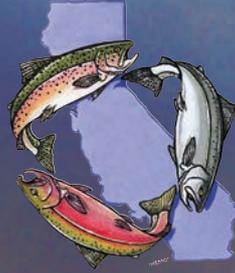


35th Annual Salmonid Restoration Conference

March 29-April 1, 2017 in Davis, CA

Restoring Watersheds and Rebuilding Salmon Runs



Conference Co-sponsors

AECOM, Aspen Environmental Group, Balance Hydrologics, Inc., Bureau of Land Management, Cachuma Operation and Maintenance Board, California Conservation Corps, California Trout, Cardno, cbec, inc. eco engineering, East Bay Municipal Utility District, ESA, GHD, Green Diamond Resource Company, HDR, Inc., ICF International, Karuk Department of Natural Resources, Lyme Redwood Forest Company, Manhard Consulting, Marin Municipal Water District, McBain & Associates, McCullough Construction Inc., Mendocino County RCD, Metropolitan Water District of Southern California, Michael Love and Associates, NOAA Fisheries, Northwest Hydraulic Consultants, Pacific States Marine Fisheries Commission, Pacific Watershed Associates, Putah Creek Council, Putah Creek Trout, Restoration Design Group, Rincon Consultants, River Journey Adventures, Sacramento Regional County Sanitation District, San Lorenzo Valley Water District, Sierra Nevada Brewery, Solano County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Water Agency, Stillwater Sciences, Sustainable Conservation, The Nature Conservancy, The Wildlands Conservancy, Trout Unlimited, West Coast Watershed, Westervelt Ecological Services



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Design & Layout by
Trees Foundation



*Cover photo: Managed agricultural floodplain fields
on Knaggs Ranch in Yolo Bypass*

Photo by Jacob Katz

Swimming Upstream

Those of us engaged in the salmon restoration field are accustomed to working against tough odds. Like our totem species, we frequently experience the sensation of swimming upstream, encountering insurmountable obstacles, and yet persisting to reach a milestone that brings us incrementally closer to salmon recovery.

Salmonid Restoration Federation (SRF) is a bipartisan non-profit organization and we have always maintained a state, regional, and community-oriented approach to salmon restoration at a local level. Yet in the days since the Presidential election and inauguration, it is hard not to envision how much more difficult our collective work will be when federal leadership denies the reality of climate change, cabinet appointments prioritize energy-extractive businesses opposed to conservation, and federal agencies are stripped of their funding.

Today we ask for your financial contribution as we continue to educate, advocate, and collaborate on behalf of California's precious native salmon species. Your support will help to ensure that the restoration community has the necessary tools to recover salmon populations and restore diverse habitats throughout California.

SRF is also accomplishing important community-centered work in our local North Coast watersheds. With project partners, we developed online resources aimed at educating rural communities about water conservation techniques that can help improve water security for people and water quality for salmon. We paired these tools with public outreach and education campaigns to let local residents know about important resources that will help them become responsible water stewards and caretakers of their land.

California's water resources are in higher demand than ever, and the laws that protect our environment, water quality, and vulnerable salmon species are at risk.

As an advocate of native salmon species and their habitat, I hope you'll contribute to efforts that will help make California's restoration community stronger.

Our valued members receive the following benefits:

- Connection to a network of thousands of scientists and practitioners with an interest in California fisheries and watershed restoration
- Biannual newsletter featuring event updates from SRF and exciting news from California's innovative restoration field
- Monthly eNewsletter with up-to-date announcements about restoration funding and training opportunities throughout the state
- Discounted admission to the annual Salmonid Restoration Conference
- Eligibility to vote in annual SRF Board of Directors elections

Becoming a member of SRF is easy and will have a lasting impact. Please take time today to add your voice to one of California's most active and highly regarded non-profits providing technical education, training, and advocacy on behalf of the salmonid habitat restoration field.

Thank you for your generous support.

For Wild Salmon,

Dana Stolzman

Dana Stolzman, Executive Director



P.S. In this time of uncertainty, your membership with SRF means more than ever. We hope you can contribute by joining or renewing your membership today at <http://calsalmon.org/support/join-or-renew>.



35th Annual Salmonid Restoration Conference

Restoring Watersheds and Rebuilding Salmon Runs

Salmonid Restoration Federation (SRF) is excited to be hosting the 35th Annual Salmonid Restoration Conference in Davis, CA—a hub of the Central Valley heartland where academia, scientific research, and California policy decisions evolve. The theme of this year’s conference is “Restoring Watersheds and Rebuilding Salmon Runs.” The conference agenda will highlight innovative efforts to restore legacy watersheds, salmon reintroduction to historic habitats, and our shared vision to revive and restore ecological function to Central Valley working landscapes.

Workshops will focus on fish passage, beaver restoration, floodplains, and evaluating salmon habitat and watershed conditions.

Field tours will include Watershed Day at the Capitol, a Legislative Tour that starts at the Cal EPA building with legislative speakers and where participants will break into groups to meet with their representatives and legislators to discuss watershed related bills and initiatives. For the first time, we will also be offering a rafting tour of Stanislaus River restoration sites. Additional tours include Yolo Bypass and Putah Creek restoration projects, American River gravel augmentation and floodplain restoration sites, and *Fins, Feathers, Farms and Floodplain Fecundity: Multi-Use Floodplain Projects in the Lower Sacramento Valley*.

Concurrent sessions include a Central Valley track focused on recovery planning and restoration, reviving the San Joaquin River and restoring



“In this time when the value of science and the institutions that are mandated to protect our public trust values are challenged by our federal administration, it is more important than ever to convene and build a resilient watershed restoration movement that embraces vigorous science, innovative techniques and meaningful restoration partnerships.”

~ Dana Stolzman, SRF Executive Director and Conference Agenda Coordinator

ecological function in the Central Valley’s working landscapes through science, collaboration, and structured decision making. A Strategies and Techniques track will explore reintroduction of salmon into their historic habitats, strategies for restoring benefits to juvenile salmon, and include a session on utilizing aerial vehicle technology to support salmonid restoration planning

and engineering. There will also be a Biology and Physical session track exploring how sediment slows fishery recovery, the role of hatcheries, and estimating juvenile salmonid across diverse spatio-temporal scales.

The Plenary session will focus on restoring salmon and sustainable water management in California from global, state, and regional perspectives. SRF has an all-star line-up of keynote speakers including NASA Scientist Jay Famiglietti who will give a presentation entitled, *The Epic California Drought as Viewed from Space: Drought vs. Chronic Water Scarcity and Implications for Sustainability*. Jay Lund from the Center of Watershed Sciences and co-author of the book *Managing California’s Water: From Conflict to Resolution* will present on salmon restoration and re-engineering of water in California. Felicia Marcus, chair of the State Water Control Board, will present on water management challenges and opportunities.

