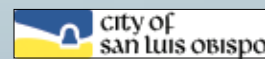


29th Annual Salmonid Restoration Conference

Restoring Salmonids— Holding the Line on Species Decline



March 23-26, 2011 in San Luis Obispo
Veterans' Memorial Center



2011 Conference Co-sponsors

Alnus Ecological, Balance Hydrologics, Inc., California Department of Fish and Game, California Department of Water Resources, Cachuma Conservation Release Board, Cal Trout, California Conservation Corps, CalTrans, Central Coast Vineyard Team, City of San Luis Obispo, McBain and Trush, Michael Love and Associates, Morro Bay National Estuary Program, NOAA Fisheries, Northern California Council of Federation of Fly-Fishers, Pacific Coast Fish, Wildlife, and Wetlands Restoration Association, Pacific States Marine Fisheries Commission, Pacific Watershed Associates, Pacific Gas & Electric, Philip Williams and Associates, Prunuske Chatham Inc., Restoration Design Group, San Lorenzo Valley Water District, Solano County Water Agency, Sonoma County Water Agency, Stillwater Sciences, The Bay Institute, The Nature Conservancy, Trees Foundation, Trout Unlimited, U.S. Fish and Wildlife Service, and Winzler and Kelly

For more information, please visit www.calsalmon.org

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29th Annual Salmonid Restoration Conference

Salmonid Restoration Federation will host the 29th Annual Salmonid Restoration Conference March 23-26, 2011 in San Luis Obispo, California. The theme of the conference this year is "Restoring Salmonids - Holding the Line on Species Decline."

The Plenary Session will feature Michael Pollock, PhD. from the Northwest Fisheries Science Center of NOAA Fisheries who will discuss working with beavers to enhance coho salmon habitat. Paul Jenkin from Surfrider Foundation and Matilija Coalition will present an integrated ecosystem-management approach to restoring the Ventura River. This presentation outlines ongoing efforts to implement a vision for sustainable coastal management through a holistic set of demonstration projects including the Surfers' Point Managed Shoreline Retreat project, the Matilija Dam Ecosystem Restoration Project, Urban Watershed Management, and Integrated Watershed Management Planning. Lessons learned in the Ventura River watershed are relevant to all coastal communities. Thomas Williams, Ph.D, from NOAA Fisheries', Southwest Fisheries Science Center will give a presentation on Restoration of Habitat Capacity for Salmon Populations.

This year the conference will feature workshops on topics including Restoring Fish Access in Upstream Habitat, Stormwater Pollution Runoff & Water Quality, Invasive Species Management for Salmonids, and Sustainable Water Conservation. Field Tours will include tours of the Morro Bay Watershed from Headwaters to Mouth, a San Luis Obispo and Arroyo Grande Creek Tour, a Sustainable Vineyards and Agricultural Practices Tour, an Instream Structures Tour, and a tour that highlights road decommissioning and erosion control.

Concurrent sessions include:

-  On-the-Ground Salmonid Restoration: Obstacles and Opportunities
-  Barrier Identification, Design Criteria, Implementation, and Project Monitoring to Recover Steelhead
-  Coho Salmon Recovery Efforts
-  Enhancing Instream Flows: Springs, Seeps, and Groundwater Recharge for Salmonids
-  Salmonid Strongholds: The Key to Our Future
-  How Climate Change and Stream Temperatures Affect Salmonids
-  Population Status and Trend Monitoring
-  The Future for California Chinook Salmon
-  The Role of Lagoons and Estuaries for Steelhead and Salmon

Other conference events will include a film social and dinner on Thursday evening which will show the STRAW film, short films by Thomas Dunklin and Damolition footage by Matt Stoecker. SRF will host a poster session and reception

on Friday night, and a cabaret and banquet with a Wild Copper River salmon dinner and fantastic Latin dance band Sambada on Saturday evening. For more info about the conference, please visit www.calsalmon.org.





A consequence of these developments is the fundamental concept of protecting and enhancing watersheds where ecological processes are highly-functioning, land practices are much in tune with the ecology of the watershed, fish populations are either stable or increasing, and human communities are dedicated to maintaining and improving conditions both terrestrially and aquatically.

California has the southern extent of three species of anadromous salmonids. This has significant genetic diversity and biological adaptation values. More importantly, what exists in California corresponds to species-wide and genus plasticity across the entire eastern Pacific region and essential ecological role of the salmonids in California waters. Given the rate of declining populations of salmonids, protecting the best populations and watersheds we have left in the State is a crucial component to overall conservation. With continuing human encroachment, ongoing struggles over water management, and growing knowledge and concern about what climate change may mean for aquatic ecosystems and species, the time has arrived to put as much emphasis on protecting and promoting salmonid strongholds as Californians dedicate to recovery and restoration.



Salmon Strongholds

By Kevin Shaffer, DFG

The condition of salmon and steelhead populations across California has been an essential conservation topic since the 1920s. Up to the 1970s and early 1980s, focus was placed on many land-based, human practices—gold mining, river canaries, forestry practices, etc. As the century ended other issues arose—commercial harvest, water storage and conveyance, hatchery management, and rapid expansion of human populations. New federal and state statutes focused on protection of native species, when threatened or endangered with extinction, and within two decades, this protection was deemed necessary for the vast major of populations of Chinook and coho salmon and steelhead in California. The 1980s also saw the development of coastal restoration and in the 1990s, restoration in the Central Valley became a primary focus for fisheries and water agencies.

Statutory protection, and its associated recovery actions, and freshwater and estuarine habitat restoration were and are crucial programmatic strategies, both to ensure anadromous salmonids are maintained and regain recreational, tribal, and commercial fisheries in the ocean and inland waters. But two important developments reveal that

current approaches are not sufficient—(1) improvements in science, especially the in ecology, hydrology, and geomorphology and what they tell us about functioning watersheds, land practices, and response of salmon and steelhead, and (2) restoring habitat and focusing on recovery of the most at-risk populations has not provided the anticipated and necessary results over the last 30 years.



