

31st Annual Salmonid Restoration Conference

March 13-16, 2013

at the Fortuna River Lodge

Innovative Approaches to Fisheries Restoration



2013 Conference Co-sponsors

AmeriCorps – Watershed Stewards Project, Bear River Band of the Rohnerville Rancheria, Better World Development, Cachuma Operation and Maintenance Board, California Conservation Corps, California Department of Fish and Wildlife, California Department of Water Resources, California Trout, City of Arcata – Environmental Services, CONTECH, East Bay Municipal Utility District, ESA PWA, Five Counties Salmonid Conservation Program, GHD, H. T. Harvey and Associates, Humboldt Redwood Company, ICF International, Karuk Tribe Department of Natural Resources, Marin Municipal Water District, McBain and Trush, Meadowbrook Conservation Associates, Michael Love and Associates, NOAA – National Marine Fisheries Service, Northern California Council of Federation of Fly-Fishers, Northwest Hydraulic Consultants, Pacific Coast Fish, Wildlife and Wetlands Restoration Association, Pacific Gas & Electric, Pacific States Marine Fisheries Commission, Pacific Watershed Associates, Prunuske Chatham, Inc., Redwood Community Action Agency – Natural Resources Services, Restoration Design Group, Solano County Water Agency, Sonoma County Water Agency, Stillwater Sciences, The Bay Institute, The Nature Conservancy, Trees Foundation, Trout Unlimited, U.S. Bureau of Land Management, U.S. Bureau of Reclamation, Wetlands and Water Resources, Inc.

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31st Annual Salmonid Restoration Conference

March 13-16, 2013 in Fortuna, CA

Innovative Approaches to Salmonid Restoration

In March, 2013 the Salmonid Restoration Federation will produce the 31st Annual Salmonid Restoration Conference in Fortuna, California. The theme of this year's conference is "Innovative Approaches to Fisheries Restoration" and the conference agenda will highlight pioneering techniques, methodologies, and practices to restore and recover salmonids. The conference agenda will also explore the theories, philosophies, and science informing the development of restoration practices that mimic natural processes.

The conference agenda will focus on pressing issues that are affecting the future of the salmonid restoration field including diminishing funding, regulatory hurdles, climate change, water diversions, and balancing competing resources. SRF has tried to take a solution-oriented approach when crafting the agenda and looking at the future of the habitat restoration field.

To this end this year's workshops will examine innovative and successful restoration practices and protocols including estuary and off-channel habitat restoration, restoring natural processes, calculating instream flows, salmon life-cycle monitoring, and navigating hurdles to create successful restoration projects. Field tours will visit exemplary and cutting-edge projects on the North Coast including road decommissioning in Headwaters Forest, instream work in Redwoods State Park, bio-geomorphic approaches in the Lower Klamath, estuary restoration in the Salmon Creek Delta, community forest management in Arcata, and aquatic restoration in the Mad River.

Concurrent sessions will cover innovative approaches to fisheries and coho salmon restoration; landscape ecology of Pacific salmonids; water diversions; creating a sustainable restoration field; collaborative approaches in the Klamath basin; recovery plan implementation; rapid sea level rise; and Spring-run Chinook salmon.

The Plenary session will include opening remarks by Assemblymember Chesbro and will feature the Director of the California Department of Fish and Wildlife (formerly DFG), Chuck Bonham who will discuss managing California's salmonid populations in a changing climate. Tina Swanson, the Science Director for the National Resources Defense Council will give a presentation entitled, "Science as a Second Language: Translating Science to Action to Protect and Restore Salmon." Mike Belchik, Senior Scientist for the Yurok tribe will give a talk called, "Bringing It All Together: How People, Science, Policy, Law, Politics, Business, Language and Culture Interact to Build Innovative Approaches to Fisheries Restoration." Larry Notheis, the North Coast Director of the California Conservation Corps will speak about the importance of engaging youth and diversity in the restoration movement.

Other conference events will include the SRF Annual Meeting and membership dinner on Thursday evening, a poster session and reception on Friday night, and a cabaret and banquet with a wild Copper River salmon dinner and live dance band on Saturday evening. For more information about the conference, please visit www.calsalmon.org.



Photo by Thomas B. Dunklin

SRF to Initiate Redwood Creek Water Usage Surveys in the South Fork Eel River Watershed

In Hopes of Creating a Water Conservation Program to Benefit Fish

Salmonid Restoration Federation in conjunction with a Humboldt State University graduate student, Sara Camp Schremmer, will initiate a Redwood Creek water usage survey to all residents in drainages of Redwood Creek, an important coho-bearing tributary in the South Fork Eel River watershed. Redwood Creek is a 26-square-mile watershed that has historically supported strong runs of Chinook, coho salmon, and steelhead. Juveniles of these species are routinely found throughout the watershed in spring and early summer, with coho and steelhead rearing in the watershed until migrating to the ocean the following spring. The best spawning reaches are found in Dinner, China, and Miller Creeks, as well as Redwood Creek and Upper Redwood Creek.

SRF with the support of the California Department of Fish and Wildlife is working collaboratively with Sara Schremmer to research the feasibility of doing a “technology transfer” of Sanctuary Forest’s successful Mattole headwaters water forbearance program to Redwood Creek. There are several reasons that Redwood Creek was identified as an ideal watershed to engage the community in this water conservation outreach.

Redwood Creek has five populated tributaries—all of which have historically supported salmon runs. Additionally, Redwood Creek was settled earlier than some watersheds in the Southern Humboldt back-to-the-land movement. This means that there is a long history of families who have lived there for decades compared to some other drainages where there has been more recent transfers of land ownership. Redwood Creek has a history of community stewardship that is evidenced by the Briceland volunteer fire department, the established road associations, and forest thinning and restoration projects that have occurred in Miller, Seely, and China Creek.

There has been a notable decrease in water flows during the low season in several Redwood Creek drainages especially Miller Creek. For decades, residents had ample water, but in recent years many long-term residents have witnessed decreases in water during the dry months when salmon are most vulnerable to low flows and high water temperatures.

The purpose of administering the water usage surveys is to determine water usage patterns and trends to ascertain if Redwood Creek tributaries would benefit from increased water storage capacity. SRF will be sending these surveys to all landowners in Redwood Creek as well as hosting a series of house meetings for residents to learn about the project and share their concerns and ideas for improved water quality and quantity. The surveys are short and anonymous. Landowner participation is key to the success of this project. Since our overall goal is to increase water storage and

improve fisheries, it is vital to identify cooperating landowners who would like to assist with flow monitoring and a water forbearance program.

The water usage surveys and house parties will culminate with a water conservation workshop that will teach landowners water conservation techniques that can be applied in their own homestead including installing float valves, rainwater catchment, and other options for improving winter water storage. The workshop will be free to the community. SRF is working closely with Sanctuary Forest and Sara Schremmer, who is conducting the feasibility study component of the project as her master’s thesis. Sanctuary Forest’s Mattole headwaters water conservation program yielded immediate and tangible results. It is our sincere hope and belief that applying the skills and experience from the Mattole to Redwood Creek would improve water flows for families and fish.



