

36th Annual Salmonid Restoration Conference

April 11-14, 2018 at the Fortuna River Lodge

The Art and Science of Watershed Restoration



Conference Co-sponsors

Alnus Ecological, AmeriCorps Watershed Stewards Program, Balance Hydrologics, Cachuma Operation and Maintenance Board, California Conservation Corps, California Department of Fish and Wildlife, California Department of Water Resources, California Trout - North Coast, CalTrans, East Bay Municipal Utility District, ESA, GHD, Green Diamond Resource Company, Hanford Applied Restoration and Conservation, Humboldt Redwood Company, ICF International, Inter-Fluve, Lyme Redwood Forest Company, Marin Municipal Water District, McBain & Associates, Michael Love and Associates, Mother Earth Engineering, NOAA Fisheries, Northern California Water Association, Northwest Hydraulic Consultants, Pacific States Marine Fisheries Commission, Pacific Watershed Associates, Redwood Forest Foundation and Usal Redwood Forest Company, Restoration Design Group, Rincon Consultants, Inc., Samara Restoration, Santa Clara Valley Water District, San Lorenzo Valley Water District, SHN Consulting Engineers and Geologists, Solano County Water Agency, Sonoma County Water Agency, Stillwater Sciences, The Nature Conservancy, Trout Unlimited, Westervelt Ecological Services, Wildlife Conservation Board



April 11, Wednesday Workshops and Field Tours

Identifying Appropriate Site-Specific Methods and Target Criteria for Large Wood Restoration

Workshop Coordinators: *Anna Halligan* and *Elizabeth Mackey, Trout Unlimited*

Effectiveness Monitoring of Instream Restoration Projects—Lessons Learned and Where Do We Go From Here

Workshop Coordinators: *Bob Pagliuco, NOAA Restoration Center, and Ross Taylor, Ross Taylor and Associates*

Room

Steelhead Room

Chinook Room

9am

Accelerated Recruitment: Cost-efficient Restoration Techniques for Enhancing Instream Habitat in California Coho Streams

Chris Blencowe and Ken Smith,
Blencowe Watershed Management and Pacific Inland Inc.

30 Years in the Making: California Conservation Corps Instream Large Wood Restoration Techniques
Brett Leonard, *California Conservation Corps*

Restoring Wood's Essential Role in Controlling Channel Grade and Stability in Small Streams
Michael Love, *Michael Love and Associates Inc.*

How to Keep Your Wood from Floating Downstream: Interactive Computations for Stability of Large Wood Structures
Rachel Shea, *Michael Love and Associates Inc.*

Building Salmonid Habitat Complexity and Resiliency in Tributaries of the Lower Klamath River—Innovations and Lessons Learned
Rocco Fiori, *Fiori GeoSciences*

Simple LWD Structures, Big Geomorphic Changes
Marjorie Caisley, *California Department of Fish and Wildlife*

Salmonids and Watershed Restoration: Focusing on Process-Based Design After 30 Years of Techniques
Chris Moore, *Pacific Watershed Associates, Inc.*

Panel Discussion with all Presenters

The Pudding Creek BACI Experiment: A Paired Watershed Approach to Effectiveness Monitoring
Elizabeth Mackey, *Trout Unlimited*

A Study of Aquatic Habitat and Fish Behavioral Response to Enhanced Flows in a Russian River Tributary
Gabe Rossi, *UC Berkeley*

Tools and Methods to Monitor the Effectiveness of the Dry Creek Habitat Enhancement Project, Russian River Basin
Neil Lassettre, *Sonoma County Water Agency*

Differing Responses of Natal and Non-natal Juvenile Coho Salmon to Restoration Actions in McGarvey Creek, a Tributary to the Lower Klamath River
Jimmy Faulkner, *Yurok Tribal Fisheries Program*

Using Science to Guide Coho Restoration In the Middle Klamath River: If You Build it, They Will Come
Toz Soto, *Karuk Tribal Fisheries Program*

Monitoring the Physical and Biological Effects of Beaver Dam Analogues in the Klamath River Basin
Michael Pollock, PhD, *NOAA Fisheries*

Annual, Seasonal, and Diurnal Variation in Fish Use of Constructed Slough Habitat in the Mattole River Estuary
Nathan Queener, *Mattole Salmon Group*