Other conference events will include the SRF Annual Meeting and membership dinner on Thursday evening with a special screening of the film *Return of the River*; a Mentor-Mentee Luncheon and the evening poster session and reception on Friday; and a cabaret, banquet, awards ceremony, with the live dance band, The Nibblers, on Saturday evening. For more information about the conference, please visit www.calsalmon.org.



SRF 2017 Conference Registration

Restoring Watersheds and Rebuilding Salmon Runs

Name: _____ Phone (work): _____

Address: _____ (home): _____

_____ Email: _____

Affiliation: _____

Advanced Registration Closes March 3, 2017

Workshops & Field Tours

Wednesday, March 29

	Advanced Registration	Late Registration	Fee
1. What We've Learned About West Coast Floodplains: Lessons from the Landscape Workshop	\$70	\$80	_____
2. Evaluating Salmon Habitat & Watershed Conditions to Inform Salmonid Recovery Actions Workshop	\$70	\$80	_____
3. Stanislaus River Restoration Sites Rafting Tour	\$70	\$80	_____
4. Yolo Bypass & Putah Creek Restoration Projects Tour	\$70	\$80	_____
5. Watershed Day at the Capitol, a Legislative Tour	\$70	\$80	_____

Thursday, March 30

6. Fish Passage from Tidewater to the Sierra Workshop	\$70	\$80	_____
7. State of Beaver Restoration in California Workshop	\$70	\$80	_____
8. Fins, Feathers, Farms & Floodplain Fecundity: Multi-Use Floodplain Projects in the Lower Sacramento Valley Tour	\$70	\$80	_____
9. American River Gravel Augmentation & Floodplain Restoration Tour	\$70	\$80	_____
Thursday Evening SRF Membership Dinner & Film Screening	\$20	\$25	_____

Conference

Friday and Saturday, March 31 & April 1

SRF Member	\$150	\$180	_____
Non-member	\$200	\$230	_____
Student (with ID)	\$100	\$110	_____
Saturday Evening Banquet	\$50	\$60	_____

SRF Membership

\$35 Alevin \$50 Fry \$100 Smolt \$250 Jack \$500 Spawner Membership: _____

Payment Total: _____

Method of Payment: Check Money Order Purchase Order Credit Card

Purchase Orders will only be accepted for 5 or more people. Each registrant is required to fill out an individual registration form.

VISA MasterCard Credit Card# _____ Exp. Date _____

Mail form and payment to: SRF Conference, 425 Snug Alley, Unit D, Eureka, California 95501 • Make checks payable to SRF.

Phone: (707) 923-7501 • Fax: (707) 923-3135 • info@calsalmon.org

Please Note: We do not give refunds • Receipts are emailed, so print legibly • This form is available at www.calsalmon.org

Workshops & Tours

Wednesday, March 29

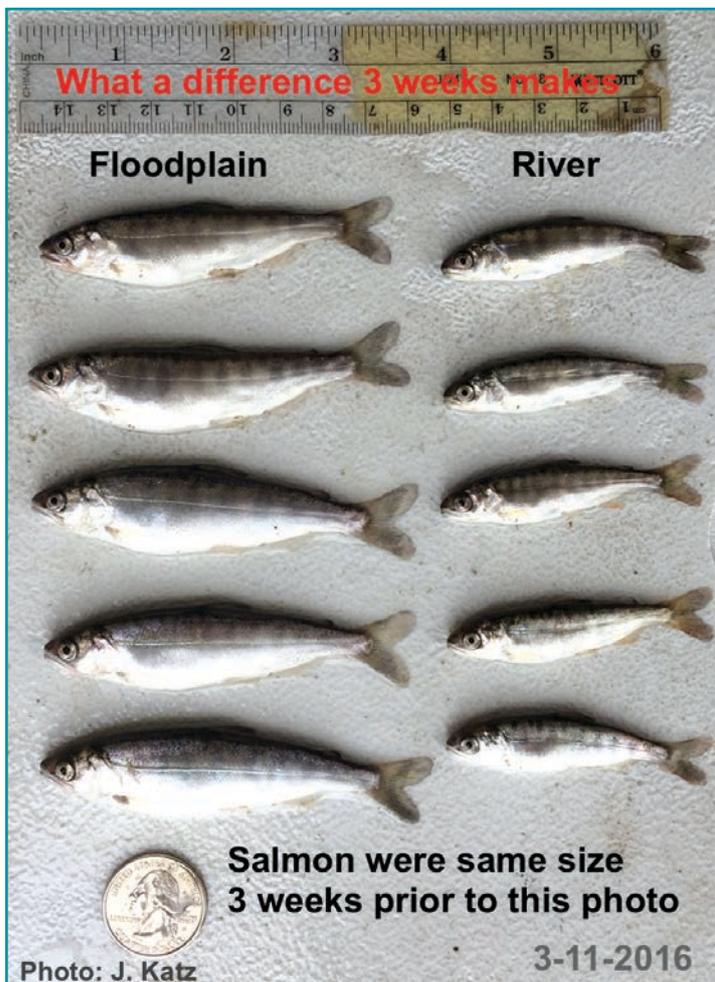
What We've Learned About West Coast Floodplains: Lessons from the Landscape

Workshop Coordinators: Eric Ginney, ESA; Jacob Katz, Ph.D., California Trout; Corey Phillis, Ph.D., Metropolitan Water District; and Brian Cluer, Ph.D., NMFS West Coast Region

Across the West, floodplains of all sizes and landscapes are today better understood and appreciated for what they contribute to native species. In particular, floodplain science and its relation to salmonid ecology has matured markedly in the past two decades, and this workshop examines what we now know about the physics, biology, and ecology of floodplains in a variety of landscape positions, from headwaters to estuaries. We consider these



Cattle egrets and white-faced ibis on Knaggs Ranch where rice is grown in summer and fields are managed as floodplain habitat for Chinook salmon during winter months. photo by Jacob Katz



Chinook salmon from Feather river Hatchery reared in net cages on the Yolo Bypass floodplain (left) and the Sacramento River (right). 15,000% greater invertebrate food density on the floodplain compared to river led to 700% greater growth for floodplain reared fish over the 3 week study in March 2016.

processes relative to the life histories of key salmonid species/runs, and remark upon restoration priorities relative to key limiting factors in juvenile growth and ultimately escapement. This workshop will serve as a foundation for a subsequent tour in the Sacramento Valley's large flood basins and a session focused on floodplains and restoration during this year's conference.