Redwood Creek, a tributary of the South Fork Eel River, includes five tributaries that have historically supported salmon runs.

Photo by Dana Stolzman

SRF 2013 Conference Registration

Innovative Approaches to Fisheries Restoration

Name: _____ Phone (work): _____

Address: _____ (home): _____

_____ Email: _____

Affiliation: _____ Please check box if you are a presenter

Advanced Registration Closes February 18, 2013

Workshops & Field Tours

	Advanced Registration	Late Registration	Fee
Wednesday, March 13			
1. Estuary Enhancement and Off-channel Habitat Workshop	\$55	\$65	_____
2. Creating Successful Restoration Projects Workshop	\$55	\$65	_____
3. Community Based Forestry and Watershed Management	\$55	\$65	_____
4. Restoration Tour in Bull Creek	\$55	\$65	_____
5. Off-channel Habitat Tour in the Lower Klamath	\$55	\$65	_____
Thursday, March 14			
6. Calculating Instream Flows for Small Coastal Streams	\$55	\$65	_____
7. Mad River Aquatic Habitat Restoration Field Tour	\$55	\$65	_____
8. Humboldt Bay Estuary and Off-channel Habitat Tour	\$55	\$65	_____
9. Salmon Creek Watershed Restoration: From the Headwaters Forest Reserve to Tidewaters	\$55	\$65	_____
10. Salmon Life-Cycle Monitoring Workshop	\$55	\$65	_____
11. Recent Innovations in Process-based Restoration Workshop	\$55	\$65	_____
<i>Thursday Evening SRF Membership Meeting and Dinner</i>	\$15	\$20	_____

Conference

Friday & Saturday, March 15 & 16

SRF Member	\$135	\$165	_____
Non-member	\$185	\$215	_____
Student (with ID)	\$85	\$95	_____
Saturday Evening Banquet	\$35	\$40	_____

SRF Membership

Individual Membership:

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

Payment Total _____

Method of Payment: Check Money Order Purchase Order

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

VISA MasterCard Credit Card# _____ Exp. Date _____

Approval Signature _____

Mail form and payment to: SRF Conference, PO Box 784, Redway, California 95560 (Make checks payable to: SRF)

Phone: (707) 923-7501 • Fax: (707) 923-3135 • Email: srf@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 13

Estuary Enhancement and Off-channel Habitat Enhancement Workshop

This workshop will include project proponents and design engineers to discuss design considerations, opportunities, constraints, and an overview of the regulatory aspects of estuarine restoration. This workshop will provide attendees with insights on how to plan, design, and permit estuary enhancement and off-channel habitat projects and will provide background and context about the tour sites that will be visited on the estuary and off-channel habitat tour.

Workshop Coordinators: Don Allan, Redwood Community Action Agency, and Michael Love, Michael Love & Associates

Humboldt Bay Estuarine Restoration: The Big Picture, Craig Benson, Redwood Community Action Agency

Addressing Geomorphic and Hydraulic Controls in Off-channel Habitat Design, Conor Shea, US Fish & Wildlife Service

Regulatory Compliance and Constraints in the Coastal Zone, Aldaron Laird, Trinity Restoration Associates

Off-channel and Side-channel Habitat Design Plan Criteria, Mark Smelser, California Department of Fish and Wildlife

Muted Tidal Restoration Techniques & Results, Leo Kuntz, Nehalem Marine Manufacturing

Response of Juvenile Salmonids to Habitat Restoration in the Tidal Portions of Humboldt Bay Tributaries, Michael Wallace, California Department of Fish and Wildlife



Looking downstream at Terwer Creek Pond B during high spring flows in 2012, a Yurok Tribal Fisheries Program.

Photo by Sarah Beesley,

Tidal Hydraulic Geometry Relationships in River Mouths on the Pacific Coast, Louis A. White, ESA PWA

Salt River Ecosystem Restoration Project, Riverside Ranch Tidal Marsh Restoration, Michael Bowen and Jeremy Svelha, State Coastal Conservancy

Quartermaster Reach Restoration, Jeff Peters, ICF International

Restoring Salmon Creek's Tidal Processes to Create a Diversity of Estuarine Habitats, Michael Love, Michael Love & Associates

Martin Slough Enhancement Project, Don Allan, Redwood Community Action Agency

Wood Creek Tidal Marsh Enhancement Project, Jeff Anderson, Northern Hydrology & Engineering

Navigating Project Hurdles to Create Successful Projects

Workshop Coordinators: Steven Allen, GHD, Michael Love, Michael Love & Associates

This workshop will discuss hurdles faced during fisheries restoration projects, and offer several solutions in order to create better projects. The workshop will highlight funding, permitting, planning, transportation, construction, project design, and material considerations that are all important to creating successful projects.

What Actually Is a Successful Restoration Project?, Kevin E. Shaffer, California Department of Fish and Wildlife

Funding Successful Restoration Projects, Michael Bowen, California Coastal Conservancy

Project Design Checklist and Lessons Learned, Marcin Whitman, California Department of Fish and Wildlife

Maximizing Large Scale Habitat Restoration Within a Working Landscape of Competing Land Use Objectives and Regulatory Polices: The Salt River Restoration Project, Misha Schwarz, GHD

Permitting Salmon Habitat Restoration Projects in Coastal California, Jonathan Warmerdam, North Coast Regional Water Quality Control

The Future of Moving Material as Oil Prices Rise, Travis James, P.E., GHD

Construction Considerations for Restoration Projects, Tony Williams, P.E., Hanford Applied Restoration & Conservation

Panel Discussion, Kevin Shaffer, Michael Bowen, Marcin Whitman, Misha Schwarz, Jonathan Warmerdam, Bill James, and Tony Williams

Community-Based Forestry and Watershed Restoration Tour

Field Tour Coordinator: Todd Kraemer, Pacific Watershed Associates, with field tour leaders: **Mark Andre**, City of Arcata, **Yana Valachovic**, UC Cooperative Extension, **Danny Hagans**, PWA and Arcata Forest Advisory Committee, **Conor Shea** and **Dan Gale**, US Fish and Wildlife Service, **Eric Ojerholm**, California Department of Fish and Wildlife, and **Julie Neander**, City of Arcata

This tour will visit the City of Arcata's Community Forest and environmental restoration program from the headwaters to the tidewaters. We will review the rich history of the first municipal community forest to receive sustainability certification under the Forest Stewardship Council. Headwater restoration projects include the converting an even-aged forest to an uneven-aged forest, upgrading and decommissioning roads, stream channel restoration and fish passage projects, constructing community trails, selling carbon offsets, and reducing fuel loading. Tidewater restoration projects include salmon friendly tide gate installations, slough channel construction, off-channel habitat restoration, historic levee setbacks, riparian habitat areas, and planting projects that have improved aquatic biodiversity by providing increases in habitat capacity.