SRF 2011 Conference Registration
Restoring Salmonids—Holding the Line on Species Decline

Name: _____ Phone (work): _____
 Address: _____ (home): _____
 _____ Email: _____
 Affiliation: _____ Please check box if you are a presenter

Advanced Registration Closes February 23, 2011

Workshops & Field Tours

☛ Wednesday, March 23

	Advanced Registration	Late Registration	Fee
1. San Luis Obispo & Arroyo Grande Urban Creeks Tour	\$55	\$65	_____
2. Sustainable Vineyards & Agricultural Tour	\$55	\$65	_____
3. Sustainable Water Conservation Workshop & Tour	\$55	\$65	_____
4. Invasive Species Workshop	\$55	\$65	_____

☛ Thursday, March 24

5. Restoring Fish Passage Workshop and Tour	\$55	\$65	_____
6. Santa Rosa Creek Instream Structure Tour	\$55	\$65	_____
7. Morro Bay Watershed, Headwaters to Mouth Tour	\$55	\$65	_____
8. Controlling Road-related Erosion and Sediment Tour	\$55	\$65	_____
9. Stormwater Pollution Runoff & Water Quality Workshop	\$55	\$65	_____
Thursday Evening Film Social (includes dinner)	\$15	\$20	_____

Conference

☛ Friday & Saturday, March 25-26

SRF Member	\$125	\$155	_____
Non-member	\$175	\$205	_____
Student (with ID)	\$75	\$85	_____
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, CA 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 23

San Luis Obispo & Arroyo Grande Urban Creeks Tour

Tour Coordinators: Freddy Otte, City of San Luis Obispo, Steph Wald, Central Coast Salmon Enhancement, and Julie Thomas, Coastal San Luis Resource Conservation District

This tour will examine the limits of anadromy in two adjacent watersheds, Arroyo Grande and San Luis Obispo Creek, which both have resource value that is harnessed in ways that may hinder steelhead migration unless addressed and corrected. This tour will look at how local non-profit organizations, city planners, and San Luis Obispo County are working cooperatively to develop and implement plans to recover fish and address the urban development which has impacted these creeks.

Sustainable Vineyards and Agricultural Practices Tour

Tour Coordinator: Anne Michul, Central Coast Vineyard Team
The Sustainable Viticulture and Agriculture Practices tour will include several stops throughout the Central Coast that highlight and showcase sustainable creek restoration projects. The tour will visit Cal Poly State University—San Luis Obispo's stream enhancement and water quality control project site and Wolff Vineyards which is a Sustainability in Practice (SIP)TM Certified Vineyard that will host a wine tasting at the end of the tour.



The SRF Central Coast Bioengineering Field School where participants helped build willow mattresses to stabilize banks on the Wolff Vineyards property. The Sustainable Vineyards and Agricultural Tour will visit the Wolff vineyards property and conclude with a wine tasting at this SIP (Sustainability in Practice) certified winery. photo by Dana Stolzman

Invasive Species Workshop

Workshop Coordinators: Jonathan Thompson, Ronald Smith, Julie Wolford, and Louanne McMartin. Aquatic Invasive Species Program, US Fish and Wildlife Service, Stockton, CA
The Pacific Southwest Regional Aquatic Invasive Species Program of the U. S. Fish and Wildlife Service will present a workshop on Invasive Species. The workshop will teach participants Early Detection Monitoring techniques for the Quagga and Zebra Mussel and Invasive Species Risk

Assessment and Planning (ISRAP), a tool to help prevent the movement of Aquatic Invasive Species in Natural Resource Management Activities.

Early Detection and Monitoring for Quagga and Zebra Mussels, US FWS Workshop Coordination Team

Invasive Species Risk Assessment and Planning (ISRAP), U.S. FWS Workshop Coordination Team

Sustainable Water Conservation: From Basins to Beavers, Ridgelines to Rooftops, and Laundry to Landscapes

This workshop will explore a variety of scales and project types—each demonstrating a number of creative applications ranging from capturing roofwater for both agricultural supply and residential, while reusing greywater at the home scale. We will explore the idea that not all dams are created equal—some need to be removed—some need to be put back in whether by historically widespread beavers themselves or by designs patterned on their hydro-engineering. Each of these strategies has the shared goal of improving water security and access for both people and fish.

Workshop Coordinator: Brock Dolman, Director of the Water Institute, Occidental Arts and Ecology Center

Santa Maria/Sisquoc River Revival—Southern Steelhead Recovery in Action...Water Needed, Matt Stoecker, Stoecker Ecological Consultants

Water Conservation Through Rainwater Catchment in Western Sonoma County, CA, John Green, Gold Ridge Resource Conservation District

Engineered "Beaver Pond" Pilot Project for Coho Recovery in the Mattole Headwaters, Tasha McKee, Sanctuary Forest

Sustainable Water Practices: From Greywater to Green Gardens, Laura Allen, Greywater Action

A Reassessment of the Historical Range of Beaver in California and Implications for Salmonids, Richard Lanman, Veracyte, Inc.

What Size Water Tank Do I Need? Group Exercises and Water Think Tank, Brock Dolman, Director of the Water Institute, Occidental Arts and Ecology Center



Brock Dolman, Director of the Water Institute at Occidental Arts and Ecology Center, demonstrating a rainwater catchment project.

Photo: Dana Stolzman



The Restoring Fish Access workshop will also feature a tour component where participants will see completed fish passage projects.

photo by Antonio Llanos, Mike Love & Associates

Thursday, March 24

Restoring Fish Access to Upstream Habitat Workshop and Tour

Workshop Coordinator: Michael Love, Engineer, Michael Love & Associates

Serving the mission of SRF, this workshop will be an opportunity for practitioners in the fields of fish passage and stream restoration to once again share experiences and lessons learned through case studies of both current and past projects.

Southern Steelhead Trout Restoration in Santa Barbara and Ventura Counties, Mauricio Gomez and Erin Brown, South Coast Habitat Restoration

Sex in the City: Swimming Upstream to Spawn in an Urban Creek, George Johnson, Creeks Supervisor, City of Santa Barbara

Pismo Creek Fish Passage Improvement Project—Pushing the Limits of the Roughened Channel/Ramp Approach to Fish Passage: Implications for Design and Monitoring, John Dvorsky and Matt Weld, Waterways Consulting, Inc.