- Give Floods a Chance: Extending the Duration of Flood Events on Agricultural Landscapes in the Central Valley for Fisheries Benefits**, Louise Conrad, California Department of Water Resources, and Pascale Goertler, California Department of Water Resources
- Construction and Preliminary Assessment of a Coastal Floodplain Reconnection and Channel Incision Reversal Project on Butano Creek, San Mateo County, CA**, Chris Hammersmark, Ph.D., cbec, inc. eco engineering, and Irina Kogan, San Mateo County Resource Conservation District
- Coho Habitat Enhancement on the South Fork Ten Mile River: Moving from Riverine to Estuarine**, David Wright, The Nature Conservancy
- Lawrence Creek Off-Channel Habitat Restoration and Monitoring**, Bob Pagliuco, NOAA Restoration Center
- Floodplain Restoration Strategies, Efforts, and Monitoring on the Lower Mokelumne River**, Robyn Bilski, East Bay Municipal Utility District
- Restoring Riparian Conditions on the Mattole Estuary Floodplain**, John Summers, Mattole Restoration Council
- Planning Tools to Evaluate Salmonid Habitat Restoration in the Yolo Bypass**, Chris Campbell, cbec, inc.
- Floodplain Restoration Planning in the South Fork Eel River**, Julie Weeder, NOAA Fisheries



*View looking upstream at ongoing geomorphic and biologic monitoring of a constructed log jam in Lindsay Creek on the Lower Mad River
photo by Tom Leroy*

Evaluating Instream Habitat Variables and Watershed Conditions to Inform and Prioritize Salmonid Recovery Actions

Workshop Coordinators: Thomas H. Leroy and Danny Hagans, Pacific Watershed Associates

This workshop will provide restorationists and land managers with information on tools and techniques to evaluate and improve watershed conditions for salmonids and other native fishes at a watershed scale. After presentations, we will conclude with a panel discussion to more fully explore the habitat monitoring techniques covered during the workshop and to consider how to best integrate them into your watershed planning efforts. Attendees will take home from this workshop a baseline understanding of several scientifically sound techniques for evaluating watershed conditions, their limitations, and how to strategically employ them in their local watersheds to inform and prioritize salmon recovery.

Part 1—Planning Salmon Habitat Improvement Projects

State of the Salmonids—Fish in Hot Water,
Patrick Samuel, California Trout

Is Habitat Restoration Targeting Relevant Ecological Needs for Endangered Species?: Using Pacific Salmon as a Case Study, Katie Barnas, NOAA Fisheries

Managing Landscape Cumulative Effects Using Innovative Planning Technology and Process,
Barry Wilson, CE Analytic Ltd.

Part 2—Evaluating and Measuring Stream and Fisheries Conditions

Building on CMP Monitoring Efforts to Document Insufficient Stream Flow as a Bottleneck to Salmonid Survival in Tributaries of the Russian River, CA,
Sarah Nossaman, University of California Sea Grant

Assessing Salmonid Habitat Conditions and Management Actions in the Garcia Watershed Using the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP-West) and the California Surface Water Ambient Monitoring Program (SWAMP),
Jonathan Warmerdam, North Coast Regional Water Quality Control Board, and Jennifer Carah, The Nature Conservancy

What Does Habitat Monitoring Data Mean to Salmonids? Creating Status, Trend, and Recovery Information from Field Data, Sean P. Gallagher,

California Department of Fish and Wildlife

Factors Influencing Chinook Egg Survival in the Regulated Cle Elum River, WA, Mark D. Bowen, Environmental Science Associates

Developing and Deploying a Network of Water Quantity/Quality Sensors to Monitor and Protect Streams for Salmonids, Brad Job, Pacific Watershed Associates

Part 3—Evaluating and Prioritizing for Treatment, Watershed Scale Impacts on Salmonid Habitat

Evaluating Sediment Effects and Utilizing Sediment Budget Elements to Prioritize Watershed Scale Salmonid Habitat Recovery to Reduce Cumulative Impacts,
Danny Hagans, Pacific Watershed Associates

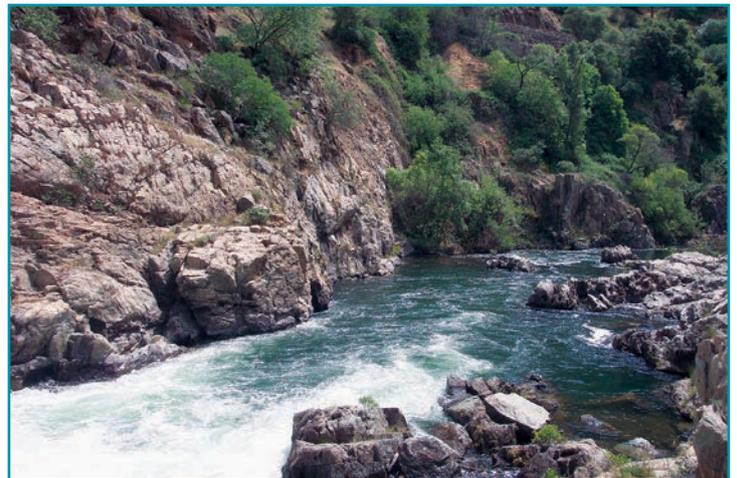
Evaluating Stream Channel Corridors for Habitat Improvement Projects, Thomas H. Leroy, Pacific Watershed Associates

Valley Bottom Geomorphology, Inundation, and Connectivity: Identifying and Prioritizing Floodplain and Off-Channel Habitat Restoration Opportunities,
Jay Stallman, Stillwater Sciences

Stanislaus River Rafting to Restoration Sites

Field Tour Coordinator: J.D. Wikert,
U.S. Fish and Wildlife Service

The Stanislaus River has been degraded through dams and diversions resulting in an overly deep and wide-armored channel plus large pits from gravel and gold mining resulting in substantial loss of habitat for salmonids. Several restoration projects have been implemented in an effort to restore spawning gravels, create channel complexity, and reconnect off-channel habitats. Tour participants will raft the river through much of the salmon spawning reach and have an opportunity to discuss the whys and hows of salmonid restoration with project practitioners.



Field tour participants will have an opportunity to raft the Stanislaus River to see the restoration sites on this stretch of the Stanislaus River.

photo by John Wikert

Yolo Bypass and Putah Creek Restoration Projects

Field Tour Coordinators: Rich Marovich, Sonoma County Water Agency and Karin Young, Putah Creek Council

This tour features riparian restoration and habitat enhancement projects on public and private land along Putah Creek between the Putah Diversion Dam and the Yolo Bypass. Stops will highlight the effect of the Putah Creek Accord and ongoing cooperative management between multiple partner organizations and agencies. This tour will include discussion of the recent Chinook runs in Putah Creek and the potential for a self-sustaining naturalized run to develop.



Putah Creek photo by K. Davis

Watershed Day at the Capitol, a Legislative Tour

Field Tour Coordinator: Michael Wellborn, California Watershed Network

The Legislative Tour will focus on building exposure and outreach opportunities with legislators and officials including a representative of the State Water Resources Control Board and a state senator, followed by visits to the Capitol with key legislators and/or their staff members. This tour is intended to be an opportunity for learning the processes and pitfalls of work in the Capitol as well as conveying information about our community projects to legislators, their staff and administration officials.