Restoration Tour in Bull Creek, Redwoods State Park

Field Tour Coordinator: Larry Notheis, California Conservation Corps

The Bull Creek tour will be in the majestic redwood forest where you will see the effects of long term restoration projects and learn about monitoring data that support the restoration efforts. This tour will focus on habitat restoration with many examples of best practices along with discussions and examples of challenges and the changing direction of in-stream structures and their design. Participants will observe structures that were designed for scour, thalweg development, bank stabilization, habitat improvement, cover, as well as bio-engineering that was focused on sediment control, bank stabilization, and riparian cover.

Restoring Complexity and Resiliency to Instream and Off-channel Habitats for Salmonid Recovery in the Klamath River

Field Tour Coordinator: Rocco Fiori, Fiori GeoSciences

The Yurok Tribal Fisheries Program and its restoration partners have been using a biogeomorphic approach that promotes the geomorphic processes necessary to form and



Looking upstream at Rocco Fiori finishing construction of McGarvey Creek Alcove I, a project of the Yurok Tribal Fisheries Program.

Photo by Sarah Beesley

maintain productive instream and off-channel habitat features. Tour participants will see techniques including excavations that mimic or enhance naturally occurring valley landforms such as side-channels, alcoves, remnant oxbows and wetlands; log jams that provide cover, promote pool scour, sediment sorting and metering, and induce favorable hydraulics and connectivity to off-channel features; infiltration galleries to facilitate surface and ground water exchange that enriches dissolved oxygen levels in constructed off-channel features; and bioengineering that integrates the use of willow and other riparian plants to add root cohesion, hydraulic roughness and vertical and horizontal vegetative structure and diversity to the site.

Thursday, March 14

Calculating Instream Flows for Small Coastal Streams Workshop

Workshop Coordinator: Bill Trush, River Institute, Humboldt State University

Tributary streams, the backbone of anadromous salmonid spawning and rearing habitat in most coastal California watersheds, are experiencing significant impacts from cumulative diversions. This instream flow workshop relies on real streams, with data partially generated from the participants' fieldwork, to help participants devise their own diversion strategies that then will be compared to those already specified in SWRCB's AB2121 and NMFS's median February bypass flow protocols.



South Fork Eel River at the confluence with Bull Creek Photo by Thomas B. Dunklin

Mad River Aquatic Habitat Restoration Field Tour

Field Tour Coordinator: Margo Moorhouse, Salmonid Restoration Federation with tour leaders: **Randy Lew**, Pacific Watershed Associates, **Jeremy Wright**, Green Diamond Resource Company, **Pat Moorhouse**, Pacific Coast Fish, Wildlife and Wetlands Restoration Association, and **Conor Shea**, US Fish and Wildlife Service

This field tour will begin by visiting a road decommissioning and fish barrier remediation project along the mainstem Mad River approximately five miles upstream from Blue Lake, CA. Next, we will visit several instream fish habitat, riparian enhancement, and bioengineered bank stabilization projects along the North Fork Mad River. Finally, we will visit the Lower Mad River tributary of Mill Creek where a recent channel restoration project encompasses both fish barrier remediation and off-channel rearing habitat improvements.

Humboldt Bay & Eel River Estuary Enhancement and Off-channel Habitat Field Tour

Field Tour Coordinator: Don Allan, Redwood Community Action Agency

The estuary and off-channel field tour will include visits to projects that are still in the planning stage as well as ones implemented in recent years in the two largest estuarine systems in Humboldt County. Stops will include the Salt River, the Salmon Creek Enhancement project on the Humboldt Bay National Wildlife Refuge, Martin Slough, Wood Creek, and McDaniel Slough. These sites include newly installed tide gates with muted tide regulators, new channels, large woody debris complexes, and salt marsh. Project proponents and design engineers will be on hand to explain the projects and answer questions.

Salmon Creek Watershed Restoration: From the Headwaters Forest Reserve to Tidewaters

Tour Coordinator: Mitch Farro, Pacific Coast Fish, Wildlife and Wetlands Restoration Association with tour leaders: **Eric Nelson**, U.S. FWS Humboldt Bay National Wildlife Refuge, **Chris Herbst**, Pacific Watershed Associates, and **Sam Flanagan**, USDI Bureau of Land Management

The Salmon Creek Watershed Restoration Field Tour will explore the exciting public and private cooperative effort to restore watershed integrity and improve habitat for all salmon life-stages in the third largest tributary to Humboldt Bay. Participants will gain a good sense of the extensive scope of these restoration efforts by visiting road decommissioning sites in the upper reaches of the watershed and tidal habitat restoration sites in the Salmon Creek delta.

Salmon Life Cycle Monitoring for the California Coastal Salmonid Population Monitoring Plan

Workshop Coordinator: Sean P. Gallagher, California Department of Fish and Wildlife

This workshop will discuss recent work relating to salmon life-cycle monitoring in context of the California Coastal Salmonid Population Monitoring Plan (CMP). Individuals and groups from California and the Pacific Northwest will present perspectives ranging from on-the-ground implementation and methods to species management.



This aerial photo of the Salmon Creek Delta in Humboldt Wildlife Refuge highlights the recent side and off-channel construction.

Photo credit: Dave Kenworthy

Workshop Introduction: Life Cycle Monitoring Stations and Science, What Do We Need Them For?, Sean P. Gallagher, Associate Biologist, California Department of Fish and Wildlife

Current and Future Vision for Life Cycle Monitoring Stations Within the California Coastal Anadromous Salmonid Monitoring Program, Kevin Shaffer, Program Manager, California Department Fish and Wildlife, Fisheries Branch, Sacramento, California

Recovering Salmonids: Surviving Life Stages and Growing "Old"...How Will We Know?, Charlotte Ambrose, NOAA Fisheries Salmon and Steelhead Recovery Coordinator for the North Central California Coast Recovery Domain

Current Life Cycle Monitoring in California: Should Metrics or Methods be Standardized?, Seth Ricker, Region 1~ Coastal Monitoring Program Coordinator, California Department of Fish and Wildlife

Pudding Creek Coho Life History Monitoring: An Example of a Successful Public-Private Partnership, David Wright, Fisheries Biologist, Campbell Timberlands Management, LLC, and Sean P. Gallagher, Associate Biologist, California Department of Fish and Wildlife

Lessons and Future Direction for Lagunitus Creek Life Cycle Monitoring, Eric Ettlinger, Aquatic Ecologist, Marin Municipal Water District

Steelhead Life Cycle Monitoring in Central and Southern California: Challenges and Pitfalls?, Dana McCanne, Environmental Scientist, California Department of Fish and Wildlife, South Coast Region Steelhead Monitoring Program

PIT Tags and Life Cycle Monitoring in the Russian River, Gregg E. Horton, Senior Environmental Specialist, Sonoma County Water Agency, and Mariska Obedzinski, Senior Fish Biologist, U.C. Cooperative Extension and CA Sea Grant

Life Cycle Monitoring and DIDSON Cameras: Promise and Pitfalls, Walter Duffy, U.S. Geological Survey, California Cooperative Fish and Wildlife Research Unit

Recent Innovations in Process-Based Restoration Workshop and Tour

Workshop Coordinators: Michael Pollock and Brian Cluer, NOAA Fisheries, and Tasha McKee, Sanctuary Forest

This workshop and tour will introduce stream restorationists to emerging, innovative strategies for restoring natural processes and resiliency essential for recovery of ESA listed salmonids. Presentations and interactive discussions will explore historic conditions that are now missing from stream systems with a focus on off-channel habitat, large wood, and beaver dams. We will examine the key role and functions of these attributes and structures including stream morphology, sediment transport, ground and surface water hydrology, floodplain connectivity, and pool habitat. The workshop may include site visits to provide real time examples of these concepts.

