Winter 2014 Entry 135

CALIFORNIA TROUT

CalTrout's mission is to protect and restore wild trout, steelhead, salmon and their waters throughout California.

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# Streamkeeper's Log

# Drought - what will we do about it?

For the last twenty plus years, I've been in the habit of checking almost daily on California's waterfall and snow pack levels along with river flow conditions. I've done this in order to understand: 1) if the water year will be good or not so good for salmonids, and 2) if our North Coast steelhead streams are fishable. It goes without saying that it's been a pretty depressing experience over the last 14+ months.



We can look back at droughts in the 70s and 80s as being particularly severe, but our current drought situation is rewriting the book. Increased weather variability, including periods of prolonged drought, driven

by climate change will be the new norm. The challenge for all of California is: what will we do about it?

A critical, non-negotiable requirement needs to be California's commitment to flows that will sustain fish populations even in periods of drought. It would be foolish to assume that more water and increased supply is on the horizon.

And, the continued reliance on a water management philosophy and policy established some

50+ years ago is not going to cut it; particularly when these policies have little (if any) sound biological or ecological foundation.

Drought focuses all eyes on water, making it the topic of conversation both in Sacramento and around the dinner table. Drought underscores how inefficiently we use our most important resource. And during drought we need to work to implement durable solutions. More of the same hasn't worked and will not work in the future.

We need some change, and we need it now.

Jeff Thompson
Executive Director, CalTrout

At a minimum, and to be sure the list is longer than this, California needs to rethink its approach to...

#### 1. Groundwater Management

How can California be the only state without a groundwater policy resulting in consistent and significant overdraft that ultimately will lead to aquifer depletion?

#### 2. Water Storage

We've built all the cost effective surface storage options available. Building new facilities or increasing the capacity of existing facilities is both antiquated and way too costly. We need a focus on storing water underground, refilling depleted aquifers and banking the water for future use.

#### 3. Storm Water Capture and Reuse

Some regions are great at capturing storm water run-off and re-using water over and

over again, maximizing the return on every drop. It doesn't happen everywhere, but it should. We're simply wasting the opportunity for "more water."

#### 4. Regional Water Infrastructure

Large metropolitan areas have the resources, expertise and technology. We need to leverage progress in urban areas more broadly across the state.

#### 5. Desalinization

We've been reluctant to pursue this given challenging costs and the coast-side development required for implementation. At some point, we need to figure out how to make it work, and the sooner the better.



From environmental disaster, to litigation and settlement, and now implementation, the Trinity River seems to do nothing small.

Northern California's steelhead and salmon gem is once again muddled in controversy. The mighty Trinity has been the subject of years of intensive fisheries studies after the dam decimated salmon and steelhead populations; then litigation after adoption of the 2000 Record of Decision (ROD) which established the Trinity River Restoration Program (TRRP), and now the largest-scale river restoration program in California, with more than \$12 million in annual budgets for the past decade.

But after completion of Phase 1 of the TRRP's activities, and an independent review of the Restoration Program by a Science Advisory Board (SAB), the TRRP program partners (state and federal agencies, tribes, conservation groups, fishing guides, and the public) are in disagreement about where the Program should go next.

A nearly three-year effort by a group of five river restoration experts supported by a cadre of technical consultants resulted in a Summary Report and hundreds of pages of technical appendices. After years in preparation, the SAB team concluded the following:

- With more than 23 of the proposed 45 river channel reconstruction sites completed, the Program made a fundamental shift in "design philosophy" from simple to highly engineered. According to the SAB review, this change "was not based on any formal adaptive management analyses and represented a shift from the foundational notion that a dynamic river could be created with minimal bank reconstruction."
- In stark contrast to recent controversies about the effects of gravel augmentation on adult steelhead holding pools, the SAB Summary Report showed evidence that "pool depths have generally increased throughout the restoration reach."

- In terms of one of the fundamental program goals significantly increasing juvenile salmon rearing habitat in the mainstem
   Trinity River the expert scientists' report cited a scarcity of data to support conclusions, a remarkable finding after more than 10 years of the Program being implemented. But, based on data that *are* available, evidence suggests that rearing habitat quantity and quality are improving over the broad range of flows targeted by the Program.
- Finally, despite ten years of Program support and ample funding resources, the SAB review concluded that "Phase 1 actions (and Program activities in general) are not organized in a structured way toward achieving increased fish production."