Fish Passage from the Sierra to Tidewater

Workshop Coordinators: Michael Love, Michael Love and Associates; Mike Garello, HDR Engineering, Inc.; and Ross Taylor, Ross Taylor and Associates

This day-long interactive course focuses on taking a broad perspective to addressing upstream and downstream fish passage challenges. The morning will address watershed scale fish passage prioritization, geomorphic risk assessment for passage projects, and selecting the appropriate design approach for addressing stream crossing barriers. The afternoon will turn to the methods and challenges associated with restoring upstream and downstream passage over high-head dams in California and lessons learned from the Pacific Northwest.

What to Consider when Prioritizing Barriers within a Watershed?—Group Exercise

Status of Fish Passage Assessments and Prioritization in California, Ross Taylor, Ross Taylor and Associates and Anne Elston, PSMFC

The Need to Address Watershed Scale Channel Incision in our Passage Projects, Michael Love, Michael Love & Associates, Inc.

One Size Does Not Fit All—Tools and Approaches to Addressing Stream Crossing Barriers, Michael Love, Michael Love & Associates, Inc.

Establishing Fish Passage Design Profile—Group Exercise

Regulatory Drivers: California—How Different Environmental Regulations May Influence Decisions to Build a Fish Passage Project at a High Dam, Jonathon Mann, PE, California Department of Fish and Wildlife, and Richard Wantuck, National Marine Fisheries Service (NMFS)

The Feasibility and Design Process from the Engineer's and Biologist's Perspective, Michael Garello, HDR Inc.

Key Fish Passage Parameters: What Is Important and Why Is it Important to Know?, Michael Garello, HDR Inc.

Technologies: How do Others Do It and Is There Hope for Emerging Technologies?, Jonathon Mann, PE, CDFW

Case Studies: Upstream Fish Passage, Richard Wantuck, NMFS

Case Studies: Downstream Fish Passage, John Hannon, U.S. Bureau of Reclamation

Panel Discussion and Group Exercises

Upstream Passage—When is Volitional Passage the Right Option for Fish Passage?—Group Exercise

Downstream Passage—Are Lessons Learned in the PNW Applicable to California High-dams and Reservoirs?

State of Beaver Restoration in California

Workshop Coordinator: Eli Asarian, Riverbend Sciences

This workshop will provide an overview of current efforts to restore streams in California using beavers and beaver dam analogues. Presentation topics will include effects on geomorphology, hydrology, habitat, and salmonids in stream ecosystems; updated case studies; informational



Beaver dam analogue photo by Eli Asarian

resources and guidelines for beaver restoration and co-existing with beavers; and California's evolving framework for permitting beaver dam analogues. After the presentations there will be in-depth group discussions about how restorationists and permitting agencies can move forward together to improve beaver management and the process for permitting innovative and adaptive restoration projects in California.

The Physical Process Foundation for Stream Ecosystems: Why Restoring Beaver Dams is Important,
 Brian Cluer, Ph.D., NOAA Fisheries

Lessons Learned From a 15-Year Beaver Dam Analogue Restoration and Monitoring Project —Applying Results to Other Watersheds,
 Michael Pollock, Ph.D., NOAA Fisheries

Do Beaver Have a Role in the Recovery of California Coho Salmon?, Stephen Swales, Ph.D., Fisheries Branch, California Department of Fish and Wildlife

Scott Valley Beaver Dam Analogues: Year 3, Betsy Stapleton, Scott River Watershed Council, and Michael Pollock, Ph.D., NOAA Fisheries

Bucktail Beaver Dam Analogue Construction Process and Near-Term Results, James Lee, Hoopa Valley Tribe and Trinity River Restoration Program

Demonstration of Carbon Sequestration and Biodiversity Benefits of Beaver and Beaver Dam Analogue Restoration Techniques in Childs Meadow, Tehama County CA: Year 2 Update, Sarah Yarnell, Ph.D., Center for Watershed Sciences, University of California, Davis

Applications of Beaver Restoration Techniques in the Sierra Nevada, Damion Ciotti, U.S. Fish and Wildlife Service

Beaver in California: Creating a Culture of Stewardship, Kate Lundquist, Occidental Arts and Ecology Center WATER Institute

Adaptive Beaver Management Plans: A Tool for Mitigating Beaver Nuisance Behavior While Partnering With Beaver in a Restoration Context, Elijah Portugal, Natural Resources Services, Redwood Community Action Agency

Permit Guidance for Beaver Dam Analogues (BDAs) in the North Coast Region, Jonathan Warmerdam, North Coast Regional Water Quality Control Board

Practical Permitting Guidance for Beaver Dam Analogue Restoration Projects, Curt Babcock and Michael Harris, California Department of Fish and Wildlife

Panel Discussion on Improving the Restoration Permitting Process and Beaver Management

Fins, Feathers, Farms and Floodplain Fecundity: Multi-Use Floodplain Projects in the Lower Sacramento Valley Tour

Field Tour Coordinators: Jacob Katz, Ph.D., California Trout and Eric Ginney, ESA

Multi-benefit projects are designed to reduce flood risk and enhance fish and wildlife habitat by allowing rivers and floodplains to function more naturally. These projects create additional public benefits such as protecting farms and ranches, improving water quality, increasing groundwater recharge, and providing public recreation opportunities. This tour will visit diverse floodplain projects in Yolo Bypass, Sutter Bypass, and the Colusa basin, where farmers, water districts, conservationists, and agencies are collaborating to integrate current ecological science into the management of tens of thousands of acres of agricultural floodplain in ways that benefit both fish and people.

American River Gravel Augmentation and Floodplain Restoration Sites Tour

Field Tour Coordinators: Chris Hammersmark, cbec, inc. eco engineering and Joe Merz, Cramer Fish Sciences

The Lower American River has had a long history of anthropogenic impacts including mining, urbanization of historic floodplains, flow management, and water development. With 43 fish species, including many invasive species and endangered steelhead trout and struggling Chinook salmon, the river also provides important habitat for the anadromous fisheries of the Sacramento River Basin. Stakeholders have been working together to rehabilitate the Lower American River focusing on spawning, incubation and rearing habitat of Chinook salmon and steelhead. The field trip will visit recently restored sites, and discussions will focus on historical impacts, project design, implementation, and monitoring.