Finding Resilience Through Restoration of Habitat Capacity for Pacific Salmonids, Thomas Williams, NOAA Fisheries, Southwest Fisheries Science Center

Should Streams Be Managed as Drainage Networks or Habitat Networks?, Michael Pollock, NOAA, Northwest Fisheries Science Center

Stream Evolution Model Integrating Habitat and Ecosystem Benefits, Brian Cluer, NOAA Fisheries



Construction of channel spanning log structure to reconnect floodplain and off-channel habitat in Baker Creek, Mattole River Headwaters.

Photo by Tasha McKee

A Pilot Project to Restore Coho Habitat in the Mattole Headwaters, Tasha McKee, Sanctuary Forest, and Michael Pollock, NOAA Fisheries

2013 Conference Logistics & Events

Conference Location

Fortuna River Lodge at 1800 Riverwalk Drive, Fortuna, CA 95540

Conference Events

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. You can buy advance tickets for dinner or buy tickets when you arrive.

The Plenary Session begins at 8:30am. Afternoon concurrent sessions start at 1:15pm. Saturday morning concurrent sessions start at 9am.

2013 Conference Poster Session

If you are interested in presenting at the 2013 Salmonid Restoration Conference Poster Session, please contact poster@calsalmon.org

SRF Call for Awards Nominations for 2012 Conference

SRF presents awards for outstanding achievements in the salmonid restoration field. If you would like to nominate someone for the Restorationist of the Year award, the Lifetime Achievement award or the Golden



Some previous Restorationist of the Year award recipients.

Pipe award, please submit 200 words describing the accomplishments of the nominee by January 18, 2013 to srf@calsalmon.org

Conference Host Hotels

SRF has set up a group discount with the Best Western in Fortuna at 2025 Riverwalk Drive, Fortuna, CA 95540. This hotel is right across the street from the River Lodge and has a full buffet breakfast, a gym, and free wi-fi. The rate is \$83 for singles and doubles. To make a reservation, please call (707) 725-6822. The group code is SRF. The group rate will only be available till February 12, 2013.

<http://bwcountryinnfortuna.com/>

The Comfort Inn in Fortuna at 1583 Riverwalk Drive is also walking distance to the River Lodge and has a spa, meeting room, and hot breakfast. They are offering a group rate for

\$80. You can make a reservation by calling (707) 725-7088. This group rate will expire by February 27, 2013. <http://www.comfortinn.com/hotel-fortuna-california-CA688>

The Holiday Inn at 1859 Alamar Way in Fortuna, CA, 95540 currently has a special of double rooms for \$54 and king rooms for \$79. To make a reservation, please call (707) 725-5500.

Banquet, Cabaret, and Dance!

The Banquet includes a wild Copper River salmon dinner, local wine and beer, the awards ceremony, a fun-filled Cabaret, and the funky Zydeco dance band Bayou Swamis!



The Bayou Swamis!

Estuary Enhancement and Off-channel Habitat Workshop

Workshop Coordinators: Don Allen, Redwood Community Action Agency, Michael Love, Michael Love & Associates

Over the past decade a lot of attention has been focused on restoring estuarine and off-channel habitats around Humboldt Bay, in the Eel River Estuary, and in other areas of California, Oregon, and Washington. Fisheries biologists from the California Department of Fish and Wildlife have been monitoring salmonid usage of the estuary and tidally-influenced freshwater habitat in the lower channels of tributaries to Humboldt Bay and have concluded that estuaries are key components in the life cycle of salmonids, particularly coho salmon. The same scientists have also noted the importance of providing high flow refugia so juvenile salmonids have areas of slow water in which to take refuge during high flow events to prevent them from being swept into the ocean prematurely. Longer time of residency

in the estuarine environment equates to more opportunity to take advantage of growth opportunities in a relatively protected environment. The tidally influenced lower channels and estuaries provide rearing areas where the juvenile salmonids exhibit rapid growth thanks to

the food rich environment. Increased size at out-migration has been shown to have a positive correlation with the survival to adult stage and returning as a spawner (Trush, 2007 SRF Conference).

This workshop will include project proponents and design engineers to discuss design considerations, opportunities and constraints, and an overview of the regulatory aspects of estuarine restoration from one of Humboldt County's CEQA experts who has prepared CEQA documents and permits for several local projects.

This workshop will provide attendees with insights on how to plan, design and permit estuary enhancement and off-channel habitat projects, and will provide background information about the sites to be visited on the estuary and off-channel habitat tour.



Wood Creek Tidal Marsh Restoration Project With Muted High Tide, Freshwater Creek Estuary

Photo by Don Allen

Salmon Creek: From Headwaters Forest to Tidewaters

This field trip will visit sites both in the Headwaters Forest Reserve and the Humboldt Bay National Wildlife Refuge (NWR.) Salmon Creek is the third largest tributary to Humboldt Bay and has received increasing attention due to the development of a watershed-wide fisheries restoration effort including both public and private lands. An overview of both the watershed setting and the scope of the restoration efforts from the headwaters to the tidelands in Salmon Creek will be presented.

The 7,400 acre Headwaters Forest Reserve, publicly acquired in March 1999, is managed for conservation by the U.S. Bureau of Land Management (BLM) and the California Department of Fish and Wildlife (CDFW). The Reserve includes approximately 3,000 acres of old-growth redwood forest and an additional 4,400 acres of second-growth forest which had been logged and roaded prior to public acquisition. In 2004 the BLM and California Department of Fish and Wildlife completed a management

plan for the Reserve which calls for the removal of almost all the remaining roads throughout the Reserve along with forest restoration and development of recreation trails.

The BLM, in partnership with the Pacific Coast Fish Wildlife and Wetlands Restoration Association (PCFWWRA), began removing roads and other sediment sources in the headwaters of Salmon Creek in 2000 and has continued this work through 2012. Participants will hike to representative road decommissioning project areas to discuss sediment source inventories, project prioritization, techniques, equipment, costs, effectiveness, and monitoring.

