



Posters at the 2015 State of the Estuary Conference are listed below. Posters are listed by topic (clusters first, then individual poster topics). For posters with multiple authors, only the presenting author is listed here. A full list of authors is available in the poster abstracts.

Asterisks (*) indicate the poster is submitted by a student and eligible for the student poster awards competition.

Poster Clusters

Living Shorelines Project

**Invertebrate Responses to Eelgrass and Oyster Restoration in a San Francisco Estuary
Living Shorelines Project**

Cassie Pinnell*, SFSU

**Avian Predator and Invertebrate Prey Response to Subtidal Restoration Efforts: Living
Shorelines Near-shore Linkages Project 2011-2015**

Laura Hollander, USGS

**Invertebrates Isotopic Niche Widths and Trophic Relationships in a San Francisco Bay
Living Shorelines Project**

Julien Moderan, Romberg Tiburon Center, SFSU

**Effects of Living Shorelines on Substrate, Sedimentation, and Waves: the San Francisco
Bay Living Shorelines Nearshore Linkages Project**

Damien Kunz, Environmental Science Associates

Partnerships for a Healthy Coyote Creek

Community Creek Cleanups

Deb Kramer, Keep Coyote Creek Beautiful

Ebb and Flow: Connecting Creek and Curriculum at SJSU

John Delacruz, SJSU

Coyote Creek Mural Project

Paul Gonzalez, City of San Jose

Beautifying Neighborhoods with Creek-themed Public Art

Magnolia Morris, City of San Jose

Project Study on Clean Creeks, Healthy Communities

Jennifer Seguin, City of San Jose

The Coyote Creek Howl - A Community Conference

Chris Di Salvo, SJSU

Restoration Enhancement work by the Invasive Spartina Project

Active Revegetation to Benefit California Ridgway's Rail (*Rallus o. obsoletus*) in San Francisco Bay's Tidal Marshes - Is It Habitat Yet?

Jeanne Hammond, San Francisco Estuary Invasive Spartina Project

Creating High-Tide Refuge Islands for the California Ridgway's Rail

Gavin Archbald, H. T. Harvey & Associates

San Jose-Santa Clara Regional Wastewater Facility: Treating Wastewater and Enhancing the Bay

San Jose-Santa Clara Regional Wastewater Facility: Treating Wastewater & Enhancing the Bay

James Ervin, San Jose-Santa Clara Regional Wastewater Facility

Nutrient Removal at the San Jose-Santa Clara Regional Wastewater Facility

Simret Yigzaw, San Jose-Santa Clara Regional Wastewater Facility

Nutrients Variation with Tides in Artesian Slough

Eric Dunlavey, City of San Jose

Tracking Benthic Communities in Artesian Slough

Bryan Frueh, City of San Jose

Tracking Fish Communities in Artesian Slough

Ryan Mayfield, San Jose-Santa Clara Regional Wastewater Facility

Ducks at the Regional Wastewater Facility

James Ervin, San Jose-Santa Clara Regional Wastewater Facility

Outreach Collaboration: Wastewater Facility and the Wildlife Education Center
Emy Mendoza, City of San Jose

State of the Estuary Report 2015

Trends in Harbor Seal Numbers Illuminate Changing Conditions within SF Bay Estuary: Comparing 2015 Harbor Seal Counts to the 2000-2010 Benchmark
Chris Pincetich, The Oceanic Society

Feast or Famine: Fish Food in the Upper San Francisco Estuary
April Hennessy, DFW

Increasing Dominance of Floating Aquatic Vegetation in the Sacramento-San Joaquin Delta over the Past Decade
Shruti Khanna, UC Davis

The Key to Effective Decision-making through Science and Communication: A Preview of the State of Bay-Delta Science, 2015

Updating the State of Bay-Delta Science to Reflect New Findings Learned about the System Since 2008
Darcy Austin, Delta Science Program

Recent Advances in Understanding Flow Dynamics and Transport of Water-quality Constituents in the Sacramento – San Joaquin River Delta
David Schoellhamer, USGS