The remainder of the report focused on recommendations to aid the Program in achieving the kind of salmon and steelhead recovery envisioned over a decade ago.

# Where does CalTrout weigh-in at the half-way point in this Restoration Program?

We've continued to stay involved through participation with the Trinity Adaptive Management Working Group and in frequent contact with other Program partners and stakeholders. We also fish this river and see first-hand what the Program is doing. Our views are as follows:

We strongly support a science-based Trinity River Restoration Program that complies with the 2000 Trinity River ROD. We also strongly support the goals of the TRRP and believe the Trinity River still has the opportunity to be a national model for restoration of an aquatic ecosystem that supports robust sport, tribal, and commercial fisheries.

Water will always be the most important component of the Trinity River Restoration Program. As such, we strongly urge the resolution of two flow-related issues. First, the Program should immediately establish a mechanism to address the perennial threat of poor lower-Klamath water quality conditions in the fall and the potential for fish kills or disruption of migration. Adequate water supplies must be allocated to address this threat, as needed. Second, the Bureau of Reclamation and Department of Interior must recognize Humboldt County's entitlement to 50,000 acre feet of water from the Trinity River Division. This water was awarded to Humboldt County under federal and state laws, and should be made available annually for the beneficial uses of Humboldt County and other downstream users.

We support the continued implementation of channel reconstruction efforts into Phase 2, but strongly encourage the TRRP to modify its approach. The next phase of projects should scale back engineering designs, re-emphasizing the original "design philosophy" of removing the channel constrictions and letting high flow releases reshape the channel and maintain juvenile rearing habitat. Rebalancing of project designs is the right compromise between the intensively engineered approach (for example, the "engineered log jams" on the river) the Program wishes to pursue and a complete halt to construction activities being called for by others.

Program funding "saved" by scaling back channel reconstruction projects should be used to significantly expand watershed restoration actions that many feel are needed in order to meet Program fish population goals. The South Fork Trinity River should be an integral part of watershed restoration efforts, and overall funding levels approaching \$2 million a year should be considered.

The gravel augmentation program appears to have achieved a substantial increase in gravel storage, particularly in the uppermost river reaches from Lewiston to Grass Valley Creek. Given the controversy surrounding these efforts, CalTrout recommends the next phase of Program activity shift the gravel augmentation emphasis to the lower reaches from Grass Valley Creek to Douglas City. Public perception of the effect of gravel augmentation is a significant issue and should be addressed by the Program.

# From CalTrout's perspective, the habitat evaluation program appears to need substantial rethinking.

The highest increases in habitat occurred at the perennial sidechannel features, but these design features may not persist over the long-term. The Program should re-calibrate how much habitat restoration can be achieved in the mainstem, and assess how to meet Program goals with inclusion of the juvenile salmon and steelhead rearing potential in tributaries.

Finally, we feel the Program needs to acknowledge that it does not exist in isolation of the surrounding community, including the broader restoration community, fishermen and women, and the public. The Program's activities are important and consequential to the north coast. We urge the Program to amplify its efforts to reach out to its stakeholders, the very community who tolerated the Trinity through years of devastated fish returns and costly litigation. Help the community to better understand the Program, its goals, its activities, and the short-term outcomes that may be unwanted but necessary to achieve the longer-term vision for a restored Trinity River.

The Community deserves to be a big part of this not-so-small restoration effort.

# Young Author Directs Proceeds to CalTrout

In the spring of Wren Sakai's 8th grade year at The Nueva School in Hillsborough, CA, he was tasked with completing the "Recital Project." The assignment: take a passion, make it into a project, and better the world in the process.



The result: a beautiful and educational book titled, "Fly Fishing: Through the Eyes of a Beginner."

Wren developed a passion for fishing at age ten when he began deep sea fishing with his father. Within a few years, Wren took an interest in fly fishing, but couldn't find a good beginner book on the sport.

With the help of a few good guides and a week-long summer fly fishing camp, Wren began to learn the sport... and settled on his school project idea, a fly fishing guide for beginners. Wren envisioned a book that a novice could use to get started – a Fly Fishing for Dummies, of sorts. Unlike most authors, Wren spent most of his time developing content in a river, not at a desk. He gained knowledge through fishing, and according to Wren, "I filled in the gaps in my skill set while researching content for book. The booked helped me become a better fisherman."