The Humboldt Bay National Wildlife Refuge at the mouth of Salmon Creek was established in the early 1970s primarily to provide important coastal habitat for migrating shorebirds and waterfowl. In 1988 over 1,000 acres of former tidelands along lower Salmon Creek and adjacent areas was acquired by the U.S. Fish and Wildlife Service for

inclusion in the Refuge. Several efforts to improve instream habitat conditions have taken place over the last decade in lower Salmon Creek.

The field trip will visit the location of the major tide-gate replacements, salt marsh restoration and new tidal channel excavations, and off-channel ponds constructed on Humboldt Bay NWR. The trip will provide the opportunity to explore the issues involved in the design, permitting, construction and monitoring of this tidal salmonid habitat project.



Conor Shea, PhD, giving a field tour of the Salmon Creek Delta Project.

Photo by Laura Bridy

Conference Sessions

Friday, March 15

Plenary Session

Innovative Approaches to Fisheries Restoration

Master of Ceremonies, Tom Weseloh, Legislative Joint Committee on Fisheries and Aquaculture for Assemblymember Wesley Chesbro

Opening Remarks, Wesley Chesbro, California State Assemblymember

Going Beyond Science: The Importance of Engaging Youth and Diversity in the Restoration Movement!, Larry Notheis, California Conservation Corps

Bringing It All Together: How People, Science, Policy, Law, Politics, Business, Language and Culture Interact to Build Innovative Approaches to Fisheries Restoration, Mike Belchik, Senior Scientist, Yurok Tribe

Science as a Second Language: Translating Science to Action to Protect and Restore Salmon, Christina Swanson, Science Center Director, Natural Resources Defense Council

Managing California Salmonids in a Changing Landscape, Chuck Bonham, Director, California Department of Fish and Wildlife

Friday Afternoon Concurrent Sessions

Recovery Planning Implementation—Where Do We Go From Here?

Session Coordinator: Julie Weeder, NOAA Fisheries



Hundreds of juvenile coho and Chinook salmon utilize this off-channel rearing habitat at the mouth of Thompson Creek on the Klamath River. This habitat was disconnected from the creek after the 1997 Flood during emergency rehabilitation work, and was re-connected in 2009 through a collaborative project with the Mid Klamath Watershed Council, Karuk Tribe, Bella Vista Foundation, US Forest Service, and private landowners.

Will Harling, Mid Klamath Watershed Council

Implementing California's Salmonid Recovery Plans, Julie Weeder, NOAA Fisheries

Implementing Central Valley Chinook Salmon and Steelhead Recovery, Brian Ellrott and Ryann Wulff, NOAA Fisheries

The Recovery Strategy for California Coho Salmon: An Update and Mapping the Way Forward, Stephen Swales, California Department of Fish and Wildlife

Using Recovery Plans to Guide Recovery Implementation Efforts and NOAA Funding Decisions, Scott M. Rumsey, NOAA Fisheries

Engaging the Public in the Recovery Planning Process, Jeanette Howard, The Nature Conservancy

Pacific Salmonid Recovery at a Crossroads: Toward a More Unified Approach to Recovery Implementation, Darren Mierau, California Trout

Addressing Water Diversions That Impact Salmonids and Watershed Health

Session Coordinator: Mark Lancaster, Five Counties Salmonid Conservation Program

Fisheries Impacts of Marijuana Cultivation: Policy Implications, Scott Greacen, Friends of the Eel River

A Strategy for Improving Spring-run Chinook Salmon and Steelhead Passage in Lower Antelope Creek, Jay Stallman, Stillwater Sciences

Addressing Water Diversions That Impact Salmonids and Watershed Health, John Green, Gold Ridge Resource Conservation District

Giving Can Be Complicated—Instream Dedications to the Environment from a Water Right Owner's Point of View, John Letton, Owner of Indian Creek Lodge

Changing Community Water Use Practices to Increase Flows for Salmonids, Tasha McKee, Sanctuary Forest

Climate, Cumulative Effects and Conditions to Counter Them, Mark Lancaster, Five Counties Salmonid Conservation Program

The Future of Restoration: How to Diversify and Fund a Sustainable Restoration Field

Session Coordinator: Sungnome Madrone, Mattole Salmon Group and Madrone Enterprises

Why Can't We Budget \$185 Million for Fish, Water and Wildlife While Meeting Everyone's Needs—30 Years of Observations and Insights, Mark Lancaster, Five Counties Salmonid Conservation Program

Counting Salmon in California: A Return on Investment for Effective Salmon Conservation, Lisa Hulette, The Nature Conservancy

Conservation Investment: Partnering with Private Capital to Protect Salmon Habitat, Noah Levy, Sanctuary Forest

Planning and Implementation of Watershed and Fisheries Recovery in the Context of California's Private and State Timberland Operations and Regulatory Processes, Richard Gienger, EPIC and the Redwood Forest Foundation, Inc.

The Economic Landscape of Salmonid Recovery in California, Hezekiah Allen, Executive Director, Mattole Restoration Council

Diversifying Our Portfolio: Options for Expanding our Watershed Funding Sources, Ann Riley, Watershed and Stream Restoration Advisor, San Francisco Bay Regional Water Quality Control Board

The Stewardship Act: Financial Incentives for Land Stewardship, Sungnome Madrone, Executive Director, Mattole Salmon Group

Saturday, March 16

Saturday Morning Concurrent Sessions

Innovative Approaches to Coho Salmon Restoration

Session Coordinators: Bob Pagliuco and Leah Mahan, NOAA Fisheries Restoration Center

Evaluating the Benefits of Salmon Carcass Analogs for Restoring Nutrient Subsidies and Ecosystem Services to Improve Salmonid Growth in the Russian River Watershed, Robert Coey and Melanie D. Harrison, National Marine Fisheries Service, Southwest Region

Large-Scale Coho Salmon and Steelhead Habitat Enhancement in Dry Creek, David Manning, Principal Environmental Specialist, Sonoma County Water Agency

A Short History of Large Wood Abundance, Accelerated Wood Recruitment Methods, and Effectiveness Monitoring in Several Mendocino County Streams, David W. Wright, Campbell Timberland Management

Restoring Complexity and Resiliency to Instream and Off-channel Habitats for Salmonid Recovery in the Klamath River, Rocco Fiori, California State Parks and Fiori GeoSciences

Creating Coho Off-channel Rearing Habitat in the Middle Klamath Sub-basin—Results and Lessons Learned, Will Harling, Executive Director, Mid Klamath Watershed Council

Using Section 1707 to Improve Instream Flow Conditions in the Shasta River for Coho and Chinook Salmon, Amy Hoss, Shasta River Project Director, The Nature Conservancy

Landscape Ecology of Pacific Salmonids

Session Coordinator: Thomas H. Williams, NOAA Fisheries Southwest Fisheries Science Center

Geographic Patterns and Environmental Regulation of Outmigration Timing of Coho Salmon (*Oncorhynchus kisutch*) Smolts in North America, Brian Spence, NOAA Fisheries Southwest Fisheries Science Center