Fish Passage and Channel Restoration on Five Mile Creek, Klamath County, Oregon: Lessons Learned, Greg Guensch, P.E., CFM, Balanced Hydrologic, Inc.

Providing Passage for Summer vs. Winter Steelhead over Steamboat Creek Falls, North Fork Umpqua River: Considerations for Selective Passage and Proposed Alternatives, Michael Love, Michael Love & Associates

Emerging Techniques and Technologies for Fish Passage Projects: Examining the Use of 3-dimensional Work Environments for Rendering Projects, Enhancing Design, and Improving Design Drawings, Syd Temple, Questa Engineering

Controlling Road-related Erosion and Sediment Tour

Tour Coordinators: Danny Hagans, Pacific Watershed Associates and Stephanie Wald, Central Coast Salmon Enhancement

A full day tour will review a variety of cost-effective erosion control and prevention techniques that have been used to reduce sediment delivery associated with road

systems so as to improve aquatic habitat conditions. The emphasis will be on road upgrading techniques that reduce hydrologic connectivity, gully stabilization and various storm-proofing techniques for stream crossings, with some discussion of road decommissioning techniques. Prior to the field visits, a one-hour office presentation utilizing time lapse photography will illustrate many of the actual construction techniques and challenges.

Mountains to Sea Santa Rosa Creek Tour: A Myriad of Instream Restoration Projects

Tour Coordinators: Meredith Hardy, California Conservation Corps, Dave Highland, Department of Fish and Game, and Ben Boer, Cambria Community Services District

Come join us on a meandering jaunt and soak in some Central Coast flavor on one of our Northern most steelhead creeks. From the headwaters in the Santa Lucia Mountains down 16 river miles to the Pacific Ocean the tour will unravel the mysteries of the Santa Rosa Creek Watershed. Past will meet present on restoration tour stops where differing techniques may be evaluated. Meet the barrier that won't go away and the collaborators that have taken this beautiful creek under their fin in an effort to bring back the large runs of steelhead that once were.



The Santa Rosa Creek tour will visit several instream structure projects.

photo by Meredith Hardy, CCC

Morro Bay Watershed Headwaters to Mouth Tour: Restoration on a Watershed Scale

Tour Coordinators: Jon Hall and Anna Halligan, Morro Bay National Estuary Program

The Morro Bay National Estuary Program is a collaborative organization that brings local citizens, government agencies, non-profits, and landowners together to protect and restore the health of the Morro Bay estuary. The program has been involved in a variety of restoration activities throughout the entire watershed ranging from stopping erosion at its source to catching sediment downstream through floodplain restoration. This tour will begin in the majestic headwaters of the watershed and end overlooking the estuary, while incorporating several stops along the way, that focus on an assortment of restoration and land use practices that are geared towards preserving the natural integrity of the area while enhancing steelhead trout habitat and water quality.

2011 Conference Logistics

The 2011 Conference Facility

is the San Luis Obispo Veteran's Memorial Hall at 801 Grand Avenue, San Luis Obispo, CA, 93401

Host Hotels with Group Discounts

SRF has arranged discounted rates at the following hotels:

The Holiday Inn Express at 1800 Monterey St is right across the street from the San Luis Obispo Vet's Hall and includes a continental breakfast. To book the group rate of \$84, please call (805) 544-8600 by February 20 and the group code is SRF. We only have 20 rooms reserved at this hotel so if you already qualify for the state or federal lodging per diem rate, please save the group rate for conference attendees who are not state or federal employees.

The Quality Suites at 1631 Monterey St includes a cooked-to-order full breakfast and a manager's reception each evening with a complimentary wine or beer. We have 20 King Suites reserved at this hotel for a rate of \$104 so if you already qualify for the state or federal lodging per diem rate, please save the group rate for conference attendees who are not state or federal employees. Double suites may be available on Friday and Saturday nights at this rate. To book at the group rate, please call (805) 541-5001 by February 18 and the group code is SRF Conference.

The Apple Farm is located at 2015 Monterey St. They can offer rooms at \$84 in the Trellis Court section of the hotel and \$104 in the fancier rooms. The group block is under SRF and will expire on February 20, 2011. Please call (800) 255-2040 www.applefarm.com

2010 Conference Poster Session

If you are interested in presenting at the 2011 Salmonid Restoration Conference Poster Session, scheduled for Friday evening, March 25, please contact poster@calsalmon.org

SRF Call for Awards Nominations for 2011 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 Pipe award, please submit 200 words describing the accomplishments of the nominee by February 4, 2011 to srf@calsalmon.org

Field Tour Logistics

All field tours depart from the San Luis Obispo Veteran's Memorial Hall at 801 Grand Avenue in SLO. If you are going on a field tour please arrive early so you can pack a lunch and be ready to depart at 9am. Tours will return by 5pm. Please come prepared with a water bottle, rain gear, and hiking boots.

How can I apply for work-trade positions at the conference?

SRF has a limited number of work trade opportunities available. Work trade positions require 12 volunteer hours for SRF members and 14 hours for non-members. Work trade positions will only cover the conference fees. Field tours, workshops, and the banquet are separate costs. Work trade opportunities will be offered on a first-come, first-served basis. If you are interested in arranging work trade, please call (707) 923-7501 or email srf@calsalmon.org.



The Morro Bay Tour will visit multiple habitat restoration projects from the headwaters of Morro Bay to the estuary overlook.

photo by Anna Halligan

Stormwater Pollution Runoff and Water Quality Workshop

Workshop Coordinators: Cheryl Lenhardt, PE, CEO of Lenhardt Engineering, Inc. and Nicole Smith, Coastal San Luis Resource Conservation District

This workshop will address a variety of timely storm water topics including the evolution of storm water policies, implementation of storm water regulations, Low Impact Development concepts and concerns, volunteer sampling and monitoring programs and addressing storm water issues from a watershed perspective.