On one occasion during his research phase, Wren was fishing on the Feather River, the water was 80 degrees, and he didn't catch any fish. "I had enough knowledge to know that wasn't right," states Wren. That's when he realized how delicate rivers are and he became interested in conservation and protection of these great resources. Wren came into the CalTrout office to discuss such issues with Executive Director, Jeff Thompson. The young author dedicates a chapter of his book to water and fish conservation, and is generously directing a portion of the book's profits to CalTrout.

To purchase a copy of the book, email The Fly Shop at info@theflyshop.com or call 800-669-3474.

#### The Work of Southern California's Steelhead Coalitions

In 2013, with funding from the the California Department of Fish and Wildlife's Fisheries Restoration Grants program, CalTrout led the formation of the Santa Clara River Steelhead Coalition and the South Coast Steelhead Coalition. By combining the experience and knowledge from a broad spectrum of fish passage improvement, biodiversity and water conservation proponents and projects, the Coalition members are able to work more efficiently and in a highly coordinated fashion to identify and remedy technical and procedural obstacles as they arise. During the year, both Coalitions worked on a number of key outreach events.

#### The South Coast Steelhead Coalition

Led by CalTrout's Roxy Carter, The South Coast Steelhead Coalition is committed to the preservation of endangered Southern California steelhead, with particular interest in implementing recovery actions in San Juan/Trabuco Creek, San Mateo, Santa Margarita and the San Luis Rey watersheds.

#### Steelhead 101

Audubon's Starr Ranch was the host venue for a popular outreach event that included an education classroom and interactive nature hike. CalTrout gave a presentation on the Endangered Species Act (ESA) and NMFS Southern California Steelhead Plan. Meanwhile, Trout Unllimited gave a presentation on pre-existing and proposed steelhead recovery projects within the San Diego and Orange County regions. Audubon staff, then led a hike along Bell Creek, a tributary to the San Juan/Trabuco Creek watershed, highlighting features of an intact watershed system and riparian vegetation.



Participating in an interactive hike as part of Steelhead 101

# Steelhead Recovery Workshop

The Coalition-hosted Steelhead Recovery Workshop was built around a mid-week luncheon. Mark Capelli, principal author of NMFS Southern California Steelhead Recovery Plan, gave a two-hour presentation followed by an extended question and answer period. Attendees ranged from regular government and non-profit coalition participants to Native tribe, water board and municipal representatives.

#### **Gone Fishing**

With a goal to raise awareness for endangered Southern California steelhead by reaching community members connected to the San Luis Rey watershed, this fishing-themed event took place at the beautiful Oceanside Museum of Art.

The evening began with a children's art workshop followed by an adult-only art exhibit. The children decorated silver-painted fish and glued their "steelhead" into a watershed canvas painting while learning about the different life stages of the species. The art exhibit featured seven separate stations, each representing a different stage of the steelhead life history.

CalTrout's acclaimed documentary, *Southern California Steelhead: Against All Odds* was screened following the art show. The event also boasted a DJ, food and beverages, and the artwork of several local artists.

#### The Santa Clara River Steelhead Coalition

Led by CalTrout's Candice Meneghin, The Santa Clara River Steelhead Coalition aims to protect and restore wild southern California steelhead and its habitat in the Santa Clara River watershed.

#### **Cleanup Day**

The California Coastal Commission's 29th Annual Coastal Cleanup Day occurred on September 21, 2013. The Coalition partnered with Ventura Surfrider and held the event at Ventura Promenade given its proximity to the Santa Clara River estuary and the Ventura River estuary. CalTrout distributed a "Steelhead and Estuaries" fact sheet outlining that steelhead (Oncorhynchus mykiss) are rainbow trout that exhibit an anadromous (i.e., migrating to and from the ocean) life history, and the vital role that estuaries play in that fish's life history. Coalition member Wishtoyo Foundation/Ventura Coastkeeper also participated by hosting a Cleanup event at Mugu Rock Beach.

A total of 115 volunteers picked up 312 lbs. of litter, of which 15 lbs. was recycled. A few items of note: 4,662 cigarette butts, and 60 golf tees were collected, and a suitcase was found buried in the sand!



Volunteers "Making Trash Extinct"

#### Film Screening

California Trout and the Santa Clara River Steelhead Coalition hosted a free screening of Southern California Steelhead: Against All Odds followed by Kiss the Water: A Love Story at Patagonia's Great Pacific Iron Works. The Coalition shared its brochure and displayed an informational exhibit. CalTrout's Outreach Coordinator/filmmaker and Patagonia Fly Fishing Ambassador, Mike E. Weir, was in attendance for a Q&A.