Jacob Katz, Senior scientist for California Trout, uses a seine net to capture juvenile Chinook salmon rearing in a rice field managed as an experimental agricultural floodplain habitat on Knaggs Ranch in Yolo Bypass.

photo by Noah Berger

2017 Conference Logistics & Events

Conference Location

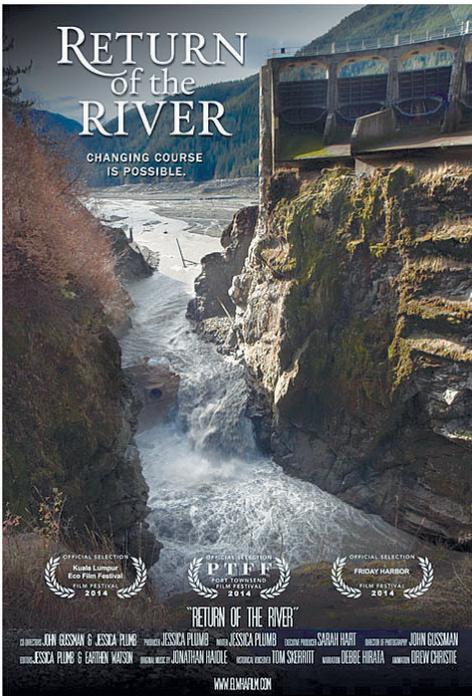
Veteran's Memorial Center
203 E 14th Street, Davis, CA 95616

Plenary Session is at the Brunelle Performance Arts Theater, 315 W. 14th Street, Davis, CA 95616

Conference Events and Schedule

Wednesday and Thursday **Workshops and Field tours** are 9am to 5pm. Field tours depart promptly at 9am so please come to the facility early to pick up your registration packet and pack a lunch for the day. Vans are provided for field tours.

The **SRF Annual Membership Meeting** will be at 5:15pm on Thursday followed by a networking social, membership dinner, and film screening.



The **Plenary Session and Concurrent Sessions** on Friday and Saturday, March 31 and April 1, begin at 9am and generally go until 5pm.

For the first time, SRF will be offering a **Mentor-Mentee Luncheon**. This special event on Friday, March 31 will take place during lunch hour after the Plenary Session and is limited to the first 50 mentees and 25 mentors who sign up. All conference registrants will be e-mailed information on how to sign up for the luncheon.

The **Conference Poster Session** is on Friday from 7-10pm.

Saturday evening features the **Annual Conference Banquet and Cabaret**, starting around 6:30 pm.

Meals

Registration on Wednesday, Thursday, Friday, and Saturday includes lunch. Evening meals during the conference are optional on the following dates:

Thursday, March 30: The SRF Annual Membership Meeting and Dinner includes a film screening and begins at 5:15pm. Please purchase tickets in advance and they may be available at the door.

Friday, March 31: Appetizers will be available at the free Conference Poster Session, which is from 7-10pm. Wine and beer will be available for sale.

Saturday, April 9: The Annual Conference Banquet and Cabaret is a conference highlight. Ticket purchase required.

All meals will feature locally sourced and organic ingredients whenever possible.

Poster Session

The poster session on Friday evening is free to attend for all conference participants and is an excellent networking opportunity. For information about how to present at the poster session, please e-mail poster@calsalmon.org or visit the 2017 SRF Conference page at www.calsalmon.org and click on the Conferences tab.

Conference Host Hotels

Hallmark Inn, www.hallmarkinn.com
Located at 110 F Street, Davis, CA, 95616. The group block is under the group code SRF. The rate is \$134 for double Queen rooms and \$124 for King rooms. The block includes 30 Double Queens and 20 King rooms. The rate includes breakfast, happy hour, and free wi-fi. To make your reservation, please call (530) 753-3600.

Aggie Inn, www.aggieinn.com

This is a boutique hotel located in downtown Davis, about a five minute drive from the conference venue. At 245 1st Street, Davis, CA, 95616, they are within walking distance to Downtown Davis restaurants, shopping, and a year-round Farmers Market. All of their guest rooms and suites are well appointed with pillowtop mattresses, complimentary Wi-Fi, premium cable TV, microwaves, and refrigerators. For information about room rates and reservations, call (530) 756-0352.

The **Best Western University Lodge** is conveniently located downtown at 123 B Street, Davis, CA 95616, and includes a continental breakfast, free wifi-fi and free parking. They are offering 30 rooms for \$110 each. To make a reservation, please call (530) 756-7890 and ask for the SRF Group Block rate which will expire March 21, 2017.

Banquet, Cabaret, and Dance!

The banquet includes a wild Copper River salmon dinner, local wine and beer, and an awards ceremony, a fun-filled Cabaret, and a lively band.

The SRF banquet usually sells out. Please purchase your tickets in advance to ensure a banquet ticket.



The Nibblers is a seven piece rocking soul funk explosion, inciting a dance floor melee throughout Northern California with a riotous update on vintage Soul and R&B. With a combination of funky New Orleans inspired horns, soulful vocals, and bard hitting beats, the band is rapidly gaining a reputation as the go to fix for hardcore groove junkies.

Conference Sessions

Plenary Session

Master of Ceremonies: Thomas Williams, NOAA Fisheries, Southwest Fisheries Science Center

The Epic California Drought as Viewed from Space: Drought vs. Chronic Water Scarcity and Implications for Sustainability, Jay Famiglietti, NASA

Salmon Restoration and the Re-engineering of Water in California, Jay R. Lund, Director, Center for Watershed Sciences, UC Davis

If Salmon Could Talk..., Felicia Marcus, Chairwoman, State Water Resources Control Board



UC Irvine Professor and NASA Jet Propulsion Laboratory Senior Water Scientist Jay Famiglietti will talk about California's water predicament.

Friday Afternoon Concurrent Sessions

Central Valley Recovery Planning and Restoration

Session Coordinator: Charlotte Ambrose, NOAA Fisheries

Recovering Central Valley Chinook Salmon and Steelhead, Brian Ellrott, National Marine Fisheries Service

Salmon Recovery NGO Experience, John McManus, Golden Gate Salmon Association

Accelerating Salmonid Recovery: Expediting Permitting of Habitat Restoration in the Central Valley, Eric Ginney, ESA, Ruth Goodfield, NOAA Restoration Center, and Erika Lovejoy, Sustainable Conservation

Funding Opportunities for Fisheries and Watershed Restoration Projects, Matt Wells, California Department of Fish and Wildlife

Conservation Banking 101, Hal Holland and Greg DeYoung, Westervelt Ecological Services

Salmonid Conservation Banking: Central Valley Case Studies, Gregg Sutter and Mark Young, Westervelt Ecological Services

Swirling in Sediment and Slowing Fisheries Recovery

Session Coordinators: Brian Cluer, Ph.D., and Michael Pollock, Ph.D., NOAA Fisheries

Swirling in Sediment and Slowing Fisheries Recovery, Brian Cluer, Ph.D., NOAA Fisheries

Engineering is the Easy Part, Jim Robins, Alnus Ecological Incorporating Geomorphic Processes and Sediment Dynamics into Salmonid Habitat Restoration Design, Jason Q. White, Environmental Science Associates

Clear and Simple Connections Between Dirt, Fish, Entrenchment, and Recovery, Mike Napolitano, San Francisco Bay Water Quality Control Board

Sediment for Salmon in San Francisco Bay: What's Needed, What's Available, and What's Next?, Scott Dusterhoff, San Francisco Estuary Institute

Mechanical Scarification of Gravel Beds to Increase Chinook Salmon Spawning Success—Field Experience in Lower Putah Creek, Ken W. Davis, Wildlife Survey & Photo Service