What IS the problem?, Susan Litteral, NRCS Engineer

Water Quality Permitting: Compliance with Construction, Industrial and Municipal General Permits, David Innis, Regional Water Quality Control Board

Complying with a Municipal Stormwater Management Plan, Freddy Otte, City of San Luis Obispo

Biofilters in Agriculture, Residential, and Urban Settings: Benefits and Regulatory Constraints, LynnDee Althouse, Althouse & Meade

Morro Bay First Flush Monitoring Results in Data Driven Public Awareness, Annie Gillespie and Ann Kitajima, Morro Bay National Estuary Program

Program Elements, Successes and Lessons Learned with Small Local MS4s, Natalie Arroyo, Redwood Community Action Agency

Development of Safe Harbor Agreements, LynnDee Althouse, Althouse & Meade

An Integrated Watershed Based Approach to Stormwater Management, Lynn Rodriguez, Watersheds Coalition of Ventura County



Conference Sessions

Friday, March 25

Plenary Session

Plenary Master of Ceremonies: Seth Zuckerman, Mattole Restoration Council and Editor of *Salmon Nation*

Opening Prayer with Chumash Tribal Elder Julie Tumamait

Welcome: from Neil Havlik, Natural Resources Manager, City of San Luis Obispo

Towards ‘Ecosystem-based Management’—a Case Study: Ventura River, California, Paul Jenkin, Surfrider Foundation and the Founder of the Matilija Coalition

Working with Beaver to Restore Salmonid Habitat, Michael Pollock, Northwest Fisheries Science Center, NOAA Fisheries

Restoration of Habitat Capacity for Salmon Populations, Thomas H. Williams, Ph.D., Fisheries Ecology Division, Southwest Fisheries Science Center

Friday Afternoon Concurrent Sessions

How Changing Climate and Stream Temperature Affect Salmonids

Session Coordinator: Li-Ming “Lee” He, NOAA Fisheries

Water Temperature Evaluation for Anadromous Fish in the Lower San Joaquin River and its Tributaries, Andrew Gordus, California Department of Fish and Game

Effect of Elevated Water Temperature on Juvenile Klamath River Basin Chinook Salmon Growth, Immune Function, and Smoltification, J. Scott Foott, U.S. Fish and Wildlife Service

Modeling Stream Temperatures Using High-resolution Satellite-derived Numerical Weather Forecasts: Application to the Sacramento River, California, Andrew Pike, National Marine Fisheries Service

Improved Water Temperature Models for Water Allocation Decisions in the Central Valley, Eric Danner, National Marine Fisheries Service

Climate Change Adaptations to Prevent Loss of Aquatic Ecosystem Services: Case study for Spring-run Chinook Salmon in Butte Creek, California, Lisa Thompson, University of California, Davis

Climate Change Scenarios and their Implications for Chinook and Coho Restoration Strategies in Northern California, Vimal Golding, Mattole Restoration Council

Barrier Identification, Design Criteria, Implementation, and Project Monitoring to Recover Steelhead

Session Coordinator: Freddy Otte, City of San Luis Obispo

Environmental Factors Controlling a Persistent Population of Southern California Steelhead (*Oncorhynchus mykiss*), Ethan Bell, Stillwater Sciences

SWAMP Bioassessment Reveals High Quality Habitat in Morro Bay, Annie Gillespie, Morro Bay National Estuary Program

Southern Steelhead Population Trends in Lower Santa Ynez River—A Decade of Monitoring Results, Scott Volan, Cachuma Conservation Release Board

Coon Creek: Restoring Access to High Quality Habitat, Freddy Otte, City of San Luis Obispo

Watershed Characterization and Monitoring of Restoration Projects using the California Rapid Assessment Method (CRAM), Cara Clark, Moss Landing Marine Laboratories

Trabuco Creek Fish Passage Projects, Wendy Katagi, CDM

Enhancing Instream Flows: Spring, Seeps, and Groundwater Recharge

Session Coordinator: Barry Hecht, Balance Hydrologics, Inc.

Making the Most of What we Have: Balancing Water Supply with Environmental Enhancement through Conjunctive Use in the Lower San Lorenzo River Watershed, Chris Coburn, Santa Cruz County Environmental Health

Links between Bedrock Characteristics, Base Flow and Salmonid Habitat in Coastal Streams of Central and Southern California, E. B. Gus Yates, Hydrofocus

Stream Baseflow Persistence in Watersheds Supported by Granitic Aquifers, Scott Brown, Balance Hydrologics, Inc.

Post-fire Flow Premium: Increased Summer Flows Promoting Salmonid Survival Following Large Wildfires in Monterey County, California, Sarah Richmond, Balance Hydrologics, Inc.

Why Up and Down Matters in the Design of Off-channel Habitats, Rocco Fiori, Fiori Geosciences

Spawning Gravel Augmentation in the Lower American River, Chris Bowles, cbec, inc. eco engineering



Coho salmon swimming upstream
photo by Thomas B. Dunklin

Saturday Morning Concurrent Sessions

Coho Salmon Recovery Efforts

Session Coordinator: Stephen Swales, California Department of Fish and Game

Challenges to Coho Recovery in Central California, Sean Hayes, NOAA Fisheries

Juvenile Coho Salmon Use of a Newly Constructed Tidal-Freshwater Pond, Mike Wallace, California Department of Fish and Game

Coho Recovery in Lagunitas Creek—If Not Here Then Where?, Greg Andrew, Marin Municipal Water District

Recovery of Coho Salmon in the Shasta River, Mark Pisano, California Department of Fish and Game

Preventing Coho Extirpation in the Mattole River Watershed, Keytra Meyer, Mattole Salmon Group

Emergency Measures for Recovering California Coho Salmon, Stephen Swales and Michael Lacy, Fisheries Branch, Department of Fish & Game, Sacramento

On-the-Ground Salmonid Restoration: Obstacles and Opportunities

Session Coordinator: Don Allan, Redwood Community Action Agency

Restoration Field Guide—A User-Friendly Guide for Restoration Techniques in Riparian Habitats, Brian B. Stark and Kaila Dettman, Ojai Land Conservancy

Preliminary Evaluation of Off-Channel Habitats Constructed in Tributaries of Lower Klamath River, Rocco Fiori, Fiori Geosciences

A Scale Dependent Variational Approach to Riffle-Pool Design Towards Process-Based Objective Design, Rocko Brown, Philip Williams and Associates, Ltd.