#### Patagonia Salmon Run

Patagonia's 20th Annual Salmon Run was held on November 10, 2013. The Coalition was the "featured non-profit" at the sportswear giant's annual run to raise money and awareness for salmon and steelhead restoration efforts. CalTrout distributed information at the event, highlighted the Coalition's plans and projects and screened Southern California Steelhead: Against all Odds. Coalition members in attendance included Wishtoyo Foundation/Ventura Coastkeeper, Keep the Sespe Wild, and Friends of the Santa Clara River. CalTrout will receive approximately \$12,328.19 from Patagonia, which will be directed to the implementation of the Coalition's Outreach, **Education and Community** Engagement Plan.

## **Golden Trout Project Update**

During the past year, CalTrout with funding support from the National Fish and Wildlife Foundation (NFWF), and working with American Rivers, Trout Unlimited, Inyo National Forest and UNR, embarked on a large-scale meadows project within the Golden Trout Wilderness. The objective of the project was to conduct a comprehensive meadows assessment and, based on the findings, prioritize meadow restoration projects supporting California golden trout.



California golden trout by Michael Carl

The first wilderness assessment of mountain meadows was completed in the Golden Trout Wilderness in 2013. The Golden Trout Wilderness is the ancestral waters for California's state fish, which thrive in the high alpine meadows that were once among the largest in the Sierra Nevada.

Vast area of meadows have been replaced by sage brush, as the South Fork of the Kern River and tributaries have downcut through them, likely a result of overgrazing. In the Kern River, CalTrout is focusing on protecting remaining meadows by preventing further erosion. We identified more than 100 headcuts that together threaten a combined area of 590 acres of meadow.

What does it mean to assess the meadows of the Golden Trout Wilderness? As Luke Hunt, with American Rivers, recounts, "The team, including one ultramarathoner, hammered it out on a nineday backpack. Key stats: 34 meadows, 7,500 acres of meadow, 300+ miles, 250 pounds of food and gear, 5 pounds of cheese, 3 feet of salami, and uncountable smiles."

Next steps for the project are to complete an analysis of the meadow assessment and develop recommendations for priority meadow restoration needs. If all goes as planned, implementation of such projects will begin in summer, 2014.

In addition, this February, CalTrout, in partnership with NFWF, convened a meadows workshop with the goal of bringing together stakeholders involved in restoration to identify key strategies and metrics to enhance the health and long term viability of Sierra Nevada and Cascades meadow ecosystems. More information on the outcomes of this workshop will be coming soon.

**In other efforts** to raise awareness about the California golden trout, Keith Brauneis Productions and CalTrout created a short film about this magnificent fish, its habitat and its plight. The project examined current conditions and determined future threats to this species. For more information, visit the film's Indiegogo page at http://www.indiegogo.com/projects/liquid-gold

# Fishing in the Name of Science

Picture this. A crisp fall morning on the McCloud River, leaves turning, river steaming, October caddis fluttering about. CalTrout and the Department of Fish and Wildlife (DFW) were there last fall with a team of ace anglers assembled to conduct a population estimate of wild rainbow trout on the fabled river. The goal for the day – catch as many fish as possible in a 2/3 mile stretch of the river



and measure and mark every fish with a small clip to the adipose fin.

A month later, we went back to the same stretch, fished our waders off again, and compared marked to unmarked fish. With some fancy statistics a population estimate of fish per mile was derived.

We all wonder just how many trout are in our favorite stream. It's a big question with an elusive answer because fish in river environments are hard to count. Trout are by nature skittish, they hide under rocks, in deep pools and spook easily. Rivers can be turbid and fast-moving making it hard to spot fish much less get a count. Fisheries managers have developed many different methods to count fish – mark and recapture, electroshocking, fish traps, and visual snorkel counts to name a few. Some methods work better than others for certain streams, but all come with a level of uncertainty.

On the McCloud, the mark-recapture method was chosen requiring the capture of as many fish as possible for marking—and the best way to do that on the McCloud is hook and line sampling. It's tough work but in the name of science CalTrout answered the call to help.

The 2013 study replicates one that was done in 1998 establishing a baseline population estimate for wild rainbow trout. This information is important to inform management decisions which help protect and enhance this magnificent population of wild McCloud River rainbow trout.