Flooding in the Russian River valley, January, 2017 photo by Brian Cluer

Using Photogrammetric and Aerial Vehicle Technology to Support Salmonid Restoration Planning and Engineering

Session Coordinator: Tom H. Leroy, Pacific Watershed Associates

State of the Art Geomorphic Monitoring and What It Tells Us About How Rivers and Streams Evolve, Michael Strom, Environmental Science Associates

Ground Based Application of Structure From Motion (SfM) to Quantify Gravel Storage in Response to Gravel Augmentation on a High Gradient, Mountainous Stream, with No Access GPS, Mindi Curran, Humboldt State University Geology Department and McBain Associates

Identifying Salmonid Habitat Units Using High Resolution Imagery Acquired with a UAS in the Upper Eel River Watershed, California, Erik C. Kenas, Humboldt State University

Automated Photogrammetric Particle Segmentation for Longitudinal and Temporal Sediment Surveillance of River Networks, Tim L. Bailey, Humboldt State University Geology Department

Improving Salmonid Restoration Efforts using Unmanned Aerial Systems and Structure-from-Motion Photogrammetry, Lower American River, California, Toby Stegman, cbec, inc. eco-engineering

Integration of Structure for Motion (SfM) Technology—Using 3D Models to Inform River Restoration Designs and Basin Wide Planning, David (DJ) Bandrowski, P.E., Yurok Tribe



Preparing a UAV for deployment as part of a road decommissioning/Fish barrier removal project. The use of UAV's and photogrammetric techniques is becoming a popular tool for environmental restorationists. photo by Tom Leroy

Estimating Juvenile Salmonid Survival Across Diverse Spatio-temporal Scales

Session Coordinators: Cynthia Le Doux-Bloom, Ph.D., AECOM

Survival and Movement Rates of Wild Chinook Salmon Smolts from Mill Creek through the Sacramento River, Sacramento-San Joaquin River Delta and San Francisco Bay, 2013-2016, Jeremy Notch, NOAA and University of California, Santa Cruz

Sacramento River Reach-Specific Movement and Survival Rates of Hatchery-Origin Winter-Run Chinook Salmon Juveniles, Arnold J. Ammann, NOAA Southwest Fisheries Science Center

Movement and Survival Rates of Spring-Run Chinook Salmon Juveniles from the Sutter Bypass to the San Francisco Bay, Flora Cordoleani, Ph.D., NOAA Southwest Fisheries Science Center

Factors Affecting Delta Survival and Route Selection of San Joaquin River Fall-Run Chinook Salmon, 2010 – 2013, Rebecca Buchanan, Ph.D., University of Washington

Do Barriers for Deterring Juvenile Salmonids Away from High-risk Migration Pathways Affect Survival at Important Channel Junctions in the Sacramento-San Joaquin Delta, CA? Marin Greenwood, Ph.D., ICF

Estimating Relative Survival and Adult Return Rates of Coho Salmon that Rear in Stream and Estuary Habitats, Darren M. Ward, Ph.D., Humboldt State University Department of Fisheries Biology

Saturday Morning Concurrent Sessions

Reintroduction of Salmon to Historical Habitats: Part I

Session Coordinators: Curtis Knight, California Trout, and Robert Lusardi, California Trout and University of California, Davis

A Collaborative Effort to Develop a Pilot Project and Assess the Feasibility of Reintroducing Chinook Salmon above Pardee Reservoir on the Mokelumne River, CA, Reuben Childress, Foothill Conservancy, and Michelle Workman, East Bay Municipal Utility District Fisheries and Wildlife Division

A Plan for Reintroduction of Winter-run Chinook Salmon to Battle Creek, James Lecky, ICF

Techno-Arrogance: Why Trap and Haul Fails to Recover Salmon & Watersheds, Matt Stoecker, Stoecker Ecological

Achieving Reintroduction through the Federal Power Act, Steve Edmondson, National Marine Fisheries Service

Salmon in the Sierra: Reintroduction into the North Yuba River, Steve Rothert, American Rivers

Two-Way Trap and Haul as a Conservation Strategy for Anadromous Salmonids, Robert Lusardi, California Trout and University of California Davis



Shortly after the Elwha dam removal, salmon returned after a century of absence.

This session track will explore dam removal and gaining fish passage access to historical salmon habitat.

Photo by Steve Ringman

**Visioning Salmon Recovery—
Restoring Ecological Function in the Central Valley’s
Working Landscapes through Science, Collaboration,
and Structured Decision Making**

Session Coordinators: Rene Henery, Ph.D., Trout Unlimited,
and Jacob Katz, Ph.D., California Trout

Emigrating Salmonid Habitat Estimation (ESHE):

A Modeling Framework for Estimating Habitat
Needs for Outmigrating Juvenile Salmonids,
Travis M. Hinkelman, Ph.D., Cramer Fish Sciences

**A Vision for Salmon Restoration in the San Joaquin Valley:
The Stanislaus River Example,** Jon Rosenfield,
The Bay Institute

**The Development of a Structured Adaptive Approach to
Prioritizing Conservation and Restoration of Chinook
Salmon in the Central Valley,**

James T. Peterson, U.S. Geological Survey,
Oregon Cooperative Fish and Wildlife

**Central Valley Spring-run Chinook Salmon and Steelhead
Recovery and the Role of the Yuba River,**

Brian Ellrott, National Marine Fisheries Service

The Central Valley Salmon Habitat Partnership,

Jacob Katz, Ph.D., California Trout,
and Chris Unkel, Ph.D., American Rivers

**Developing a Multi-Objective Rehabilitation Strategy
for the Coon Creek Watershed,** Jai Singh,
cbec, inc. eco engineering

Hatchery Supplementation: Friend or Foe?

Session Coordinators: John Carlos Garza, Ph.D., Southwest
Fisheries Science Center, NOAA Fisheries

Hatchery Supplementation: Friend or Foe?,

John Carlos Garza, Ph.D., Southwest Fisheries
Science Center, NOAA Fisheries

**California Department of Fish and Wildlife Fish Hatcheries
as Drought Safe Haven: Self-Contained Recirculating
Aquaculture Systems for Fish Populations in Peril,**

Mark Clifford, Ph.D., California Department of Fish
and Wildlife



Adult spring-run Chinook salmon below Daguerre Dam on the Yuba River.
photo by Thomas B. Dunklin



DFW salmon rescue at Wallace trap photo by Jacob Katz

**Redband Trout: Fish Rescue Turned Conservation
Hatchery Program,** Jeff Rodzen, Ph.D., California
Department of Fish and Wildlife

**Evidence for Genetic Adaptation to Captivity
and a Potential Mechanism to Account for
Domestication in Hatchery-Reared Steelhead,**
Neil Thompson, Oregon State University

**Comparing In-River Survival of Coleman National
Fish Hatchery- and Nimbus Fish Hatchery-Origin
Steelhead Smolts Released in the Lower American
River,** Annie Brodsky, Cramer Fish Sciences