The Old Man and the SEE: Lessons Learned From 15 Years of Monitoring Coho Salmon Life History and Habitat Restoration Projects in the Stream-Estuary Ecotone
Michael Wallace, *CA Department of Fish and Wildlife*

Effectiveness Monitoring of Fish Passage Projects in CA
Leah Mahan, *NOAA Restoration Center, and Ross Taylor, Ross Taylor & Associates*

Temporal Patterns and Environmental Correlates of Young-of-the-Year Coho Salmon Movement Into Non-Natal Seasonal Habitats
Seth Ricker, *California Department of Fish and Wildlife*

Lunch

9am

Devising Regionally Protective Instream Flow Criteria for Unregulated California Coastal Streams

Workshop Coordinators: *William Trush, Ph.D., Co-Director HSU River Institute, Department of Environmental Science and Management, Humboldt State University and Darren Mierau, CalTrout*

Coho Room

April 12, Thursday Workshops

Speaking of Science and Facilitating Community Engagement Workshop

Workshop Coordinators:

Janine Castro, U.S. Fish and Wildlife Service and Miriam Volat, Occidental Arts and Ecology Center

Using an Optimization Model to Select Fish Passage Barriers for Remediation

Workshop Coordinators:

Lisa DeBruyckere, California Fish Passage Forum and Ross Taylor, Ross Taylor and Associates

Room

Coho Room

Chinook Room

9am

Speaking of Science is focused on improving oral presentation skills for scientists and engineers. Participants will leave the workshop with an improved skill set, including a checklist to develop and deliver memorable presentations. The workshop is highly interactive and builds on the collective experience of the audience and the instructor.

- Audience, venue, organization, size, length
- Main message, title slide, final sentence
- Audiovisuals, lights, sound, computer, timer, pointers, remote, props
- Tone, volume, inflection, pace, pauses, body language

1:00pm

Facilitating Community Engagement is focused on public engagement processes for scientists, engineers, and project managers involved in restoration projects and research that include multiple stakeholders and interactions with diverse parts of the community. Participants will leave the workshop with a clear design process for one-meeting engagements or longer processes, as well as a tool kit of mini-processes to use in your design.

- Designing and planning for your entire public engagement process
- Creating agendas that get results
- Assessing, creating, and sustaining commitment and communication
- Simple facilitation skills and tools that make meetings enjoyable

FishXing Overview

Ross Taylor and Associates

The morning portion of the workshop is focused on an overview of both California Department of Fish and Wildlife Section IX Passage Assessment Methodology and FishXing software.

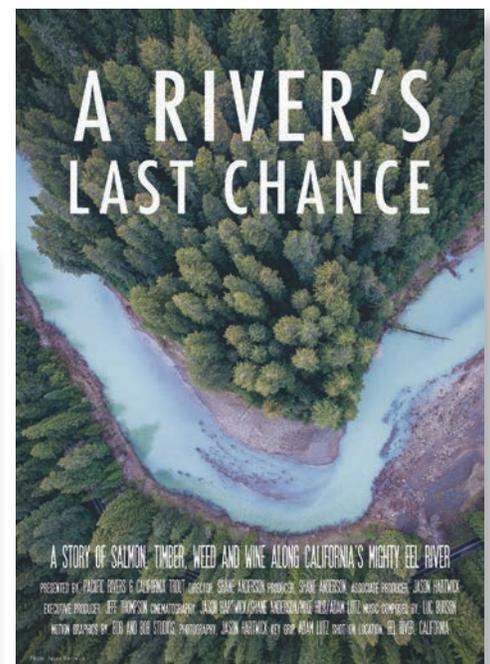
- An Overview of CDFW Section IX Passage Assessment Methodology
- Overview of FishXing Software
- FishXing Group Exercises
- Group presentations and Discussion

FishPass Overview

Lisa DeBruyckere, CA Fish Passage Forum, Anne Elston and Brett Holycross, Pacific States Marine Fisheries Commission, Mike Mertens, EcoTrust

The afternoon portion of the workshop is intended to familiarize fish passage practitioners with FISHPass and its utility in optimizing fish passage barriers for remediation.