Water Quality, Contaminants, and Their Effects on Delta Species, Ecosystem Services, and Drinking Water Supply
Stephanie Fong, State and Federal Contractors Water Agency

Delta Smelt: Biology of a Once Abundant Species in the San Francisco Estuary
Peter Moyle, UC Davis

Anadromous Salmonids in the Delta: New Science 2006-2016
Russell Perry, USGS

Predation on Fishes in the Sacramento-San Joaquin Delta: Current Knowledge and Future Directions
Gary Grossman, University of Georgia

The Microcystis Bloom during the 2014 Drought

The Impact of the 2014 Severe Drought on Microcystis Blooms in the San Francisco Estuary

Peggy Lehman, DWR

Drought Enhances Abundance and Biodiversity of Cyanobacteria in the Sacramento-San Joaquin Delta

Tomofumi Kurobe, UC Davis

Water Quality Issue during Drought Year in the Sacramento-San Joaquin Delta

Tomofumi Kurobe, UC Davis

Changes in Zooplankton Composition and Abundance during the 2014 Microcystis Bloom

Sarah Lesmeister, DWR

The Napa River: Working Together to Build a Resilient Watershed and a Living River

Napa River Restoration Projects

Shaun Home, Napa County

Fish Barrier Removal Projects in the Napa River Watershed

Jeremy Sarrow, Napa County

Beavers: Nature's Engineers at Work in the Napa River Watershed

Leigh Sharp, Napa County

Youth at Work in the Watershed: LandSmart Youth Stewards and Youth Ecology Crops

Frances Knapczyk, Napa County

Napa River Sediment TMDL Monitoring Program: Pilot Implementation

Glen Leverich, Stillwater Sciences

Napa County Dry-Weather Storm Drain Outfall Assessment

Paul Blank, Napa County

Individual Posters

Agriculture and Water Quality

Leaching Fractions Achieved in South Delta Soils under Alfalfa Culture

Michelle Leinfelder-Miles, UC Cooperative Extension

The AFRI Rice Project: Benefits of Nitrogen Fertilizer Treatment in Rice Planting on the Sacramento-San Joaquin Delta to Encourage Subsidence Prevention, Sustainability of Soil Conditions and Water Management Affects on GHG Emissions

Roni Gehlke*, Delta Science Center

The AFRI Rice Project: Benefits of Nitrogen Fertilizer Treatment in Rice Planting on the Sacramento-San Joaquin Delta to Encourage Subsidence Prevention, Sustainability of Soil Conditions and Water Management Affects on GHG Emissions Public Education Project

Roni Gehlke*, Delta Science Center

At Risk Species: Fish

Thermal Metabolic Performance of Wild Juvenile *Oncorhynchus mykiss* in the Lower Tuolumne River: A Case for Local Adjustment to High River Temperature

Christine Verhille, UC Davis and FISHBIO

Evaluation of the Condition of Wild Delta Smelt (*Hypomesus transpacificus*) Supplemented to the Refuge Population at the Fish Conservation & Culture Laboratory (FCCL)

Tewdros Ghebremariam, UC Davis

When Salmon go Salty...

Anna Sturrock, UC Berkeley

An Investigation into Differences in Early Growth and Life History Strategies of Delta Smelt, *Hypomesus transpacificus*

Eva Bush*, UC Davis

Longfin Smelt Distribution, Abundance and Evidence of Spawning in San Francisco Bay Tributaries

Christina Parker, UC Davis

Using Next-generation Sequencing to Identify Copepod Diets in Delta Smelt Habitat

Ann Holmes*, Romberg Tiburon Center, SFSU

Quantifying Factors that Influence Salmon Smolt Predation in the San Joaquin River

Joseph Smith, University of Washington

**Gonadal Fatty Acid Indices of Enzymatic Activity and Ratios in Wild Delta Smelt
*Hypomesus transpacificus***
Alejandro Ruiz Ramos, UC Davis

