

Salmonid Restoration Federation

Summer 2003



“From the Classroom to the Field - From the Estuary, Upstream”

Join Salmonid Restoration Federation, Trees Foundation, and Jughandle Creek Farm for the 6th annual Coho Confab to be held August 22-24 on the Mendocino Coast at the Jughandle Creek Farm. The Coho Confab is an informal gathering of people to explore watershed restoration and to enhance recovery of salmon and steelhead. The confab provides an opportunity for participants to learn about local restoration efforts and learn hands-on skills that can be applied in their home watersheds.



The School of Natural Resources (SONAR) will explore the Big River Estuary with Coho Confab participants. Photo: Traci “Bear” Thiele

The Coho Confab is the brainchild of visionary restorationist Richard Gienger. He will give the opening campfire talk on Friday night followed by a PowerPoint presentation by Craig Bell about the state of coho recovery on the North Coast. Chuck Williams from Redwood Valley Rancheria will also present a slideshow about using sedge for streambank stabilization and native basketry. Full and half-day skills workshops will take place both Saturday and Sunday.

Presenters for this year include fisheries biologist Patrick Higgins of the KRIS Coho Project who will demonstrate tools for understanding water quality and salmonid health. Craig Bell of the Salmonid Restoration Federation will conduct a tour of model sustainable forestry sites on the Parker Ranch on Ten Mile River. Karen Gaffney of Circuit Riders Productions, Inc. will give a presentation on revegetation with native plants which will be combined with a tour of the native nursery at Jughandle Farm. Steve Levesque of Hawthorn Campbell

Timber Company will tour restoration sites on Ten Mile River. Maureen Roche of the Mattole will offer her popular workshop, “Fish Identification and Temperature and Sediment Monitoring.” Entomologist John Lee will offer the workshop, “Identification of Stream Macroinvertebrates.” The School of Natural Resources (SONAR) will take us to the Big River for Underwater Estuary Exploration. Teri Jo Barber from Ridge to River will offer a hands-on gully rehabilitation workshop.

Other workshops include GIS mapping and GPS monitoring as well as salmon stories with Yurok tribal member and storyteller Jene McCovey, and Freeman House, author of *Totem Salmon*. Saturday evening we will have a musical campfire with local favorite Francine Allen and river troubadour Mellissa Crabtree.

The cost of the weekend varies depending on accommodations. To stay in the Victorian farmhouse is \$27 per night per person. Camping on the Jughandle meadow is free. The cost of the conference is \$50-100 sliding scale which includes all meals and workshops. Work-trade positions are available, although limited.

For more info, please contact the Trees Foundation at (707) 923-4377 or srf@northcoast.com Registration forms will be posted on www.calsalmon.org



Fisheries biologist Pat Higgins and entomologist John Lee identifying stream macroinvertebrates. Photo: Traci “Bear” Thiele

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King Salmon Speaks

By: Josh Israel

Recently, I was fortunate enough to participate in a discussion with a group of students with E.O. Wilson. E.O. is considered the “father of biodiversity” and has authored over 20 books on the subject. In the short time we had with him, he discussed an assortment of topics, and I wanted to share a few I felt were critical to the restoration and recovery of salmonids.

E.O. spoke about the negative impacts global climate change will have on biotic communities. In particular, aquatic systems will be affected because of the importance of physical processes that directly and indirectly control water quality characteristics. Salmon and steelhead have evolved with the landscape over millennia to thrive in watersheds with cold, sediment-free, flowing waters, while perishing in those areas where these requirements were not met. If climate change is controlled, the recolonization of coho salmon and other imperiled species into unoccupied territory may rightfully be envisioned as a recovery strategy, but with potentially warmer air temperatures, longer periods without precipitation, and decreased ocean productivity even a restored freshwater environment may not be enough for recovery of coho salmon in California.

