home. These dams are the biggest factor in the decline of native salmon and steelhead. It's time to let wild fish return home.

CONVERGENCE

By Conservation Hawks, this new film is the story of incredible anglers and their collective passions: their love for wild trout; for healthy landscapes; for clean, cold waters and for family and friends.

SPRING RUN

Todd Moen's "Run" series is the most amazing compilation of steelhead fly fishing short films ever made. Spring Run is the third in the series.

Who We Are

IN THE SPOTLIGHT

GABY ROFF *Institutional Giving Director*

Gabriella Roff is the Institutional Giving Director in charge of Government and Private Foundation awards. She has worked with NGOs locally and internationally for over 20 years. Gabriella wrote her first grant for CalTrout in 2008 – since then, CalTrout's Institutional Giving revenue has grown seven fold. Gabriella has a master's degree in Systemic Analysis and Clinical Art Therapy from Loyola Marymount University. She lives in San Francisco, loves rivers, and feels lucky to work with such effective colleagues to restore and protect them.

Photos: Mike Wier

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What the Future Holds

Although the Eel has suffered severe setbacks since the arrival of settlers of European descent, there is reason to be optimistic about a much brighter future for the river. With its comprehensive "estuary to headwaters" plan, CalTrout and other partners are addressing the highest priority needs of the watershed. In the Eel River Estuary, CalTrout is working with the Wildlands Conservancy, the Coastal Conservancy, and local ranchers to restore tidal marsh land, which will provide juvenile salmon access to highly productive rearing habitat. Working with researchers from Humboldt State University, CalTrout is quantifying basic flow requirements for fish and identifying spawning and rearing habitat that has been blocked by dams for over a century. Using a new regulatory framework, CalTrout is providing input on how to protect juvenile salmon and steelhead during the sensitive summer months from the devastating effects of water over-allocation. Another important initiative is opening up access to tributary streams that currently have barriers blocking migrating fish. CalTrout has identified several high-priority migration barriers on tributary streams, and has already removed one and made a start on fixing another. And, CalTrout is engaged in the FERC relicensing process for the Potter Valley Project to advocate for better

flows and passage for fish.

Taken together, these coordinated and comprehensive actions hold the promise of returning salmon and steelhead to a state of abundance on the Eel River not seen in decades. Mierau sees a clear roadmap to recovery. "If we can protect the water from being over-allocated, continue with recovery efforts in the Eel River estuary, and implement other high-priority actions, I think we can achieve the abundance goals for salmon and steelhead in the Eel."

Curtis Knight, Executive Director of CalTrout, is very optimistic about the Eel's chances of regaining much of its former glory. "Along the entire west coast of the United States, the Eel possesses a unique ability to achieve native fish abundance," he says. "A lot of that has to do with the size of the watershed, and another key factor is the healthy genetic template of the wild fish. You go north up to Oregon and Washington and you have a lot of hatchery issues that compromise the genetic fitness of the fish, and you head south of the Eel and you fairly quickly run out of ideal habitat on the scale of the Eel. The Eel is a kind of sweet spot where we have an opportunity to get back to true wild fish abundance that we haven't seen in decades."

What The Science Says

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While wet winters followed by drought like summers appear to be contradictory, such a flow sequence may be becoming more frequent in the Eel River. Climate change is shifting historical flow regimes to a higher frequency and magnitude of winter floods and prolonged periods of summer base flow (Asarian 2015). Power et al. (2015) also suggest that summer water extraction associated with a recent boom in marijuana cultivation in the region is further contributing to summer base flow reductions (Bauer et al. 2015). The key to minimizing such flow sequences and the subsequent habitat effects is to improve summer base flow conditions.

Power et al. (2015) suggest several important actions which could improve summer flow conditions on the Eel River, returning it to a more resilient and productive salmon and steelhead river. First, the authors suggest that timely upstream flow releases from Lake Pillsbury during critical low flow periods could promote hydrologic connectivity and improve over-summering habitat conditions on the mainstem Eel. Secondly, winter diversions and subsequent storage of water in small tanks would enable irrigators to rely less on summer diversions. Third, the authors recommend improving geomorphic complexity through the introduction of additional large wood (dead trees) to the Eel River. Large wood promotes pool formation and scour, providing cold deep pools for over-summering fish. Finally, encouraging re-establishment of mature forests will reduce evapotranspiration, improve hillslope stability (reducing fine sediment influx), and harvest fog as a valuable water source. The interplay between wet-winter and low-summer flows has important implications (ar for salmonid habitat on t coastal rivers. Minimi conditions during the sum healthy aquatic ecosyste salmonid recovery.

Dr. Robert Lusardi is the Ca and Coldwater Fish Scient

Power et al. (2015) first journal Copeia.

Power, M. E., K. Bouma-Gr Carlson. 2015. The thirsty thresholds that tilt the California from salmon sup degraded states. Copeia 1

Other literature cited:

Asarian, J. E. 2015. Lo precipitation trends in the Riverbend Sciences for Frie CA. 30 p.

Bauer, S. B., J. Olson, A. Coch M. Tauzer, and G. Leppig. water diversions for mariju habitat in four northwest PLoS ONE 10(3): e012001

Yoshiyama, R. M. and P. Mo of Eel River anadromous sa Chinook salmon, coho sal for California Trout, Cent University of California, Da

nd possible consequences) the Eel River and in other izing extreme low flow mmer ensures a robust and em and will help promote

lifornia Trout-UC Davis Wild ist.

appeared in the scientific

egson, P. Higgins, and S. M. Eel: summer and winter flow Eel River of Northwestern pporting to cyanobacterially 03(1): 200-211.

ong-term streamflow and Eel River basin. Prepared by ends of the Eel River, Arcata,

krill, M. van Hattem, L. Miller, 2015. Impacts of surface uana cultivation on aquatic tern California watersheds. 16.

yle. 2010. Historical review almonids, with emphasis on mon and steelhead. Report er for Watershed Sciences, avis.

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The Current

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Photo: Jonathan Matthews