At Risk: Tidal Marsh Species

**Historical Bioaccumulation of Methyl Mercury in Tidal Wetlands of San Francisco Bay,
California**
Steven Schwarzbach, USGS

**Characterizing Functional Genetic Variation in the Salt Marsh Harvest Mouse,
*Reithrodontomys Raviventris***
Anastasia G. Ennis*, Romberg Tiburon Center, SFSU

Biological Species

Alameda and Contra Costa County Wildlife-Friendly Livestock Pond Initiative
Alyson Aquino, Natural Resources Conservation Service

**Evaluating Tidal Restoration: A Comparison of Restored and Managed Wetlands in the
Suisun Marsh**
Melissa Riley, DFW

The “Blob” Brings Subtropical Visitors to San Francisco Estuary
Jennifer Giannetta, DFW

**Community Patterns and Environmental Associations for Fish Dominated Assemblages
in the Upper San Francisco Estuary**
Gonzalo Castillo, USFWS

Fish Rescue, Deterrence, and Lessons Learned at a Former Naval Dry Dock
Daniel Chase, WRC, Inc.

Biological Species: Birds

Double-crested Cormorant Declines on San Francisco Bay Bridges
Meredith Elliott, Point Blue Conservation Science

**Avian Predator Community and Foraging Behavior During Winter Tides in San
Francisco Bay Saltmarshes**
Kyle Spragens, USGS

**Controlling Physical and Chemical Characteristics of Habitat Islands in the San
Francisco Bay Estuary**
Austin Payne, Ducks Unlimited

**Assessment of Habitat Displacement of Waterbirds in Central San Francisco Bay:
Lessons from the 34th America's Cup Races**
Tanya Graham, USGS

**Shorebird Response to Varying Salinity and Water Depth in an Experimental Design in
Salt Pond Management**
Lacy Smith, USGS

Biological Species: Invertebrates

**Surprising Invertebrates Common on the Bottom of Ship Channels of Our California
Delta**
Christopher Kitting, CSU East Bay and SF Bay Wildlife Society

**Benthic Response to Water Quality and Biotic Pressures in Lower South Bay-Alviso-
Coyote Creek**
Francis Parchaso, USGS

**Ramshorn Snails: Temperature, Density and Ammonia Effects on Growth and
Fecundity**
Troy Stevenson, UC Davis

Clean Vessel Act

Clean Vessel Act Program - SFEP's Comprehensive Approach to Curb Sewage Discharge
James Muller, SFEP

Climate Change

San Francisco Bay Advanced Quantitative Precipitation Information (AQPI) System
Carl Morrison, Morrison & Associates, Inc.

Hot off the Press! San Francisco Bay Responds to Record High Temperatures
Charles Martin, USGS

**Integrating Fluvial and Oceanic Drivers in Operational Flooding Forecasts for San
Francisco Bay**
Liv Herdman, USGS

Climate Change: Habitat Restoration

Resilient Design for New Coastal Shoreline Park
George Salvaggio, WRA, Inc.

Movin' On Up: How Uplands Can Save Wetlands and Restore San Francisco Bay Tidal Marshes

Megan Elrod, Point Blue Conservation Science

Bringing Climate-Smart Conservation to the San Francisco Bay Estuary: California Landscape Conservation Cooperative

Andrea Graffis, California Lands Conservation Cooperative

Toward an Integrated Vision for a Resilient Urban Estuary: SFEI's Shore Resilience Initiative

Ruth Askevold, San Francisco Estuary Institute

Tidal Marsh Vulnerability to Climate Change in the San Francisco Bay Estuary

Christopher Janousek, Oregon State University

Greenhouse Gas Emissions and Carbon Sequestration Potential in Restored Wetlands in the Sacramento San-Joaquin Delta, California

Sara Knox*, UC Berkeley

***Grindelia stricta* Seed Germination Responses to Salinity**

Isabel Schroeter*, UC Berkeley

A Tale of Two Marshes: 15 Years of Vegetation Change at China Camp and Muzzi Marsh