North Fork Sprague River Restoration, Bailey Flat, Klamath County, Oregon, and Brian Hastings, Balance Hydrologics, Inc.

Monitoring Trends in Abundance and Distribution of Steelhead Above and Below Matilija Dam, Ventura, California, Paul Jenkin, Surfrider Foundation / Matilija Coalition

What a Difference a Quarter-century Can Make: The Evolution and Results of Restoration in the Mattole Watershed, Seth Zuckerman, Mattole Restoration Council

Population Status and Trend Monitoring

Session Coordinator: Jacob Katz, University of California, Davis

California Coastal Salmonid Population Monitoring: Strategy, Design, and Methods, Pete Adams, NOAA Fisheries

How Do We Know How Many Salmon Returned to Spawn? Implementing the California Coastal Salmonid Monitoring Plan in Mendocino County, California, Sean Gallagher, CA Department of Fish and Game

Overview of Population Trends and Current Monitoring Efforts for Southern Steelhead, Mark Capelli, NOAA Fisheries

Trend Analysis of Hatchery vs Natural Reproduction Using Otolith Microchemistry, Jim Hobbs, University of California, Davis



Chinook salmon on the Smith River
photo by Thomas B. Dunklin

Historical Salmonid Population Trends in the Eel River, Ron Yoshiyama, University of California, Davis

Standardizing Conservation Assessments, Jacob Katz, University of California, Davis

Saturday Afternoon Concurrent Sessions

The Future of Chinook Salmon

Session Coordinator: Monty Schmitt, Natural Resources Defense Council, and Scott McBain, McBain & Trush

Evaluating River Rehabilitation Effectiveness on Chinook Salmon Rearing Habitat in a Large, Regulated River System in Northern California, Justin Alvarez, Hoopa Valley Tribe Fisheries Department

2010 Interim Flows on the San Joaquin River, Rod Meade, San Joaquin River Restoration Program

Chinook Salmon Reintroduction Strategies for the San Joaquin River, Michelle Workman, U.S. Fish & Wildlife Service

Preliminary Rehabilitation Planning in Support of Chinook Salmon in the Lower Yuba River, Chris Hammersmark, cbec, inc. eco engineering

Proposed Gravel Management Plan to Support Chinook Salmon Recovery Efforts on the Shasta River, California, Geoff Hales, McBain & Trush, Inc.

Bay Delta Conservation Plan: Permanent Closures or a Ray of Hope for the Chinook Salmon Fishery, Zeke Grader, Pacific Coast Federation of Fishermen's Associations

Salmon Strongholds: The Key to Our Future

Session Coordinator: Thomas Weseloh, Cal Trout

Introduction to the North American Salmon Stronghold Partnership and Development of the Stronghold Approach, Mark Trenholm, Wild Salmon Center

Identification of Salmon Strongholds Around the Pacific Rim, Gordon Reeves, Pacific Northwest Research Station, U.S. Forest Service

The Essential Ecological Role and Need for Strongholds in California, Kevin Shaffer, CA Department of Fish and Game



Wood Creek channel in the foreground with former pasture in the background covered at high tide after removing the tide gate to reintroduce the tidal prism.

photo by Don Allan

Stronghold Identification in the Lower 48: The California Model, Tom Miewald, U.S. Fish and Wildlife Service, Pacific Region

Assessment of Threats Common Across Strongholds in California Using the Conservation Success Index, Kurt Fesenmyer, Trout Unlimited

Future Steps: Identifying Bottlenecks and High Impact Strategies, Wendy Millet, Pacific Salmon Ecosystems Program, The Nature Conservancy

Role of Estuaries and Lagoons in Sustaining Salmonid Populations

Session Coordinator: Christina Toms, Wetlands and Water Resources

Conceptual Modeling as a Tool to Identify Controls on Salmonid Habitat Availability in California Central Coast Lagoons, Christina Toms, Wetlands and Water Resources

Morphological Classification of California Coastal Lagoons: Challenges and Implications for Management, Peter Baye, PhD, Annapolis Field Station

Uncertainty and Episodic Variability of Beach-sand Supply in Managing Pilarcitos Lagoon, San Mateo County, California, Brian Hastings, Balance Hydrologics

Wood Creek Tidal Marsh Enhancement Project, Don Allan, Redwood Community Action Agency

Bar Built Estuary and Lagoon Use by Central California Salmonids; Pre-ocean Purgatory or Lost Paradise?, Sean A. Hayes, NOAA Fisheries

Fragmented Habitats: Can the Sisquoc River Reach the Sea?, Michael Bowen, California Coastal Conservancy



Conference Events

Thursday Film Social



SRF will host a film social night with the award-winning documentary *A Simple Question, the Story of STRAW* about The Bay Institute's STRAW (Students and Teachers Restoring a Watershed) program, which has restored over 21 miles of habitat, galvanized the local community, and led to significant educational innovation.

Friday Poster Session



Saturday Cabaret & Banquet



The banquet will feature Wild Copper River Salmon, a cabaret, awards ceremony, and dancing with Latin band *Sambada*.

Controlling Road-related Erosion and Sediment Delivery Tour

Tour Coordinators: Danny Hagans, Pacific Watershed Associates (PWA), **Stephnie Wald**, Central Coast Salmon Enhancement, and **Chris Long**, Colorado State University

This tour will highlight a variety of cost-effective erosion control and prevention techniques that have been used to reduce sediment delivery associated with road systems, so as to improve aquatic habitat conditions and lower long-term road maintenance costs. The emphasis will be on road upgrading techniques that reduce hydrologic connectivity, gully stabilization and various storm-

proofing techniques for stream crossings, with some discussion of road decommissioning techniques. Prior to the field visits, a workshop presentation utilizing time lapse photography sequences will illustrate many of the actual construction techniques and challenges associated with upgrading and decommissioning stream crossings, installing armored fill crossings, outloping roads, constructing rolling dips, etc..