- Introduction to Decision Support Tools
- Enhancing the Usability of FISHPass via a User-Friendly Interface
- The Limitations and Strengths of FISHPass
- Running the FISHPass Model



6:30pm

Annual Meeting in the Coho Room, Membership Dinner and Film Screening in the Chinook Room

Plenary Session

9am to noon, Chinook Room

Master of Ceremonies:

Thomas Williams, PhD, NOAA Fisheries

Thinking Outside the Channel—Learning from History and Working with Nature to Restore Riverine-Floodplain Connectivity,

Colin Thorne, PhD, Nottingham University, UK

Evolutionary Enlightened Management Strategies for Conserving and Restoring Pacific Salmon and Trout

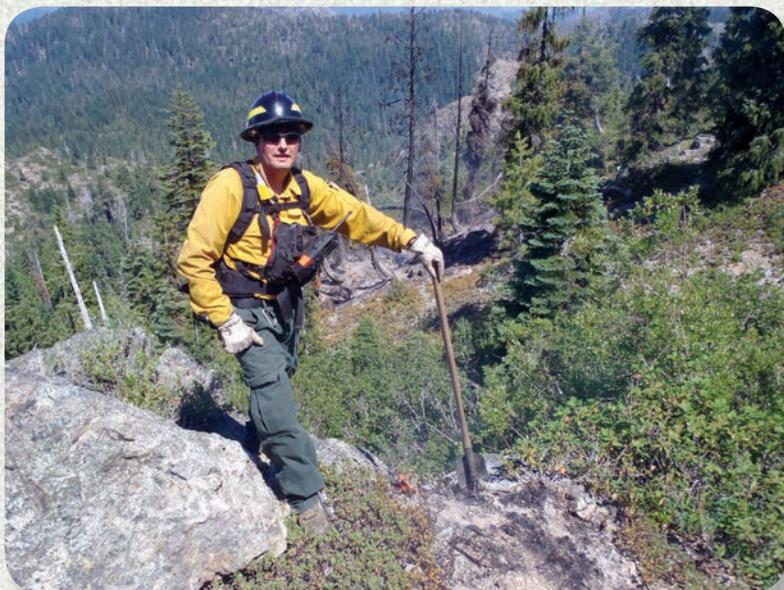
Stephanie Carlson, PhD, University of California, Berkeley, Carlson Lab

Fish and Fires-Integrating Traditional and Western Knowledge Systems with Landscape Restoration Strategies to Address, Adapt to, and Confront Large-scale Wildfires in an Era of Climate Change

Frank Kanawha Lake, PhD, U.S. Forest Service Pacific Southwest Fire and Fuels Program

Revitalization in Native Country

Wendy Poppy Ferris-George (Hupa/Karuk/Yurok/Chameriko), Klamath River Renewal Corporation



Plenary speaker Frank Lake is a poetic research ecologist and traditional knowledge enthusiast.



April 13, Friday Afternoon Concurrent Sessions

Overview of Klamath River Dam Removal and Salmon Reintroduction to the Upper Klamath Basin

Session Coordinator:
Mike Belchik, Yurok Tribe

Restoring to Stage Zero, Recent Innovations in Restoration Science: Reports From the Field

Session Coordinator:
Brian Cluer, PhD, NOAA Fisheries

Streamflow Enhancement: Planning, Science, Strategies and Lessons Learned

Session Coordinator:
Monty Schmitt, The Nature Conservancy

Room

Chinook Room

Steelhead Room

Coho Room

1:15pm

Klamath River Dam Removal and the Klamath River Renewal Corporation (KRRC)
Mark Bransom, Executive Director, Klamath River Renewal Corporation

Strategies for Repopulating the Upper and Middle Klamath River with Salmon and Steelhead Following Dam Removal
John Carlos Garza, PhD, NOAA Southwest Fisheries Science Center

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

Historical Basis for Restoring to Stage Zero
Sean Baumgarten, San Francisco Estuary Institute-Aquatic Science Center (SFEI-ASC)

Embracing Chaos, Stage Zero Experience from the Sierra Foothills
Damion Ciotti and Jared McKee, U.S. Fish and Wildlife Service