Comparing the 1998 to 2013 study results, the estimated rainbow trout population has decreased by 45% from 4,337 to 2,413 per mile, respectively. Although the estimate shows a significant drop in numbers, it is based on just two data points in 15 years (not the best for describing trends over time). As with any biological system, variation is expected to occur over time. It's the amount of variation and trajectory of these systems that raise slight concern, but whether this is a one-time event or actually a declining trend over time has yet to be determined. For now we are not overly concerned by the decrease in population estimate. Our catch rates were high and the individual fish we caught were healthy and beautiful. The DFW will be following up with more sampling in 2014 to better understand the McCloud River fish population dynamics.

And for sure CalTrout will be there to help – fishing in the name of science!

## **Fall River Wild Trout Monitoring**

In 2014, CalTrout kicks off a new Wild Trout Monitoring and Tracking Program in the Fall River. Thanks to a partnership with the Fall River Conservancy and the UC Davis Center for Watershed Sciences, 500 trout were successfully



tagged and four Passive Integrated Transponder (PIT) antennas installed at Thousand Springs, Bear Springs, Spring Creek, and Lava Creek. This monitoring system will capture the movement of fish as they migrate throughout the 20 plus miles of spring-creek habitat.

"PIT Tags" work just like the FasTrak system commonly used for electronic toll collection on bridges throughout the Bay Area. A tiny chip is inserted in the abdomen of the fish; when a tagged fish moves past a strategically placed antenna, a data logger records the chip code and captures the location of that individual fish.

The information can then be used to better understand how fish utilize different habitat types – particularly spawning areas – throughout their life history. Additionally, during the tagging process, a quick fin clipping is taken to analyze the genetic make-up of each fish.

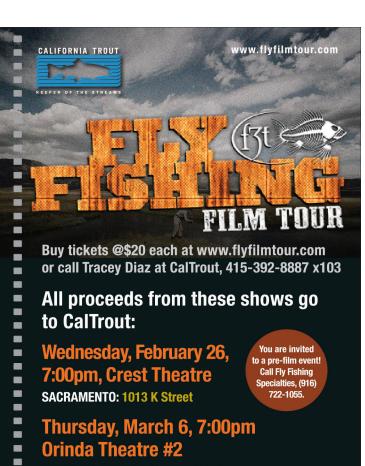
Beyond identifying and protecting key spawning areas, another important objective of the project is to determine whether different sub-populations of genetically distinct wild trout exist in the Fall River.

Fall River wild trout are unique in that they spawn from October through June: a much longer spawning period than most systems. This may signify that there are multiple genetically distinct populations of native wild trout spawning at different times. UC Davis will investigate this fascinating survival strategy through genetic analysis of fin clippings. The findings will be used to design effective restoration and protection measures and modify existing fishing regulations as needed.

The Department of Fish and Wildlife (DFW) estimates that trout population densities per mile in the Whipple Section of the Fall River over the last 20 years have ranged from a low of 1,653 (1993, DFG) to a high of 10,395 (2007, DFG) with population estimates across all monitoring reaches averaging 2,865 fish per mile. DFW uses direct observation methods to estimate these numbers.

The information collected from the project will be used to better understand these population trends, prioritize critical spawning areas for restoration, and improve wild trout management throughout the Fall River's 20 plus miles of interconnected spring-fed tributaries, lakes, and waterways.

Accurate and comprehensive baseline PIT data will ensure that future restoration strategies will be grounded in sound science and yield the greatest benefit to Fall River cold water biodiversity.



**EAST BAY: 4 Theatre Square, Orinda** 

# Thursday, March 13, 7:00pm **Aguarius Theatre**

**PALO ALTO: 430 Emerson Street** 

# Tuesday, March 18, 7:30pm **Lark Theater**

MARIN: 549 Magnolia Ave., Larkspur

...and REDDING, Fall 2014

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# **Don't Let Your Membership Expire!**

Please renew in 2014 and invite a friend to join.

The financial support of our members has enabled us to achieve great things in 2013 and accomplish a number of important milestones which are highlighted each quarter in the *Streamkeeper's Log*.

Please support CalTrout in 2014 so we can continue our work to protect and restore wild trout, steelhead, salmon and their waters throughout California.

Continue your membership today at caltrout.org/join or complete the enclosed member envelope.

Receive a package of goodies at the \$35

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