The field tour will visit the Froom Creek watershed which is a tributary to San Luis Obispo Creek, and will tour the California National Guard



A Pacific Watershed Associates' erosion control project.

Camp SLO training lands in the upper Chorro and Dairy Creek watersheds. This erosion control program is the most comprehensive upland water quality protection effort occurring throughout central and southern California projects.



Morro Bay Watershed Headwaters to Mouth Tour: Restoration at a Watershed Scale

Tour Coordinators: Jon Hall and Anna Halligan, Morro Bay National Estuary Program

Morro Bay is one of 28 estuaries recognized by the EPA as nationally significant.

Its watershed encompasses a variety of ecological habitats as well as rare plants and animals. The Morro Bay National Estuary Program is a non-profit that focuses on protecting important habitats within the Morro Bay watershed. The Program accomplishes this by understanding current habitat and water quality conditions through research and monitoring, habitat restoration, and through community education and volunteer programs.

The Morro Bay tour will stop at several restoration projects, beginning in the headwaters of Chorro Valley, and concluding at a lookout of the estuary and watershed for final discussion and questions. Each stop will address different restoration techniques that target improving steelhead habitat and water quality. These techniques include, ranch road restoration, fish passage design, riparian fencing and native plant restoration, bioengineering techniques, instream structures, and floodplain restoration.

On this tour MBNEP staff and representatives of Cal Poly and the local RCD will guide the group from the headwaters of the Chorro Valley watershed, located on Camp San Luis

Obispo, where we will see ranch road restoration completed by Camp SLO and Pacific Watershed Associates. Another tour stop will visit Pennington Creek where two fish passage projects have been implemented, as well as a small bank stabilization project. Next, the tour will visit Cal Poly rangeland focusing on floodplain restoration, riparian fencing, bioengineering and instream structures and the Coastal Resource Conservation District's Chorro Flats floodplain restoration project. The tour will culminate after a brief hike up Black Hill, where tour attendees can view the watershed, estuary, and bay and discuss future restoration efforts within the bay and watershed.



Rainwater Catchment for Coastal Rural Areas

Excerpted from the Salmon Creek Water Conservation Program Manual

In many coastal communities, reliable access to fresh water is limited and watershed health is a concern. During summer months, when stream flows and groundwater supplies are lowest, human demand is highest and endangered fish populations are under extreme stress. Additionally, climate change forecasts indicate that greater seasonal variations in rainfall could affect water security. Roofwater harvesting systems are a “low-tech” way to capture winter rains for use during dry periods. The following is a brief overview of design and construction considerations for roofwater harvesting systems.

The target communities are residents and businesses within all coastal California communities, especially those with water supplies directly linked to waterways supporting threatened or endangered salmon and steelhead fisheries.

A well-designed roofwater harvesting system can reduce or eliminate demand for surface and groundwater supplies, increase water security, improve fire protection, and result in more reliable instream flows for fish and other aquatic life during the dry season. In addition, capturing and infiltrating storage tank overflows onsite can recharge groundwater supplies while reducing erosion, flooding, and pollution during rains.

The Salmon Creek Water Conservation Program Manual addresses design elements common to both potable and non-potable systems. Special considerations for residential, non-residential, and agricultural uses are addressed next, with a final section of additional web and print resources that offer in-depth analysis of the information in this Conservation Strategy. For a recent rainwater harvesting case study, see: www.oaecwater.org/education/roofwater-harvesting-booklet

First Steps in System Design Conservation—Efficiency First

A roofwater harvesting system is



not intended as supply augmentation for inefficient use, waste, or increase in demand. Roofwater harvesting in coastal California is one approach to seasonally offset demand for instream flows and groundwater with stored rainwater. In any water system design, conservation, and efficiency are always the first steps.

Before starting to design a system, research existing policies or ordinances in your area that regulate the use of rainwater, and be sure your intended system will be in compliance. In many counties, tanks over 5,000 gallons will need a building permit for their grading and installation. For more information visit your county's building department website.

Intended Use: Potable or Non-potable

Anyone who has their water supply impacted during the dry season or who uses water from a stream will benefit from installing a roofwater system. The type of system selected will depend on the intended use of the stored water. Simple non-potable systems provide fire protection, irrigation, and livestock water supply independent of instream flows and groundwater. Potable systems need filtration, treatment, and possibly

a backflow preventer. Consider these factors to determine which roofwater system is most appropriate:

- ☞ If irrigation or livestock water supplies are insufficient or unusable, or there are water needs in remote/inaccessible areas (even those currently served by stream diversion or pumping), consider a non-potable system.
- ☞ If the current potable water supply requires trucking in water, seasonal changes diminish well capacity or reliability, or there are concerns about water quality, then a potable water system may be worth developing.

Site Survey and Water Audit

To determine how much water will be needed during the summer, perform a water audit on the structures and surrounding landscape. A Residential Self Survey Conservation Strategy is available at www.salmoncreekwater.org, and will help in estimating storage capacity needed for the rainless months of the year. For help performing a water audit and designing systems for larger scale agricultural needs, contact your local Resource Conservation District (RCD). The Gold Ridge RCD also has information on roofwater systems for dairy operations. Their website is: www.goldridgercd.org.

Roofwater harvesting systems range in complexity from rain barrels under downspouts to municipal-scale systems.

Collection Capacity

To calculate the collection area of a structure's roof, measure the horizontal length and width of your roof line (not the sloped roof) and multiply the two measurements. Next, gather data on average annual rainfall for the area. On-site rain gauge data is optimal, but contacting the local weather service, agricultural extension agent, or public water agency will suffice.