On the local scale, E.O. spoke about the damage caused by invasive species. Salmon are endowed with a keen sense of migration that draws them out of the freshwater environment, where invaders negatively impact the food availability, abundance, and behavior of these fish. Unfortunately steelhead and trout (with their multi-year freshwater residence) are not so lucky. The negative impacts of Sacramento pikeminnow on native fish of the Eel River, such as predation and altering the food web and nutrient transport processes continues to be documented and does not bode well for steelhead. Without continued vigilance, Lahontan and Paiute cutthroat, as well as California golden trout, our state fish, face the threat of genetic hybridization and introgression from non-



Josh Israel is a fisheries biologist graduate student, a green sturgeon scholar, and a fabulous Board President.

indigenous rainbow trout. Increased education about these fish will hopefully protect them from future illegal introductions of trout and other nonindigenous fishes.

Lastly, E.O. spoke about the necessity for “green economics.” Restoration and recovery of salmonids will benefit many sectors of California’s economy. The local influx of monies from recreational and commercial fisheries will be important for many rural economies. In many of these areas jobs have been lost from the traditional natural resource sector. Increased funding for restoration will offer those out of work new positions. As the number of fisheries and watershed restorationists grows over the next decade, SRF will play an important role in training these people towards contributing to recovering and protecting those habitats critical for salmonids survival. For many already involved in the restoration field, SRF remains committed to providing opportunities for continuing education and networking, as well as the political support necessary to help the fisheries and watershed restoration movement grow.

Salmonid Advocacy

By: Craig Bell

The Salmonid Restoration Federation has consistently advocated for land-use and regulatory reform as part of a comprehensive recovery strategy for California's salmon, steelhead and trout. The Federation's advocacy consists of providing written and oral testimony to state and federal agencies such as the Board of Forestry, Regional and State Water Resources Control Boards, Fish and Game Commission, Federal Energy Regulatory Commission, and NOAA Fisheries. The Federation's membership in the Salmon and Steelhead Recovery Coalition (SSRC) takes advantage of extensive institutional memory and broad perspectives in coverage of statewide issues.

Specific issues the Federation has worked on include: 1) California Endangered Species Act (CESA) petition to list coho salmon, TMDL listings of north coast rivers for temperature and/or sediment impairment under the Clean Water Act section 303(d), 2) Waivers granted by Regional Water Quality Control Boards ostensibly to protect the states rivers from degradation due to the impacts of forestry and

agricultural operations, 3) Enforcement of Fish and Game Codes pertaining to seasonal flashboard dams, 4) Recommendations to the North Coast Watershed Assessment Program (NCWAP) urging application of the best available science focusing on cumulative watershed affects, and the effectiveness of current regulations in controlling impacts from current land use practices. Additionally SRF provides input to the state and federal recovery funding and restoration permitting programs.



Craig Bell is the Sierra Club state-wide representative for Coho Salmon Recovery.

SRF would like to thank the Trees Foundation for grant funding that will allow for our continued presence at key federal, state and local meetings. Efforts are currently underway to provide an archive of advocacy letters on our web site. This will allow members to track issues and participate as they see fit.

Restoration Legislation

By: Andrea Davis

Senate Bill 297: allowing five year contracts for restoration projects

Senate Bill (S.B.) 297, introduced by Senator Chesbro (D-Arcata), is an important step towards bolstering current watershed restoration efforts. The bill will expand the available length of restoration project contracts up to five years when appropriate. The legislation will apply to projects funded under the Coastal Watershed Salmon Habitat Program, administered by the Department of Fish and Game.

Currently, the maximum allowable length for Department of Fish and Game contracting is two years, with a third year allowed as an extension. The first year of the contract is usually absorbed by securing approval for the proposal and permitting, thus leaving one remaining year, on an average contract, for project implementation. The remaining year actually results in one or two short seasons—a very brief window of several months—to implement the project. This is widely believed to be inadequate for certain types of projects. Watershed restoration projects limited to several months are often not conducive to planning and implementing a comprehensive watershed recovery plan, including monitoring, up-slope stabilization and road decommissioning, in-stream habitat improvements, revegetation, and other restorative needs.

S.B. 297 will benefit the natural environment, communities, and restoration workers.