Movement and Survival of Juvenile Coho Salmon in the Shasta River, Chris Adams, USGS California

Cooperative Fish and Wildlife Research Unit, Humboldt State University

Early Emigration of Juvenile Coho Salmon in Freshwater Creek, Darren Ward, Department of Fisheries Biology, Humboldt State University

Identification of Chromosomal Regions Under Divergent Selection in Steelhead/Rainbow Trout, Devon Pearse, NOAA Fisheries Southwest Fisheries Science Center

Density-dependent Habitat Use in Juvenile Salmonids: Detection in Long-term Monitoring Data and Implications for Design of Assessment Programs, Walt Duffy, USGS California Cooperative Fish and Wildlife Research Unit, Humboldt State University

Human-induced Trait Change in a Recently Collapsed Salmon Population Complex, Stephanie Carlson, University of California Berkeley, College of Natural Resources



The Klamath river once supported the third largest salmon fishery in the United States. Local tribes, agencies, citizens, and watershed groups struggle to balance competing resources in the Klamath basin.

Photo by Thomas B. Dunklin

Klamath River Basin: Striving for Balance in Resource Use and Conservation in a Complex Landscape

Session Coordinator: Gary Curtis, US Fish and Wildlife Service

Stakeholders, Salmonids, and Sediment: Over Twenty Years of Restoration in the French Creek Watershed, Stuart Farber, W.M. Beaty & Associates

Applying Creativity, Persistence, and Collaboration to Ensure Comprehensive Fisheries Restoration in the Lower Klamath, Sarah Beesley, Yurok Tribal Fisheries Program

Coho Salmon in the Shasta River—Does Restoration + Supplementation + Regulation = Recovery?, Curtis Knight, California Trout

Real-time Water Management by Irrigators for Restoration in the Shasta River, Amy Campbell, The Nature Conservancy

The Klamath Agreements: Opportunity for Conflict Resolution or Basin Polarization?, Troy Fletcher, Executive Director, Yurok Tribe

How the Klamath Basin Restoration Act Informs Conflict Resolution in Scott Valley, Craig Tucker, Karuk Tribe

Saturday Afternoon Concurrent Sessions

Pioneering Tools to Advance Fisheries Restoration

Session Coordinator: Robert Coey, NOAA Fisheries

Restoration and Monitoring in California's Oldest Municipal Park: Alum Rock Park, San Jose, California, P. Travis James, Project Engineer, GHD Inc.

The Effects of Habitat Enhancements on Juvenile Coho Salmon Carrying Capacity in a Tributary to the North Umpqua River, Dirk Pedersen, Stillwater Sciences

The Passage Assessment Database, a Tool for Stream Habitat Connectivity Restoration via the Publicly Available CalFish Website, Anne Elston, Pacific States Marine Fisheries Commission

The Potential of Abandoned Gravel Pits to Benefit Salmonid Populations in Northern California, Brian Cluer, Southwest Regional Geomorphologist, Habitat Conservation Division, NOAA's National Marine Fisheries Service

A Method for Identifying Current and Restorable Salmonid Habitat on Northern California Timberlands, Nicholas Simpson, Humboldt Redwood Company

Innovative Approaches in Process-Based Restoration: "Can The Regulations Keep Pace?," Michael M. Pollock, Ph.D., Ecosystems Analyst, NOAA Northwest Fisheries Science Center

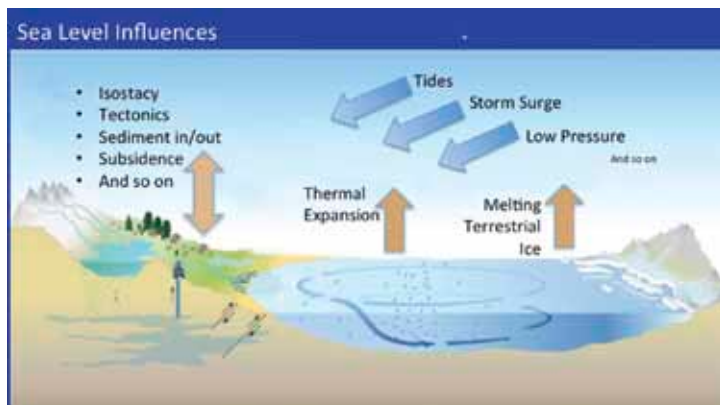
Rapid Sea Level Rise and Coastal Salmonid Restoration: Theory, Implications, and Practice

Session Coordinators: Mike Furniss, US Forest Service, Pacific Northwest Research Station and Humboldt State University, and Thomas H. Leroy, Pacific Watershed Associates

Geology is Destiny: Rapid Sea Level Rise and Civilization, Worldwide and on the Pacific Coast, Michael J. Furniss, US Forest Service, Pacific Northwest Research Station and Humboldt State University

Sea Level Rise Adaptation Planning Process on Humboldt Bay, Aldaron Laird, Environmental Planner, Trinity Associates

Can Existing and Restored Humboldt Bay Tidal Wetlands Keep Pace with a Rising Sea Level, Rapid Sea Level



Sea level in any setting is a product of many influences, both global and local, long-term and episodic. Vertical land movement, ubiquitous on the California coast, can strongly affect local sea level. Diagram by: Michael Furniss

Rise and Coastal Salmonid Restoration: Theory, Implications, and Practice, Jeff Anderson, Northern Hydrology & Engineering

Eustasy, Tectonics, and Sediment Accretion: Understanding the Primary Factors That Control Locally Observed Sea-Level, Thomas H. Leroy, Pacific Watershed Associates

Modeling Relative Sea-Level Change and Its Impacts to Eelgrass and Salt Marsh Distribution Within Humboldt Bay, Northern California, Whelan Gilkerson, Pacific Watershed Associates

Evaluating Tidal Marsh Sustainability in the Face of Sea-Level Rise: A Hybrid Modeling Approach Applied to San Francisco Bay, Michelle Orr, ESA-PWA



Salmon River Spring-run Chinook in the South Fork Salmon River gorge.
Photo by Mike Bravo

Spring-run Chinook Salmon Restoration and Recovery Efforts

Session Coordinators: Lyra Cressey and Karuna Greenberg, Salmon River Restoration Council

Perspectives on Adult Spring-run Chinook Salmon Migration: Challenges and Opportunities for Persistence and Recovery in a Dramatically Warming Climate, Joshua Strange, Stillwater Sciences

Potential for Thermal Refugia for Over-summering Spring-run Chinook Salmon, Lisa Thompson, Wildlife, Fish, and Conservation Biology Department, UC Davis

Evolutionary and Conservation Genetics of Spring-run Chinook Salmon in California, Carlos Garza, Southwest Fisheries Restoration Center, NOAA Fisheries

Spring Chinook Harvest Management, Dave Hillemeier, Yurok Tribal Fisheries Program

Salmon River Spring Chinook—What to Do in a "Pristine" Watershed?, Karuna Greenberg, Salmon River Restoration Council

Panel Discussion: Klamath River Spring Chinook Recovery—Next Steps, Dave Hillemeier, Yurok Tribal Fisheries Program, Petey Brucker, Salmon River Restoration Council, Carlos Garza, NOAA Fisheries, Joshua Strange, Stillwater Sciences, and Andrew Orahoske, Environmental Protection Information Center

Did a Stable Sea Level and Climate Facilitate The Emergence of Civilization?