Then, estimate the water quantity the structure's roof could harvest per

continued on next page

Rainwater Calculator

A = (catchment area of building)

R = (inches of rain)

G = (total amount of collected rainwater)

$(A) \times (R) \times (600 \text{ gallons}) / 1000 = (G)$

A Reassessment of the Historical Range of Beaver in California and Implications for Salmonids

By Christopher Lanman

North American beaver (*Castor canadensis*) have been shown to have beneficial effects on salmonids, particularly in the arid West. Positive effects include creation of over-summering habitat (beaver ponds) for first year fish, conversion of seasonal streams to perennial, removal of sediments and pollutants via wetland creation, etc. Beaver are widely regarded as non-native in the Sierra Nevada, the San Francisco Bay Area proper, and coastal central and southern California. However, there are no recent reviews of the evidence for or against the historical range of beaver in California.

A review and integration of multiple lines of evidence, including historical naturalist and fur trapper records, oral histories, museum specimens, ethnographic material such as pictographs and ceremonial items, evaluation of habitat suitability, as well as radiocarbon dating of remnant beaver dams was conducted.

Early naturalist records suggest that beaver were present as far south as San Diego, and accounts of fur trappers suggest that beaver were present in the San Francisco Bay Area. Oral histories place beaver in the high Sierra in the Kings River and Carson River watersheds. Museum specimen records include beaver collected in 1855 in Santa Clara, California and in 1906 in Sespe, California by experienced collectors. Native American pre-European contact words for beaver exist for eastern and mountain Sierra Nevada tribes including the Washoe and Mountain Maidu. The authenticity of the Sespe Creek specimen is supported by the presence of a Chumash pictograph of a beaver at Painted Rock in the Cuyama watershed in the Sierra Madre mountains, about 35 miles from the Sespe Creek headwaters. A historical Chumash shaman's rain making kit made from the skin of a beaver tail was also collected near this

area in the Sierra Madre. Suitability of habitat in California is established based on the 70-year success of beaver re-introductions in the Sierras, the Bay Area, coastal California, and southern California including Santa Barbara, Riverside and San Diego Counties. Finally, radiocarbon dated remains of a remnant beaver dam in Red Clover Creek above 4,500 feet in the Sierras suggest beaver were present in the high Sierra until 1850 A.D.

The presence of beaver may be up to 80 times more efficient than large, woody debris in promoting salmon reproductive success. Grinnell's 1937 assertions that beaver were only present in the Pit and Klamath River drainages (*C. c. shastensis*), the Central Valley (*C. c. subauratus*) and the Colorado River (*C. c. repentinus*), appear to be based on contemporary trappers' interviews and an incomplete review of museum specimen records. New information suggests that beaver were once widespread in much, if not most, of California, and the success of the circa 1940 re-introductions throughout the state for 70 years confirms that habitat is suitable in coastal streams (Big River (Mendocino County), Pescadero Creek (San Mateo County), Santa Ynez River (Santa Barbara County), Santa Margarita River (Riverside and San Diego Counties), Lake Tahoe and Yosemite). The States of Utah and New Mexico have formal plans to re-introduce beaver to restore streams and fish habitat. Although it cannot be proven that beaver were present statewide in California, an integration of the findings here suggests that beaver were native to much of the state, contrary to previous assertions.



photo by Cheryl Reynolds, Worth A Dam

[Rainwater](#), continued from previous page year using the following formula: (Collection area square footage) x (Average annual inches of rainfall) x (600 gallons) / 1000 = Total gallons

of rainfall harvested per year. While average annual rainfall numbers are a good starting point, it is a valuable exercise to do this calculation for 25-

and 50-year drought figures in order to plan for the worst- case scenario.

A capacity calculator is available at www.oaec.water.org/calculators

Collapse of the Central Valley Chinook Fall-run

Bob Mellinger, Water 4 Fish

The Central Valley Fall-run of Chinook salmon has been the backbone of California's sport and commercial salmon fisheries for decades. This run has provided about two-thirds of the annual ocean harvest in California and southern Oregon. As other California salmon populations declined or collapsed, the Fall-run remained the last run large and resilient enough to sustain the fishery. Now, this run has also collapsed because



photo by Kathy Bishop

of dams, diversions, low-river flows, high-water temperatures, habitat loss and degradation, delta water exports, the collapse of the delta ecosystem, pollution, hatchery management practices, and ocean conditions. Due to record low numbers, the California and Oregon sport and commercial salmon seasons were closed for the first time ever in 2008 and 2009. A federal fishery disaster was declared. Limited fishing was permitted in 2010 but the commercial catch was so poor that a fishery disaster was declared again for the third consecutive year. This collapse is among the nation's worst man-made fishery disasters.

Historic annual Fall-run size estimates are on the order of a million fish per year. The 2002 run size was 778,000 returning fish. It's been estimated that 500,000 Fall-run adults in the ocean each season are sufficient to meet escapement goals and sustain healthy commercial and sport salmon industries in California and Oregon. The Pacific Fisheries Management Council (PFMC) has determined that an absolute minimum of 122,000 returning spawners per year are needed for these fish to survive long-term. Counts have fallen short of this minimum for the last three years with only 39,500 fish returning in 2009.

The good news is that this year's returns, especially jack returns, are higher than they were at the same time

last year. Although this is welcome news, it's far too soon to declare an end to the disaster. Even if 2010 returns show a dramatic improvement over last year's historic low, they probably won't come close to the numbers needed to sustain a healthy salmon industry. Only time will tell if the recent upturn marks the beginning of a long-term recovery. In the meantime, California's salmon industry is likely to remain in serious trouble for another year or longer.

The National Marine Fisheries Service (NMFS) has identified 13 Evolutionarily Significant Units (ESU) of salmon and steelhead in California. Ten of the 13 are listed as threatened or endangered under the Federal Endangered Species Act (ESA). The ESA requires fishing closures, plus other protections and recovery actions for these ESUs. NMFS has listed the Fall-run as a "species of concern". This listing does not require any specific protections or recovery actions. Recovery actions for the Fall-run seldom get funded because listed runs get higher priority. Some recovery actions for listed runs actually work to the detriment of the Fall-run. The NMFS 2009 Central Valley Biological Opinion and their Salmon Recovery Plan include protections and recovery actions for Sacramento River Winter-run Chinook, Central Valley Spring-run Chinook, and Central Valley Steelhead. Although some of these actions should provide help for the

Fall-run, they are not intended nor will they recover this run.