Five-year contracts will create a contracting process that will be able to address a variety of ecological needs in a single, more complex project, allowing efforts to be developed with a greater benefit to key ecosystems. Longer contracts will increase the potential for higher-quality work and decrease the potential for adverse ecological impacts, such as increased sediment loads to impaired watersheds. Five-year contracts will allow for better opportunities for monitoring that result in positive modifications of restoration projects while they are in-progress.

In addition to benefiting the natural environment, S.B. 297 will benefit rural communities and the restoration workforce. Five-year contracts will make it easier for community groups and emerging restoration organizations to participate in California's forest and watershed restoration efforts. Watershed restoration has been most successful in watersheds with high levels of community involvement. S.B. 297 will increase the accessibility of watershed restoration to these community-based partnerships by decreasing their risks and allowing them to develop longer work plans.

Contractors and community-based restoration groups will be able to engage in longer-term watershed planning and invest in training skilled workers to do high-quality work. Restoration workers will experience heightened continuity from season to season, allowing them to make long-range professional commitments to the trade.

The dire need to restore California's watersheds and rural communities is acutely apparent. Allowing five-year contracting opportunities is a modest reform with the potential to yield much-needed improvements in watershed restoration. This small step will build upon decades of impressive efforts to restore California's watersheds. S.B. 297 will compliment current efforts to improve depleting salmon runs, safe drinking water, and vital wildlife habitat by creating more flexibility in contracting processes. This legislation is an accessible opportunity to build on the existing foundation of watershed restoration and move forward together in a way that benefits the natural environment, restoration workers, and local communities.

Contact: Andrea Davis, North Coast Restoration Jobs Initiative Project Coordinator, at (707) 498-4481 or at adavis@inreach.com

Welcome to Salmonid Restoration Federation's first newsletter that contains words of wisdom from our Board President, Josh Israel, an advocacy and restoration legislation update, articles about the Klamath and Butte Creek fish kills, information about the upcoming Coho Confab, and a photo log of the Salmonid Restoration 21st annual conference.

This year's conference was exceptional because it was held on the Central Coast and highlighted Urban Creeks. Field tours and training workshops focused on agriculture and salmonid streams, and urban creeks. Workshops included survey and assessment techniques, hydrologic and fluvial processes, fish passage, and urban stream restoration. The plenary session addressed the theme of "Urban Stream and Salmonid Restoration, Balancing Restoration Priorities."

Mike Furniss, of Pacific Northwest Research Station, Aquatic and Land Interactions, gave an impassioned talk entitled, "Humility or Hubris?" addressing the "substrate" for salmonid restoration. David Boughton from the National Marine Fisheries Service, Santa Cruz lab gave a PowerPoint presentation about "Recovery under the Endangered Species Act: the hoops through which we must jump or stumble." Grant Davis from the Bay Institute of San Francisco spoke about, "The Ecological Scorecard: A Tool for Measuring Recovery." Ann Riley, Founder of Urban Creeks Council & River Restoration Advisor for SF Bay Regional Water Quality Control Board, gave an inspiring slideshow about "Fish in the City" which included lots of "Riley's Believe it or Not," stories. Martha Davis from Inland Empire Utilities Agency spoke about, "Closing the Loop through Integrated Resources Management: A New Future for our Urban Streams."

Participants from all over California felt that San Luis Obispo was an ideal location for the annual conference. The Central Coast location allowed conference attendees to focus on urban creek restoration, salmon enhancement, trout and southern steelhead populations. Next year SRF will hold the conference in Davis, CA where we hope to encourage participation from legislators and decision-makers in Sacramento.

This is a time of exciting change for SRF. This summer we will co-sponsor the Coho Confab on the Mendocino Coast and host a Central Coast Field School that will address culvert maintenance, repair, and replacement including necessary upslope analyses for sizing and siting requirements, improved road drainage practices to protect water quality, and management issues related to roads. For more info about the field school, please call Central Coast Salmon Enhancement at (805) 473-8221. SRF will continue to offer hands-on training opportunities throughout California.

Please join Salmonid Restoration Federation as we strive to provide resources, tools and educational trainings to benefit the restoration community and help better serve salmonids.