Stage 0 Restoration Approach, Design, and Construction
Paul Powers, U.S. Forest Service, Deschutes National Forest

A Coordinated Approach for Developing Statewide Environmental Flow Regulations in California
Julie Zimmerman, The Nature Conservancy

Working Toward Instream Flow Enhancements: Modeling Hydrology and Water Use to Inform Policy Development in Critical Salmonid Streams
Valerie Zimmer, State Water Board

Managing Diversions in Unregulated Streams Using a Modified Percent-of-Flow Approach
Darren Mierau, CalTrout

3:00pm

BREAK

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Genetic Analyses of Contemporary and Ancient Samples Provide Insights into Restoring Upper Klamath Spring Chinook
Tasha Q. Thompson, UC Davis

An Update on the Reintroduction Implementation Plan of Anadromous Fishes into the Oregon Portion of the Upper Klamath Basin
Mark Hereford, Klamath Fisheries Reintroduction Planner, Oregon Department of Fish and Wildlife; and Alex Gonyaw, Fisheries Biologist, Klamath Tribes

Five-mile Bell Restoration Project: A Stage 0 Restoration Case Study in Coastal Oregon
Paul Burns, Fisheries Biologist, U.S. Forest Service, Siuslaw National Forest

Design and Implementation of Secondary Channels in Dry Creek, Sonoma County, California
Jason Q. White, River Scientist, ESA

Winter Habitat and Floodplain Enhancement in Lagunitas Creek—Phase 1 Project Construction
Gregory Andrew, MS, Marin Municipal Water District

Maximizing Incentives to Enhance Streamflow in Coastal California: Integrating Instream Flow Dedications and with ESA Recovery Incentives
Dan Wilson, NOAA Fisheries and Peter Kiel, JD, Ellison Schneider Harris & Donlan LLP

An Alternative Approach to Evaluating the Impact Of Small-Scale Streamflow Improvement Projects on Intermittent Streams: A Case Study on Dutch Bill Creek
Sarah Nossaman, CA Sea Grant

Collaborative Water Management: A Framework for Stakeholder-Led Flow Enhancement Projects at a Watershed Scale
Monty Schmitt, The Nature Conservancy and Tasha McKee, Sanctuary Forest

7pm

Poster Session and Reception in the Chinook, Steelhead, and Coho Rooms

April 14, Saturday Morning Concurrent Sessions

Eel River Ecology, Restoration Challenges, and Opportunities

Session Coordinator:
Darren Mierau, *CalTrout*,
North Coast Director

Cool Matters: Emerging Stream Temperature Science

Session Coordinator:
Eli Asarian, *Riverbend Sciences*

Modeling Salmonid Habitat for Restoration

Session Coordinator:
James Graham, *PhD*
Humboldt State University

Room

Steelhead Room

CCC Room

Chinook Room

9:00am

The South Fork Eel River: Recovery Opportunities in one of the North Coast's Premier Stronghold Watersheds
Darren Mierau, *CalTrout*

The Eel River Delta: Opportunities and Challenges to Restoring Critical Fisheries Habitat on a Working Landscape
Michael Bowen, *California State Coastal Conservancy*

Research Efforts Supporting Instream Flow Planning: Hydrology Modeling, Data Collection, and Stream Classification in the South Fork Eel River Basin
Valerie Zimmer, *State Water Board*

Spatial and Temporal Patterns of Riparian Shade, Light, and Stream Temperature in Response to Riparian Thinning in Redwood Headwater Streams
David Roon, *Oregon State University*

Streams That Cool Down as Summer Heats Up: The Effects of Seasonal Changes in Riverine Canopy on Water Temperature
Ann Willis, *University of California, Davis, Center for Watershed Sciences*

Wildfire Smoke Reduces Summer River Water Temperatures, Potentially Benefiting Cold-Water Fishes
Frank Lake, *PhD*,
U.S. Forest Service Pacific Southwest Research Station

Flow, Form, and Function: Integrated Hydro-geomorphic Modeling Reveals Opportunities and Trade-offs for River Restoration
Belize Lane, *PhD*,
Utah State University

Integrating Hydraulic Modeling-Based Simulations of Salmonid Habitat Suitability with Geomorphic, Hydrologic, and Fisheries Data for Restoration Prioritization, Russian River Watershed, CA,
Jeremy Kobor, *MS, PG*, *Senior Hydrologist*, *O'Connor Environmental*