Inaction on Fall-run recovery has allowed declines to continue to the point of collapse. After the disastrous returns of the last three years, some people think that the best option may be to petition NMFS to list the Fall-run as threatened if the population does not rebound soon. Others strongly disagree. California's sport and commercial salmon industries depend on the Fall-run for their survival. Their concern is that if the run gets listed as threatened then that listing may not be lifted for a very long time, if ever. That could potentially mean the end of ocean salmon fishing and the collapse of the salmon industry in California. Opponents insist that the run must be recovered without further listing. Stakeholders generally agree that this is the preferable option but some have begun to question whether it's possible. If the population doesn't recover then the fishery will shut down in either case. If it comes to that then it might be best to list the run and get some protections in place.

California's ocean salmon industry will collapse if the Fall-run does not recover. If that happens, the consequences will extend far beyond the fishermen and coastal communities who will be most directly impacted. Many other related businesses will continue to suffer and some will not survive. There will also be consequences for California salmon recovery in general. The battle for salmon recovery is being fought on the political front largely although not entirely by coalitions of fishermen, fishing related businesses, and sport and commercial fishing trade associations. They have a strong incentive to fight the battle because the outcome affects their livelihoods. If the salmon industry collapses then much of the energy needed to fight the battle will likely collapse along with it.

Certification Programs that Benefit Water and Fish

SIP Certified

The Sustainability In Practice (SIP)TM Certification program evolved from nearly two decades of effort to understand and implement sustainable farming practices. When you find the SIPTM seal on a bottle of wine, you can be assured that growers are preserving and protecting the natural environment, treating their employees and community with care, and have sound business practices with a long-term view that protects both the present and the future.

Meaningful Standards—California growers must meet the highest level of sustainable performance to be eligible to use the SIPTM seal. This “gold standard” program was developed with the input of experts from the Environmental Protection Agency, National Resources Defense Council, university advisors, community and environmental organizations and adapts and improves as practices evolve.

Third Party Audit—Independent inspectors audit and confirm adherence to these strict standards.

External Certification—Independent panel grants certification based on blind auditor reports.



SIPTheGoodLife.org
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Salmon-Safe

Salmon-Safe works across the West Coast through our Partner Network, that consists of place-based conservation organizations and watershed groups as well as collaborating certification organizations. More than a decade after first certifying farms in Oregon’s Willamette Valley, Salmon-Safe has become one of the nation’s leading regional eco labels with more than 60,000 acres of farm and urban lands certified in Oregon, Washington, and California. The Salmon-Safe retail campaign has been featured in 250 supermarkets and natural food stores, delivering important marketplace



benefits to participating landowners. Salmon-Safe offers a series of peer-reviewed certification programs linking land management practices with the protection of agricultural and urban watersheds. Whether the site is an organic farm in northern California, an orchard in the Skagit Valley, a Walla Walla vineyard, or a Seattle-area corporate campus, certification requires management practices that protects water quality and restores habitat. Salmon-Safe has innovative new programs focused on site design and development, as well as an accreditation program for pollution prevention in large-scale construction management.



To learn more about Salmon Safe, please visit www.salmonsafe.org

Fish Friendly Farming

The Fish Friendly Farming Environmental Certification Program is run by the California Land Stewardship Institute, a non-profit organization located in Napa County, California. Over time, the FFF program has grown to operate in five counties: Mendocino, Sonoma, Napa, Solano, and El Dorado. To date, over 150,000 acres have been enrolled in the program.

How does Fish Friendly Farming Work?

Representatives of the National Marine Fisheries Service, the Regional Water Quality Control Board, and the County Agricultural Commissioner certify a Farm Conservation Plan.

The landowner or manager, with the support of the FFF program staff, presents the Farm Conservation Plan to the agency certification team. The certification team reviews the Farm Conservation Plan and its implementation timeline with the grower. The team then visits the farm to confirm the accuracy of the Plan and identified BMPs and projects.

Once certified, the landowner or manager receives a letter from each agency recognizing their achievement in environmental land management, water quality improvement and habitat protection. Each site is re-certified every 5-7 years. Recertification reviews the farmer’s progress in implementing the actions designated in the Farm Plan and the overall conditions of the site.



For more info or to see the step-by-step guide to Fish Friendly Farming, please visit www.fishfriendlyfarming.org/program.html

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Santa Rosa CA

Fish Passage Design & Engineering Workshop

May 16-18, 2011 in Eureka, California

Sponsored by Salmonid Restoration Federation, California Department of Fish & Game







Instructors: Engineers Michael Love and Kosmo Bates and Fisheries Biologist Ross Taylor

The cumulative effect of culverts, road crossings, and other structures up and down the coast has impaired fish passage greatly. The need exists to train county personnel, engineers, CalTrans, hydrologists, and fisheries biologists how to remove barriers, large and small, as an essential part of recovering coastal salmon and steelhead.



Fish passage improvement projects are often complicated by various site constraints and socioeconomic challenges, requiring creative approaches. Techniques for retrofitting existing structures are constantly

evolving based on lessons learned from previous projects, such as the evolution of corner baffles. Innovative design methods, such as stream simulation and natural roughened channels, address the passage of both fish and other aquatic species. These techniques, however, require a more thorough understanding of stream morphology and sediment transport than the traditional stream crossing design. This workshop aims to provide an overall understanding of these constraints and the methodology to work toward successful restoration projects.

This hands-on workshop will assist engineers, hydrologists, biologists, and environmental planners, 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

The intensive workshop will include two days in the classroom, comprised of presentations, group exercises and local case studies. The third day will feature field visits to local projects, and a specialized half-day workshop targeted specifically for engineers to explore in more detail the calculations used to develop successful designs. The agenda will also highlight the new "Fish Passage and Design Implementation" chapter of the California Salmonid Stream Habitat Restoration Manual that addresses fish passage at road-stream crossings, small dams, and other in-stream obstructions. It details contemporary design methods and provides guidance on implementation.

For more info, please visit www.calsalmon.org



*both photos of Morrison Gulch
photos this page by Antonio Llanos*