Saturday Afternoon Concurrent Sessions

Reintroduction of Salmon to Historical Habitats: Part II

Session Coordinators: Curtis Knight, California Trout,
and Robert Lusardi, Ph.D., California Trout
and University of California, Davis

**Reconciliation and Reintroduction: A Community and
Science-Based Recovery Plan for the Yuba River
Watershed,** Gary Reedy, South Yuba River
Citizens League

**Coalition Based Steelhead Recovery Efforts in Southern
California—South Coast,** Sandra Jacobson, Ph.D.,
California Trout

**Estimating Potential Salmonid Habitat and Carrying
Capacity in the Upper Mainstem Eel River, California,**
Emily Cooper, Humboldt State University

Salmonid Fish Rescue and Reintroduction Strategies,
Michael Dege, California Department of Fish
and Wildlife

**Beyond Boundaries—Restoring Habitat and Building
Tribal Capacity in the Headwaters of the Klamath
Basin—A Yurok Tribe Story from Limekiln Gulch,**
David (DJ) Bandrowski, Yurok Tribe

**The Persistence and Characteristics of Chinook Salmon
Migrations to the Upper Klamath River Prior to
Exclusion by Dams,** John Hamilton, U.S. Fish
and Wildlife Service

Reviving the San Joaquin River from Tributaries to the Delta

Session Coordinator: Rhonda Reed, Fishery Consultant

Revised Draft Substitute Environmental Document for Flow Objectives on the Lower San Joaquin River and How It Benefits Fish, Brittany Kammerer, Ph.D., State Water Resources Control Board

Managing Precocious Maturation in Chinook Salmon (*Oncorhynchus tshawytscha*) Captive Broodstock, Paul Adelizi, California Department of Fish and Wildlife

Spawning Behavior and Habitat selection of Chinook Salmon (*Oncorhynchus tshawytscha*) within the San Joaquin River, California, Andy J. Shriver, California Department of Fish and Wildlife

Restoration and Salmon Reintroduction in the Southern San Joaquin Basin: Exploring the Regulatory Framework, Jeff Abrams, NMFS, San Joaquin River Branch

What if it Doesn't Flood? Excavating Salmonid Rearing Habitat and Possible Management in the Tuolumne and San Joaquin Rivers, Gerald A. Dion and Heyo Tjarks, River Partners

If You Build It Will They Come? A Perspective on 25 Years of Salmonid Restoration in the San Joaquin River Basin and the Future, Rhonda J. Reed, Fishery Consultant

Protecting, Connecting, and Re-imagining Floodplain Habitat: Strategies for Restoring the Benefits of Floodplains to Juvenile Salmon

Session Coordinators: Corey Phillis, Ph.D., Metropolitan Water District, and Brian Cluer, Ph.D., NMFS West Coast Region

Protecting, Connecting, and Re-imagining Floodplain Habitat: Strategies for Restoring the Benefits of Floodplains to Juvenile Salmon, Brian Cluer, Ph.D., NOAA Fisheries

Mimicking Hydrologic Process to Restore Ecological Function, Jacob Katz, Ph.D., California Trout

Rescaling Central Valley Rivers: Reconciling Theory with Practice, Rocko A. Brown, Ph.D., Environmental Science Associates

Taking it Down a Notch: Entraining Juvenile Salmon Over Fremont Weir onto the Yolo Bypass Floodplain, Brett Harvey, Ph.D., California Department of Water Resources

A Contractor's Prospective for Successful In-Stream Habitat Enhancement and Restoration Projects, Dena McCullough, McCullough Construction Inc.

Restoring the Mattole Estuary with Heliwood Whole Trees, Stream Barbs, and Riparian Plantings; An Anatomy of a Heliwood Project from Start to Finish, Sunnome Madrone, Mattole Salmon Group



Spring-run release on the San Joaquin River photo by Elif Fehm-Sullivan



Russian River floodplan photo by Brian Cluer

SRF Banquet, Cabaret, and Awards Ceremony

Celebrating Life and Salmon Restoration Heroes



In Memoriam to Gordon Becker



The restoration community mourns the loss of our cherished colleague and friend, Gordon Becker. He was a tireless and effective advocate for healthy rivers and fisheries, and an inspiration to all of us.



SRF Community Outreach from Watershed to County Scale

For several years, Salmonid Restoration Federation (SRF) has been engaged in community outreach efforts in the South Fork of the Eel River in order to promote water conservation and educate landowners about water rights, as well as regulatory changes pertaining to water storage on a local and statewide level.

Last year, the CA Department of Fish and Wildlife's Drought Solicitation funding allowed us to expand these types of outreach efforts to other North Coast Counties including Del Norte, Siskiyou, Trinity, Humboldt, and Mendocino. These counties are some of the largest and least populated in the state of California and home to several salmon strongholds. These Northern California counties are also where a majority of the state's water supply comes from and where the State Water Board estimates that rural landowners are over 90% out of compliance with state water law.

SRF has developed tools and resources that can be shared with landowners,

planners, and watershed groups, including a Best Management Practices checklist guide. SRF worked with the Mendocino Resource Conservation District, North Coast Regional Water Quality Control Board, and Pacific Watershed Associates to create a Best Management Practices (BMP) brochure. This resource outlines BMP procedures including a 1) Land self-assessment checklist (map and flow rate guidance); 2) BMP checklist for various types of activities (water system, water storage, pest control, chemical storage, catch-basin, roads and crossings, developed sites, soils, stream banks, water management, habitat enhancement and protection); 3) Resources for BMPs with a list of federal, state, regional, and local agencies involved with water quality; 4) Quick reference guide for permitting requirements; and 5) Water Diversion and Storage resources.

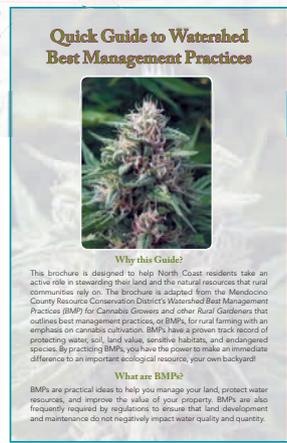
This type of BMP outline and checklist is extremely helpful for rural landowners who are grappling with coming into regulatory compliance in an

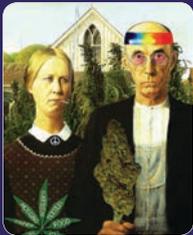
era of marijuana legalization. Cannabis cultivation is the largest cash crop on the North Coast and unregulated cultivation practices often impair watersheds, water supply, and salmonid habitat. It is our hope that through the dissemination of information and hosting BMP workshops and Water Rights clinics we can offer technical assistance to landowners and planners.

SRF recently hosted a North Coast Water Conservation workshop that was the last in a series of BMP workshops, water rights clinics, and water conservation trainings. Please see www.calsalmon.org/programs/regional-events to see the resources, presentations, and videos associated with this educational series.