Michael J. Furniss, Pacific Northwest Research Station, Arcata, CA

During the last three million years of Earth's history, immense continental ice sheets advanced and retreated many times. As they advanced, the amount of Earth's water in continental ice increased and sea levels dropped. With each retreat of the ice sheets, water was released and sea level rose. As a result, the level of Earth's oceans have fluctuated over a range of about 170 meters. Shorelines have fluctuated seaward or landward tens of kilometers. Sea level change has been a part of Earth's history for as long as we know.

Sea levels leave plenty of evidence. We can reliably reconstruct sea level through time, revealing coastal and climatic conditions worldwide. Following the last glacial maximum, about 20,000 years ago, sea level rose rapidly for about 14,000 years and then stabilized about 7,000 years ago (See Figure 1). A stable sea level is also correlated with a relatively stable climate, as global sea level acts as a kind of giant thermometer for the planet. That is, stable sea level means that the heat capacity of the Earth's climate system was also stable, and temperatures

and precipitation were relatively stable and low in variability.

From reconstructions of previous sea levels, we may conclude that a stable sea level is extremely rare in Earth's history. Yet we are quite accustomed to this – having an “ecosystem service” of stable sea level and stable climate—but it is hardly the norm.

We might also notice that civilization developed during this very period, and largely in coastal cities. Is it possible that the stabilization of sea level and climate facilitated the development of civilization?

Stable sea levels would lead to conditions conducive to urban coastal civilizations: development of large coastal shallow-water depositional features, including deltas, estuaries, reefs, wetlands and riparian flats. This would lead to the presence of large freshwater-saltwater interfaces, longer residence times for productivity-limiting nutrients such as nitrogen, and flourishing of large coastal organisms, providing increasingly rich food sources to coastal residents, as coastal primary productivity and biodiversity increased. Coastal margins worldwide would develop increasingly

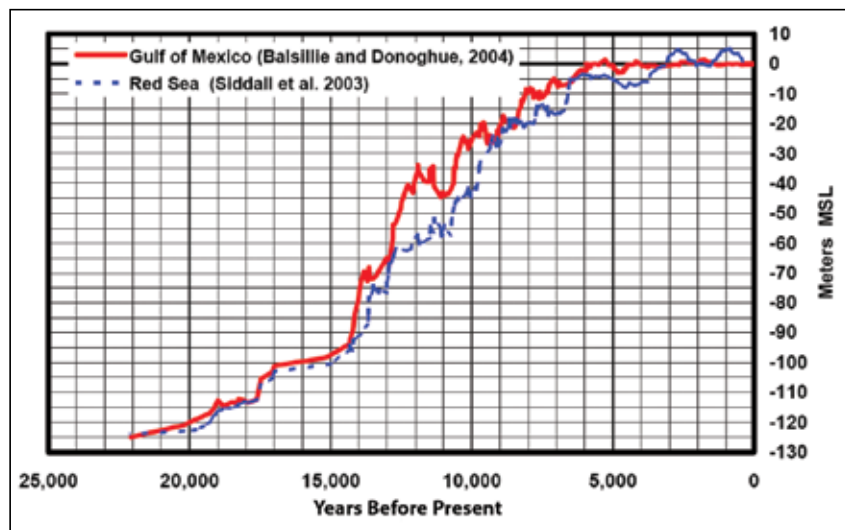
rich habitats for aquatic and riparian biota. The availability of abundant food resources, particularly abundant protein, is well correlated with the development of multi-class societies, writing, tool-making, and other elements of civilization. (Day et al. 2007)

Prior to sea level stabilization, coastal margins would have had deeply incised river channels, deep water tables, and minimal depositional features, as well as a drier and more variable climate.

During the period of rapid sea level rise, coastal settlements would be required to retreat every few decades to escape inundation. After stabilization, sea level rise dropped to about one-tenth the rate (Atwater et al. 1977), so coastal cities could persist for centuries and millennia, developing in proximity to abundant food resources.

We still benefit from the abundance and complexity of the coastal margins, but can we expect this to continue? No. After about seven millennia of stability, sea level began to rise in the early 20th Century, coincident with the industrial revolution and large human inputs of greenhouse gasses into Earth's atmosphere, and has been rising every since. The rate of rise appears to be increasing sharply (Nicholls and Cazenave 2010), due to rapid warming of the climate system. The outlook is clear: stable sea level is over, and is not likely to return. Coastal cities are imperiled, and coastal habitats and ecosystems are very likely to see drastic changes in coming decades.

We can hope and strive that we will employ our collective “civilized” intellectual powers to control climate warming, and to adapt effectively to the coming changes. This is a particular challenge for coastal aquatic ecosystems, which likely contributed mightily to human civilization, and to those who study and steward these precious systems.



Sea level reconstruction since the last glacial maximum. Other reconstructions of sea level agree well with this. From (Balsillie and Donoghue, 2004; and Siddall et al. 2003).

To see a full list of References, please see
www.calsalmon.org/

Fisheries Impacts of Marijuana Cultivation: Policy Implications

Scott Greacen, Executive Director, Friends of the Eel River

Widespread, increasing cultivation of marijuana across Northern California appears to generate significant impacts on critical fisheries resources. The difficulty of measuring and analyzing these impacts is only one aspect of a complex policy problem. Indeed, environmental impacts are themselves just one of the unanticipated consequences of a black market in marijuana flourishing in the gap between federal prohibition and state-level decriminalization. Reaching stable policy solutions will require addressing conflicts between legitimate policy objectives (e.g., public health protection; endangered species and clean water protection) at both federal and state levels.

Thus, federal prosecutors block state and local regulation of marijuana cultivation, although regulation offers the most realistic path to reducing impacts which risk not only tens of millions of dollars of fisheries restoration investments by the public over the last two decades in the South Fork Eel River alone, but also the viability of the South Fork Eel coho salmon run, key to maintaining coho in Northern California and Southern Oregon. To reach policy solutions that adequately protect fisheries and public trust resources, drug-policy

and law enforcement specialists need to recognize environmental priorities, while conservationists and restorationists need to engage with evolving legal and regulatory frameworks.

Effectively addressing fisheries and other environmental impacts of marijuana cultivation requires distinguishing between types and sources of impacts (e.g., stream diversion, fertilizer inputs, pesticide contamination, sediment inputs) as well as among the wide range of marijuana growing operations which may—but don't necessarily in any given instance—generate such impacts. Operations which may result in direct discharge of pollutants including fertilizers, insecticides, diesel fuel and sediment pose clear risks for salmonids and other native species, as well as for beneficial uses of protected waters like recreational swimming and fishing. While systems exist to prevent such pollution for legal agriculture, neither regulatory agencies nor law enforcement can address these issues for marijuana without a permitting framework that defines permissible practices.