Dylan Chapple*, UC Berkeley

Community Outreach

Environmental Education for Public Outreach

Kathryn Kynett, Sacramento-San Joaquin Delta Conservancy

Living Arroyos Program: Forging New Community Partnerships

Tami Church, Zone 7 Water Agency

Citizen Science at the Don Edwards San Francisco Bay National Wildlife Refuge

Julie Kahrnoff, SF Bay Wildlife Society

Learning by Doing Science: Oakland High School Students Help in Salt Marsh Restoration Research at Lake Merritt

Lubab Alkhayat, Oakland High School

Adopt a Drain - Oakland Volunteers Prevent Flooding and Improve Water Quality by Keeping Storm Drains Clean and Clear

Mike Perlmutter, City of Oakland

Data/Tools: Mapping

Creek and Watershed Interactive Map of Western Alameda County

Janet Sowers, Fugro Consultants

Mapping Dynamic Estuarine Intertidal Features using WorldView-3 and Unmanned Aerial Surveillance

Brian Fulfroost, SFSU

Use of GIS and GPS Technology in the Invasive Spartina Project's Revegetation Program

Jeffrey Lewis, Olofson Environmental, Inc.

Mapping Occurrences of California Ridgway's Rails

Jen McBroom, Olofson Environmental, Inc.

Enhancing Regional Capacity for Habitat Project Tracking, Assessment and Reporting

Kristal Davis Fadtke, Sacramento-San Joaquin Delta Conservancy

Invasive Spartina Mapping and Monitoring Methods

Ingrid Hogle, San Francisco Estuary Invasive Spartina Project

Data/Tools: Monitoring the Bay

The NOAA Sentinel Site Cooperative: Partnering to Meet the Challenges of Sea Level Rise in the Bay Area

Maya Hayden, California Sea Grant

Watershed Based Ecosystem Condition Profiles in Santa Clara County

Sarah Lowe, San Francisco Estuary Institute

Innovative Visualization Tool for Water Quality Data

Cristina Grosso, San Francisco Estuary Institute

Remote and In Situ Observing -- San Francisco Bay Ecosystem (RIO-SFE) 2: Model Validation with In Situ and Satellite Data

Yi Chao, Remote Sensing Solutions, Inc.

Remote and In Situ Observing -- San Francisco Bay Ecosystem (RIO-SFE) 1: Remote Sensing and In Situ Data

Curtiss Davis, Oregon State University

Automated Tool for Generating Recurrent Storm Events of Different Durations from Raw Precipitation Data

Thomas Burke, Hydrologic Systems

Data/Tools: Network

The Climate Commons: Making Climate Science Accessible for Conservation Planning

Deanne DiPietro, California Landscape Conservation Cooperative

Delta Watershed Initiative Network

Shakoor Azimi-Gaylon, Sacramento-San Joaquin Delta Conservancy

Estuary-wide Data Repository

Shakoor Azimi-Gaylon, Sacramento-San Joaquin Delta Conservancy

WARMF-Online: Data and Model-based Forecast Visualization for Real-time Management of Salinity in the San Joaquin Basin

Nigel Quinn, Berkeley National Laboratory and USBR

California Estuary Monitoring Workgroup – Using Web Portals to Improve Scientific Understanding

Stephanie Fong, State and Federal Contractors Water Agency

Decision Support Tools for Understanding Juvenile Salmon Entrainment and Survival in the South Sacramento/San Joaquin Delta through the Use of Acoustic Telemetry and Hydrodynamic Measurements

Amye Osti, 34 North

Environmental Cleanup

Potential Place of Refuge (PPOR) Sites in the San Francisco Bay Area

Kathleen Jennings, DFW

A Novel and Cost-Effective Method to Document Trash Reduction in Stormwater

Chris Sommers, EOA

Fish Contamination

Delta Mercury Exposure Reduction Program (Delta MERP)

Kathryn Kynett, Delta Conservancy

Impact of Hypersalinity on Embryonic Development of the Japanese Medaka (*Oryzias latipes*)