Please use the remit envelope to renew your membership, join SRF as a first-time member, or to encourage fellow restorationists or fishheads to become a member of SRF. Members will receive our bi-annual newsletter, announcements about upcoming funding and training opportunities, and a discount at our annual conference.

Your contribution to Salmonid Restoration Federation helps our efforts to create locally-based sustainable solutions that focus on restoration and preservation.

Thank you for your support,



Executive Director



Special thanks to Steve Brown for underwriting the display, Traci "Bear" Thiele for creating such a beautiful one, and to Thomas Dunklin for contributing photographs for the display and newsletter masthead.

Make the Web Work for Habitat Restoration

If you are restoring habitat or doing research on species, good web tools can be immensely helpful.

Excellent on-line catalogs to databases of information, discussion forums, email listservs, web portals, strategic option planning and more web-based informational tools are available for free because they are open-source.

Let us help you make use of these tools to advance your mission.

Kevin Wolf - Wolf and Associates
www.wolfandassociates.com
(530) 758-4211

Special thanks to Kevin Wolf for his Strategic Planning work for Salmonid Restoration Federation.

All photos by: Traci "Bear" Thiele



Department of Fish and Game biologist Gary Flosi (left) presents San Luis Obispo California Conservation Corps Crew leader Philip LaFollette with the Nat Bingham "Restorationist of the Year" award.



The California Conservation Corps demonstrating team work and ingenuity to support the Salmonid Restoration Conference.



Fishheads Lounging. Most participants at the 21st Annual Salmonid Restoration Conference said what they liked best about this year's conference was the location and the weather!

Co-Sponsors of the 2003 Conference:

- Americorps Watersheds Stewards Project
- California Conservation Corps
- CAL Trout
- California Department of Fish & Game SB 271 Funds
- City of San Luis Obispo
- Davis Resource Conservation Service
- ECOSLO
- Forest, Soil and Water
- Morro Group
- Pacific Coast Federation of Fishermen's Associations
- RRM Design Group
- Steelhead and Stream Recovery Coalition-Central Coast
- Tenera Ecological Consultants
- Trees Foundation
- Trout Unlimited of California
- North Bay Chapter of Trout Unlimited
- Questa Engineering
- Urban Creeks Council
- URS Corp.

Additional support was provided by:

- Boston Bagels, Butte Creek Brewery, Cambria Winery and Vineyards, Central Coast Vineyard Team, Costa Java Coffee, Eberle Winery, Edna Valley Vineyards, Fish Brothers, Horizon Organics, House of Breads, Meridian Vineyards, Mondavi Winery, New Frontier Natural Foods, Signature Coffee, Starbucks Coffee, Tobin James Cellars, Tofu Shop, Trader Joe's, Traditional Medicinal Teas, Questa Natural Foods, Wedell Cellars, WildHorse Vineyard, and Zenida Cellars.

Klamath Fish Kill

By: Mike Belchik

In 1905, the newly formed Bureau of Reclamation began an ambitious water project in the Upper Klamath Basin that was destined to forever change the landscape and hydrology of the Klamath River. The Klamath Project drained hundreds of thousands of acres of lakes and wetlands, dramatically altered lake levels in Upper Klamath Lake, and altered the flows of the main stem Klamath River, home to the third largest native salmon run on the west coast of the United States. Combined with hydropower dams, these changes, along with many other factors, contributed to lasting declines of many species of fish and other organisms in both the upper and lower Klamath Basin.