Water diversion can be one of the most problematic cumulative effects of marijuana cultivation. Though marijuana is not a particularly water-intensive crop, it does most of its growing during northwest California's long dry season, when stream flows are low, water temperatures high, and native fish stressed even under normal conditions.

In general, the impacts associated with marijuana cultivation compound persistent legacy impacts of logging and road

building. Among these are landscape-level changes—more thirsty younger trees replacing fewer stable older trees; roads interrupting and redirecting drainage patterns; loss and compaction of soils—that have contributed to lower base flows and increased stream temperatures. Water diversions can push these bad conditions to lethal, and of course flow reductions and temperature increases compound the effects of any pollution inputs.

Even where diversions aren't individually consequential, cumulative effects can still add up to perennial creeks running dry. Comparing summer 2012 flows in the South Fork Eel River at the Miranda gauge to the average over the last 72 years of record keeping shows a disturbing trend: even though the spring of 2012 was a bit wetter later than average, at the end of the dry season flows in the South Fork were well below historic average.

Water diversions may not be susceptible to correction through conventional, eradication-focused law enforcement, but may be more effectively addressed through a combination of measures that include permitting and regulation through existing water-rights frameworks for reasonably scaled operations; community-based efforts to emphasize best practices, including storage of winter rainfall; and conventional law enforcement pressure, including eradication and fines as well as criminal penalties, for operations which harm public trust resources.

Overall, moving state and local policy toward regulation of marijuana cultivation practices offers the best prospect of reducing cultivation-related impacts and ensuring the continued recovery of North Coast fisheries and associated public trust resources. Such policy changes will in turn depend on the willingness of federal agencies to accept local regulation as an alternative to current prohibition-oriented federal policies.



Google Maps imagery shows the scope and prevalence of the marijuana industry on the North Coast.

The Economic Landscape of Salmonid Recovery in California

By Sungnome Madrone, Executive Director, Mattole Salmon Group, and Hezekiah Allen, Executive Director, Mattole Restoration Council

Watershed and fisheries restoration has traditionally been primarily funded by grants fueled by State Bond Acts and state and federal budget allocations. Private sector investments have been minimal and often used as matching funds to leverage the grants. This approach has limited the resource pool of available funding and it is also subject to the swings of the economy. When the economy is down bond-acts do not pass and government budgets shrink.

In the past 40 years we have seen these swings many times. A perfect storm of economic woes and reduced budgets has our industry approaching a “fiscal cliff” of its own, with bond moneys drying up and government budgets depleted. It is time we act decisively to diversify the funding sources for the work we do. There are many solutions and lots of actors working to help make these changes reality.

Some of the suggested changes involve government actions to provide private sector financial incentives for watershed investments and other actions involve improved integration of what we do. *The Future of Restoration: How to Diversify and Fund a Sustainable Restoration Field* session will explore these issues.

Hezekiah Allen’s presentation in this session will take a pragmatic and outside the box approach to reviewing the economic landscape of salmonid recovery in California for potential revenue streams and cost savings. The presentation is specifically focused on a community based non-profit perspective of restoration and accordingly is framed with a discussion of the multitude of benefits derived from the “restoration economy.” Within this context, four specific tools for sustaining restoration activities will be explored: efficiency and harm/cost reduction, fee-for-service activities, for-profit subsidiaries, and mechanisms for embedding restoration into existing economic activity.

There are many ways to improve efficiency within the restoration sector. These include organizational reforms to operate more efficiently through job sharing and increased collaboration. Efficiency can also be improved by distributing the workload by using property taxes as an incentive encouraging more active stewardship on the part of residents and landowners. This will provide the additional benefit of reducing harm to the recovering watersheds. Lastly, a brief discussion of AB 1961 will explore the possibility of additional permitting and regulatory fixes to reduce project implementation costs.

Fee-for-service activities provide an opportunity for organizations to diversify revenue streams. While this approach will likely not provide the bulk of the funding needed to implement successful restoration strategies, it can help to provide seed money for projects and retain critical staff members.

Non-profit organizations must generally focus their attention, time, and resources on their charitable purpose. However, non-profits can own—in whole or in part—for-profit companies. A review of the guidelines for ensuring and IRS compliant ownership structure will open the door to a wide world of benefits. The benefits of for-profit subsidiaries include greater flexibility in compensating employees by offering stock options and other incentives, wider access to financing sources, business management devoted exclusively to commercial activities, and financial benefit realized when the for-profit subsidiary makes tax deductible payments to its parent. Many watershed councils depend on community events for fundraising so this presentation will explore how a for-profit event production company might leverage significant resources towards restoration.



There is a tremendous amount of economic activity taking place within the watersheds upon which recovery depends. Reviewing four of these industries—timber, cannabis, wine, and tourism—will provide an opportunity to review specific mechanisms or strategies for integrating salmonid recovery into the basic economic fabric of Northern California.

Salmonid Restoration Federation

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Upcoming SRF Trainings



South Coast Fish Passage Field School January 15-17, 2013, Ventura, CA

This hands-on workshop will assist engineers hydrologists, biologists, environmental planners, and other staff who are involved in the design and implementation of fish passage projects.

The workshop will cover the design and implementation process, including biological considerations, site surveys and geomorphic assessment, state and federal fish passage design guidance, stream simulation design, grade control techniques, retrofitting existing crossings, contracting and implementation, monitoring and adaptation.

16th Annual Coho Confab on the Mattole River, North Coast, California, August, 2013

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 water conservation practices, stream bank stabilization, large woody debris, bioengineering, and a tour of revegetation using native species. This Confab will visit projects from the headwaters of the Mattole to the estuary.



Steelhead Summit Spring, 2013

This inaugural steelhead summit would include tours and presentations focused on habitat restoration projects that benefit steelhead trout including fish passage barrier removal projects, bioengineering, erosion control, water conservation, and riparian planting.



North Coast Water Conservation Workshop February 2, 2013, Briceland, CA

SRF and Sanctuary Forest will host a water conservation workshop to share water conservation techniques for rural residents in the Mattole and Eel river watersheds. This workshop will explore the feasibility of transferring the Mattole headwaters water storage and forbearance program to Redwood Creek, a tributary of the South Fork Eel river watershed.



Spring-run Chinook Salmon Symposium San Joaquin-Bay Delta Region of California, Summer 2013

The 7th Spring-run Chinook Symposium will include workshops and tours on fish passage design and implementation, a technical workshop focused on assessing in-stream flows necessary to recover wild salmonid populations, and tours of floodplain restoration and gravel augmentation projects that benefit salmon-bearing streams in tributaries of the San Joaquin and Bay Delta region.