Increasing the Availability of Spawning Habitats through Building Base Flow Patterns as Found in Natural Flow Regimes
Damon Goodman, *U.S. FWS*

10:30am

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Revising Field Sampling Protocols to Enhance the Role of Geomorphic Classification in Instream Flows Studies
Colin Byrne, *University of California at Davis, Watershed Sciences*

The Phenology of Food Webs in South Fork Eel River Tributaries: Implications for Water Management
Gabriel Rossi, *UC Berkeley, Department of Integrative Sciences*

Removing the Eel River Dams and PG&E's Potter Valley Project to Restore a Wild and Unregulated Eel River Watershed
Scott Greacen, *JD*,
Friends of the Eel River

Potential Effects of Climate Change on Thermally Suitable Habitat for Salmonids in the Salmon River, California
Eli Asarian, *Riverbend Sciences*, and Jay Stallman, *Stillwater Sciences*

Predicting Temporally and Spatially Continuous Estimates of Stream Temperature in Non-Monitored Years Using Simple Covariates
Jared Siegel, *South Fork Research, Inc.*

Freshwater Temperature Response to Five-year Drought in Two Trout-bearing Streams of Southern California
Andre Sanchez, *Resource Conservation District of the Santa Monica Mountains*

A Streamlined Modeling Approach Quantifying Existing Habitat Conditions and Guiding Restoration
Brian Cluer, *PhD*, *NOAA Fisheries*

Modeling Stream Temperatures with the Inclusion of Irradiance Change Due to Forest Biomass Shifts
Jonathan James Halama, *PhD*,
ORISE Fellow with Environmental Protection Agency

What's in a Number: Southern Steelhead Population Viability Criteria?
Mark Capelli, *PhD*, *Steelhead Recovery Coordinator*, *Southwest Fisheries Center*, *NOAA Fisheries*

12:15pm

Saturday Lunch in the Chinook Room and Outside

Streamlined Permitting for Restoration Projects

Session Coordinator:

Matt Clifford, JD, Trout Unlimited

Coho Room

Trinity River Restoration
—Does Streamlining the Regulatory Process Allow for More Effective Restoration?

Brandt Gutermuth,
Bureau of Reclamation, Trinity River Restoration Program

Dam Insights: Removal of Small Dams Via Programmatic Permitting

Stacie Fejtek Smith,
NOAA Restoration Center

Water Rights Permitting for Streamflow Enhancement Projects in Coastal California—Existing Tools and the Need to Bring Them to Scale

Matt Clifford, JD, *Trout Unlimited*



The SRF Conference culminates with our annual banquet including a cabaret, awards ceremony, wild salmon dinner, and the lively dance band Kingfoot!

BREAK

Saving Taxpayer Dollars While Protecting Natural Resources: An Overview of the NOAA Restoration Center's Programmatic Biological Opinions and Coastal Commission Consistency Determinations in CA

Bob Pagliuco, *Marine Habitat Restoration Specialist, NOAA Fisheries*

Removing Barriers to Restoration: Are We Done Yet?

Jonathan Warmerdam, *Senior Environmental Scientist, North Coast Regional Water Quality Control Board*

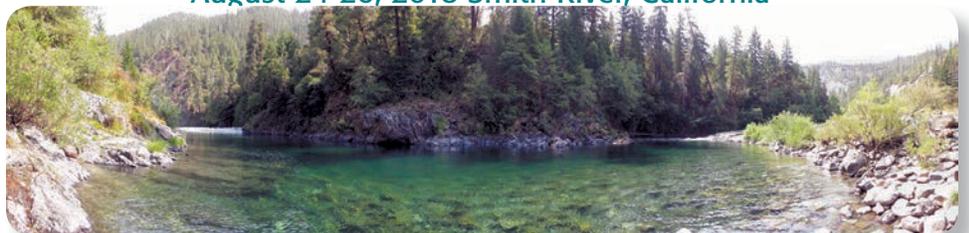
Improving Restoration Permitting: A New Multi-agency Initiative to Advance Projects Statewide