In response to declining populations, USFWS listed short-nose suckers and Lost River suckers in 1988 in Upper Klamath Lake. As a result of this listing, limits were placed on how far Upper Klamath Lake could be drawn down. Because water deliveries to the Klamath Irrigation Project continued unabated, the flows of the Klamath River began to be taken down to extremely low levels. In some instances, 75% of the natural flow was removed from the river near Iron Gate Dam, which is an extremely important spawning and rearing area for chinook and coho salmon. The impact to Klamath River fisheries has been severe. Coho salmon are now listed, while other species, such as green sturgeon, spring chinook salmon, steelhead, coastal cutthroat trout and lamprey have been proposed for listing. Massive fish kills in both Upper Klamath Lake and in the mainstem Klamath point to an ecosystem that has been pushed to the brink of collapse.

tural practices in the Upper Basin. The irrigation community responded with vandalism of federal property, cutting open the canal headgates, and a well organized media campaign. Last year, acting on a review of the biological opinions by the National Research Council, the Bureau of Reclamation announced that it would no longer provide extra flows for coho salmon or higher lake levels for endangered suckers, as called for in the 2001 Biological Opinions, and instead would repeat management practices of the 1990s. To augment flows for endangered species, the Bureau would purchase extra water through a "water bank," ensuring that any shortages endured by farmers as a result of endangered species would be generously compensated. In 2002, the first year of this new plan, over 33,000 fish, mostly chinook salmon along with some threatened coho salmon, perished in the lower Klamath River.



The devastating Klamath Fish Kill.

Photo: North Coast Environmental Center

In addition to profound changes in the Upper Klamath Basin, water management in other parts of the Klamath Basin has affected fish also. The Shasta River, as recently as the 1930s had returns of over 80,000 chinook. Now these runs are a fraction of that amount. The Scott River had spring chinook until the 1970s when they went extinct from that basin, and the main stem Scott now regularly goes completely dry during the summer due to overpumping of groundwater in the Scott Valley. The Trinity River has a major federal water project that transfers a major portion of that flow to the Central Valley to support heavily subsidized industrial cotton farming on poisonous soil. An attempt to change water management on the Trinity is in a court battle right now, as these agri-business interests oppose sending more water down the main stem Trinity to support fisheries restoration in that Basin. Water management in the Klamath Basin is complex and it affects all of the people in the basin, from the headwaters to the ocean, and even up and down the coast. The forces involved in shaping present and future water management involve a complex mix of science, law, economics, culture, and politics. Single species emergency management has proven to be a failure as the fish kill demonstrated. Future solutions must address the needs of multiple species and will involve landscape-scale changes in land use and water management that will enable all citizens of the basin to prosper.

Mike Belchik is a fisheries biologist for the Yurok tribe.



Last year over 33,000 fish, mostly chinook salmon along with some threatened coho salmon, perished in the lower Klamath River.

Photo: North Coast Environmental Center

In 1994, when the mainstem Klamath was taken to approximately 1/2 to 1/3 of its natural flow level, the Yurok Tribe became actively involved in water management issues. The main issues were: "How much flow is needed to support fish?" and "Who has senior water rights?" The answers were "more than they have been getting", and "the Yurok and Klamath Tribes". In 2001, in response to the listing of coho under the ESA as threatened, and the prior listing of the two upper basin sucker species, a series of Biological Opinions were issued which, in effect, left little water for traditional agricul-

Water for Salmonids on Butte Creek - the other California Fish Kill

By: Allen Harthorn

Butte Creek, near Chico in the Sacramento Valley, was the scene of the first major fish kill of 2002. Butte Creek has the largest remaining run of wild spring run chinook salmon (SRC) in California. Tens of millions of dollars have been spent on passage improvements yet problems with recovery persist even though Butte Creek's salmon population has averaged over 7000 fish per year for the last eight years. Butte Creek has a complex hydrology with diversions and inputs managed by Pacific Gas and Electric (PG&E) and dozens of agricultural operations. Water has been diverted into Butte Creek for 100+ years from the West Branch of the Feather River (WBFR). Last summer after a week of 100+ degree temperatures in the Central Valley, PG&E shifted their diversion of WBFR water from one source to another resulting in an interruption of flow that may have triggered the largest salmon die-off of endangered SRC ever recorded. In the ensuing weeks the magnitude of the problem escaped almost everyone but local residents who were challenged daily by the stench of rotting carcasses.