Additionally, SRF and Trout Unlimited have developed an online webinar to walk landowners through the Initial Statement of Diversion and the Small Domestic Use application. To access the webinar, go to our Water Rights Education section at www.calsalmon.org.

SRF educates residents about various methods and opportunities for reducing their water use footprints including utilizing permaculture principles, segregating drinking water and irrigation water, simple plumbing improvements, and greywater applications that can yield an immediate water savings. Additionally, we have facilitated bulk orders of water tanks for various tributary groups. We designed all of our community outreach efforts to build capacity for community water stewardship and serve as transferable resources for other watersheds.





Navigating Water

Regulations for Small-Scale Water Storage Projects in California's Five County Region

County

Humboldt County Planning & Building Department

- Cannabis Permits
- Grading Permits
- Building Permits
- Septic Permits (Issued by the Division of Environmental Health)

Regional

North Coast Regional Water Quality Control Board

- Cannabis Cultivation Waste Discharge Regulatory Program
- Notice of Intent
- Tiered System
- Water Protection Plan

State

California Department of Fish & Wildlife

- Fish and Game Code FGC1602, 5901, 5937
- Water Diversions
- Lake and Streambed Alteration Permits
- 1600 Permits

State Water Resources Control Board

- Initial Statement of Diversion
- Small Domestic Use Appropriation
- Small Irrigation Use
- New Annual Reporting Requirements

Redwood Creek, South Fork Eel River

Understanding Low Flow Patterns in a Critical Watershed for Salmon Recovery

Since 2012 Salmonid Restoration Federation (SRF) has been active locally in water conservation education and flow monitoring in Redwood Creek, a 26-square mile watershed that borders the Mattole River and flows into the South Fork Eel River. We recently concluded our four-year low-flow monitoring study in Redwood Creek and neighboring tributaries in the South Fork Eel River watershed. Under the California Water Action Plan, the South Fork Eel River was identified as one of five priority watersheds for flow enhancement because it is key for the recovery of coho salmon and suffers from low summer flows.

While low flow trends may be part of Redwood Creek's natural cycle, drought and increased water usage can prolong and amplify stressors felt by young salmon. When streamflows are at a trickle, any amount of pumping can dewater the stream. Redwood Creek and its tributaries are important coho-bearing streams, yet habitat degradation resulting from low summertime flows and high water temperatures pose a serious threat to the recovery of imperiled coho salmon.

Monitoring and Low Flow Trends in the Redwood Creek Watershed

Redwood Creek experiences drastically different flows throughout the year. The winter has extremely flashy and turbid water conditions and summer flows are less than one gallon per minute. Beginning in early summer when flows quickly start to diminish, SRF's Monitoring Coordinator, Bill Eastwood, starts collecting streamflows at 12 sites throughout the Redwood Creek watershed. This monitoring effort is a part of SRF's Redwood Creek Water Conservation project. Through this collaborative program, SRF hopes to quantify low flows at a variety of sites selected to represent potential juvenile salmonid rearing habitat; identify locations within Redwood Creek where



Monitoring coordinator, Bill Eastwood measuring flows in a tributary of Redwood Creek. photo by Kate Rowe

low flows appear to be most severely reduced by human uses; and prioritize stream reaches for actions to augment low flows with a goal of optimizing benefits to juvenile salmonids.

Next Steps for the Project

SRF's project lead, Stillwater Sciences recently completed the Redwood Creek Flow Enhancement Feasibility Study as part of a CDFW Drought Solicitation grant focussed on Miller Creek and a segment of Redwood Creek from the Miller Creek confluence to downstream of Briceland. Stillwater Sciences reviewed our monitoring data and produced Preliminary Recommendations for Target Late Recessional and Dry Season Streamflows in Redwood Creek. The Feasibility Study also includes conceptual designs, water usage estimates, a cost assessment of various water conservation techniques, and a target flow memo that makes informed recommendations for implementation projects that would improve streamflow timing and volume within the project area.

A North Coast Regional Water Quality Control Board grant funded the planning, monitoring, and assessment for Redwood Creek's monitoring program. This funding

enabled us to conduct weekly low flow and temperature monitoring and produce continuous flow data from data loggers. Through this program, we hope to better assess water conservation opportunities in the Redwood Creek watershed. This grant, in conjunction with the feasibility study funded through CDFW's Drought Solicitation, has increased our ability to build capacity for on-the-ground implementation projects that could enhance instream flows for fish and rural communities. We have conceptual designs for multiple rainwater catchment ponds and an innovative groundwater recharge project that would contain infiltration galleries and provide over 50 million gallons of water storage.

SRF's Redwood Creek project has evolved into a sustainable program that includes community outreach and education, capacity building, a scientific monitoring component, and data analysis to ensure that our water conservation and restoration efforts are scientifically sound. We hope that this project can serve as a model for community-based restoration programs that could be expanded to other watersheds throughout Northern California.

Salmonid Restoration Federation

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20th Annual Coho Confab August 24-26, 2017

Mattole River, North Coast, California

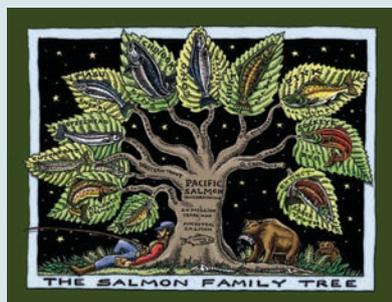
SRF, in cooperation with the CA Department of Fish and Wildlife, the Mattole Restoration Council, Mattole Salmon Group, and Sanctuary Forest, will offer workshops and tours of off-channel slough restoration, forest and fuels reduction, water conservation practices, stream bank stabilization, large woody debris, and a tour of groundwater recharge planning projects. The Confab will specifically include a tour of Mattole estuary off-channel slough excavations, riparian restoration, Heliwood procurement, placement, designs, logistics, monitoring, and pool creation results. This year, we are also excited to feature a Prosper Ridge meadow reclamation and fuels reduction tour on BLM property and private land meadow reclamation and forest edge treatments. Additionally, we will explore water conservation projects in the Mattole headwaters and innovative groundwater recharge planning projects.



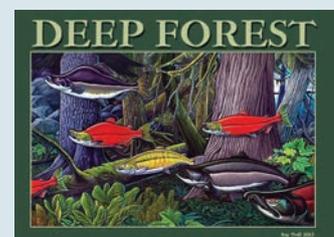
Confab participants will have an opportunity to explore new restoration projects at the Mattole estuary, the western most point of the continental United States.

Photo courtesy of Mattole Salmon Group

SRF Merchandise



2017 Conference t-shirt
back by Popular Demand



Check out Salmonid Restoration Federation's merchandise page that features Ray Troll's new bestseller "Return of the Sockeye," classic tees like "Spawn Till you Die" and "Deep Forest" in organic cotton. Purchasing merchandise through SRF is a great way to support the organization and look fabulous.

<http://salmonid-restoration-fed.myshopify.com/>