Erik Schmidt, *Sustainable Conservation*

Panel Discussion

21st Annual Coho Confab

August 24-26, 2018 Smith River, California



SRF, with the support of California Department of Fish and Wildlife, will host the 21st Annual Coho Confab at the beautiful Rock Creek Ranch on the South Fork of the Smith River. The pristine Smith River is the largest undammed river in California and is located in the northwest corner of the state in the Siskiyou Mountains. Field tours will include tours of restoration forestry practices, Redwood National Park projects, off-channel habitat,

fish passage projects, and large woody debris installations. Participants will have the opportunity to tour stream crossing replacements that range from fish ladders to roughened channels, to stream simulation culverts and bridges. We will offer workshops on underwater fish identification, a river tour of beaver-constructed structures, and engineered log jams in Lower Klamath River tributaries.

April 14, Saturday Afternoon Concurrent Sessions

Adapting Aging Infrastructure to Sustain Listed Salmonids

Session Coordinator:
Eric Ginney, Central Valley/Sierra/
Cascade Director, ESA

Alluvial Fans and Salmonid Habitat: The Forgotten and Challenging Landscape In-Between

Session Coordinators:
Michael Love, PE, Michael Love
& Associates, Inc. and Jay Stallman,
PG, Stillwater Sciences

Biological Responses: Fish Seeks River With Ample Flow and Bugs, Not Too Hot

Session Coordinator:
Eli Asarian, Riverbend Sciences

Room

Coho Room

Steelhead Room

Chinook Room

1:15pm

Changing Energy Markets, Changing Needs: Rethinking Hydropower Dams and Infrastructure
Dave Steindorf, Special Projects Director, American Whitewater

New Ownership of the DeSabra Hydropower Project: Stakeholders Creating Regulatory Process from Scratch
Chris Shutes, FERC Projects Director and Water Rights Advocate, California Sportfishing Protection Alliance

Butte Creek DeSabra-Centerville Hydroelectric Project: Decommission or Retool? Salmon Want to Know!
Allen Harthorn, Executive Director, Friends of Butte Creek

The Benefits of Restoring Alluvial Fan Processes after a Century of Neglect
Michael Love, Michael Love & Associates, Inc.

Alluvial Fan Construction in the Pacific Northwest
Paul Powers, U.S. Forest Service

Managing Fish Passage Across the Antelope Creek Alluvial Fan
Jay Stallman, Stillwater Sciences

Field-based Thermal Tolerance in Juvenile Salmonids as a Function of Food Availability: Implications for Recovery and Restoration
Joshua Strange, Ph.D., Sweet River Sciences

Decreased Streamflow Impacts Fish Movement and Energetics Through Reductions to Invertebrate Drift
Timothy Caldwell, University of Nevada, Reno

Primary and Secondary Production in Dammed and Undammed Reaches of the Eel River
Lara Jansen, Environmental Science & Management, HSU

3:00pm

BREAK

BREAK

BREAK

The Potter Valley Project: Fish Passage and Flow Opportunities
Patrick Samuel, Bay Area Program Manager, California Trout

New Federal Interagency Guidance on Managing Infrastructure in the Riverine Environment
Caroline Ubung, U.S. Bureau of Reclamation

Cultivating Ecological Solutions On Agricultural Lands
Jacob Katz, Ph.D., Senior Scientist, CalTrout

Debris Basins in Southern Santa Barbara County; Their History and Exciting Future
Seth Shank and Andrew Raaf, Santa Barbara County Flood Control and Water Conservation District

Expect the Unexpected—Monitoring Geomorphic Changes and Evaluating Overall Effectiveness in Highly Dynamic Alluvial Fan Environments
Ian Mostrenko, Herrera Environmental Consultants

Salmonid Habitat Use of the Goodell Alluvial Fan: Would Removal of Anthropogenic Features Increase Fish Numbers?
Rick Hartson, Upper Skagit Indian Tribe

Interannual Variability in the Timing of Sacramento Pikeminnow Migration in the South Fork Eel River
Philip Georgakakos, UC Berkeley

Thermal Refuge for Salmonids at Tributary Confluences in a Warming River Network
Terrance Wang, UC Berkeley, Department of Environmental Science, Policy, and Management

Panel Discussion