The California Department of Fish and Game (DFG) began counting carcasses immediately but only surveyed bi-weekly. Recent post-spawning carcass surveys indicate that only 50% of the carcasses are actually found on a weekly basis. The local press reported that DFG had counted a couple hundred carcasses and predicted that no more than 350-400 carcasses would be recovered. The final tally was 1750 carcasses. Using the 50% recovery rate for a weekly survey, the total estimate would be 3500. Considering that surveys were only conducted bi-weekly and that summer temperatures decompose carcasses faster, a recovery rate of 25% (totaling 7,000 dead endangered chinook) is a more realistic estimate of the magnitude of the fish kill. The post-spawn carcass survey counted 8,785 carcasses with a 50% recovery for an estimated 13,682 adults spawners. Clearly Butte Creek has the capacity to produce great numbers of salmon, the problem is keeping them alive through the summer.

The water allocated for these fish has been the key to their recovery. In 1992 the Federal Energy Regulatory Commission (with consultation from DFG and the U.S. Fish and Wildlife Service) ordered PGE to increase the minimum flow in the critical holding area between Centerville Head Dam and the Centerville Powerhouse from 20 cfs to 40 cfs. That year there were only 750 adults counted. Three years later, in 1995, before any of the ladders or diversions on the 20 + agricultural dams were repaired or screened in lower Butte Creek, 7500 adults returned, a 10/1 replacement ratio. Critical summer holding water made the difference.

Since 1995 almost all the dams have either been removed or repaired with new ladders and screens at great expense to the taxpayers. The owners of the dams have contributed signifi-

cantly but taxpayers have paid more than half of the 25+ million dollar price. Since then Butte Creek has averaged over 7000 adults per year for the last eight years.

The other factor in the recovery of Butte Creek fish is that DFG and private citizens planted Feather River SRC juveniles in Butte Creek. There was a direct response from this planting. In 1986, 1371 adults returned from a 1983 native parent population of 50 fish, a 27.5/1 replacement ratio. Nearly 200,000 juveniles from the brood year at Feather River Hatchery were planted in Butte Creek with the outgoing offspring of the 50 adults. They returned to interbreed.



Butte Creek has the largest remaining run of wild spring run chinook salmon in California.
Photo: Allen Harthorn

Some claim that fixing the dams has been the key factor in Butte Creek SRC recovery. Yet a 27.5/1 replacement ratio was achieved by planting juveniles from the Feather River and a 10/1 replacement ratio was achieved by increasing the PG&E minimum flow requirements from 20 to 40 cfs. Fixing the dams and diversions has definitely helped keep the population viable but the most important factors leading to the recovery were in place prior to the repairs.

The implications from the Butte Creek experience are that introducing out-of-basin fish can and does work. Maintaining the purity of the genetics in a particular system may not be that important as Butte Creek and Feather River fish certainly hybridized and the offspring are doing well. Most importantly, good quality habitat and plenty of cool water will be required to keep this tremendous salmon population in good health. For more information go to www.buttecreek.org.

Allen Harthorn serves on the SRF Board of Directors. He founded Friends of Butte Creek which is dedicated to restoring salmonids in Butte Creek. He is the President of the California Watershed Network.

Salmonid Restoration Federation

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SRF Wish List

SRF is pleased to announce that we are moving to a new office space in Southern Humboldt County, CA in the heart of the redwoods. Please consider making a donation of any of the following items so we can furnish our new home, keep up with the latest technologies, and file the SRF archives.

- Two desks (with file drawers)
- Office chairs
- File cabinets and hanging folders
- Laser printer
- Zip drive
- Digital camera
- LCD Projector
- Slide projector
- Book shelves
- Office supplies

SRF Merchandise



Here are some samples of SRF's new line of merchandise.

Stainless steel mugs with SRF's logo are \$10.

Organic cotton t-shirts with Ray Troll's Twist and Trout design are \$18.
"A Woman Needs a Man, Like a Fish Needs a Bicycle" Tote Bags are \$18.
Yin Yang, Spawn till you Die, and Fish Worship baseball caps are also \$18.

Classic SRF green and tie-dye t-shirts are \$16.

All prices include shipping and handling.

You can receive a free t-shirt, tote or baseball cap for a \$50 membership.