Allison Kupsco*, UC Riverside

Immunogenetic Variation in X-cell Tumor Diseased Fish across an Estuarine Gradient of Contaminants

Calvin Lee*, SFSU

Habitat Restoration: Fish

San Francisco Bay Creosote Piling Removal and Pacific Herring Restoration Project: Pilot Site Selection Using Spatial Models and Regional Datasets for Screening Prior to Completion of Site Specific Investigations

Marilyn Latta, SCC

Preliminary Two-Year Comparison of Effectiveness Monitoring for the Bobcat Flat Rehabilitation Project, Tuolumne River, CA

Kes Benn, USFWS

Habitat Restoration: Salt Ponds

Lessons Learned from Restoring Solar Evaporation Ponds in the San Francisco Estuary

James Hobbs, UC Davis

No Rain Much Pain: Challenges and Lessons Learned in Transition Zone Restoration during a Drought

Nissa Kreidler, Save the Bay

Habitat Restoration: Seagrass

Morphological Plasticity of a Native SAV Species in the San Francisco Estuary

Melissa Patten*, Romberg Tiburon Center, SFSU

San Francisco Bay Living Shorelines Project: Progress in restoring *Zostera marina* in San Rafael Bay

Jennifer Miller, SFSU

Habitat Restoration: Tidal Marsh

Pickleweed Restoration in a Muted Tidal Marsh: Peyton Slough Remediation Project

Katherine Dudney, AECOM

Experimental Propagation Methods for the Oro Loma Horizontal Levee Demonstration Project

Jessie Olson, Save the Bay

More than One Way to Catch a Bug – Macroinvertebrate Sampling Methods for Monitoring of Tidal Wetland Restoration Sites

Rosemary Hartman, DFW

Sonoma Baylands Wetlands Demonstration Project: Findings from 19 Years of Physical and Biological Monitoring

Lindsey Sheehan, Environmental Science Associates

**Tidal Salt Marsh Vegetation Establishment at the Sonoma Baylands Wetland
Demonstration Project: 18 Years of Post-Construction Monitoring**
Gavin Archbald, H. T. Harvey & Associates

Habitat Restoration: Tools to Restore

**Remote Sensing of Canopy Leaf Area Index and Decadal Changes in Wetland
Greenness in the Delta and Suisun Marsh**
Iryna Dronova, UC Berkeley

Direct Seeding for Habitat Restoration Projects
Dina Robertson, AECOM

Habitat Restoration: Wetland and Riparian

**Back to the Future: Tule Marsh Restoration at Shin Kee for the Giant Garter Snake
(*Thamnophis gigis*)**
Emily Mathews, Zentner and Zentner

**Riparian Understory Restoration of White Root (*Carex barbarae*) and Creeping Wild
Rye (*Elymus triticoides*) in Post-Burn Areas at Bushy Lake, Sacramento, CA USA**
Mary Xiong*, CSU Sacramento

**Monitoring Post-fire Resiliency in a Depressional Wetland using California Rapid
Assessment Methodology (CRAM), Intensive Vegetation, and Avian Species Richness
to Establish Long-term Monitoring using Citizen Science**
Kayla Henry*, CSU Sacramento

Invasive Species

**Species Composition and Contribution of Marine Invasive Species to Fouling
Communities of San Francisco Bay**
Lina Ceballos-Osuna, Smithsonian Environmental Research Center

Predation of Juvenile Salmon in the Tuolumne River
Jason Guignard, FISHBIO

Mapping the Marsh with Unmanned Aerial Systems
Jared Lewis, Solano Land Trust and SF NERR

**Identifying Emerging Invasive Plants for Early Eradication on the San Mateo County
Coast**
Elizabeth Brusati, California Invasive Plant Council

Mapping and Prioritizing the Invasive Plant *Arundo donax* for Eradication in the Legal Delta

Bryan Sesser, Sonoma Ecology Center

The USDA-ARS Areawide Pest Management Project for Integrated Management of Water Hyacinth, Brazilian Waterweed, *Arundo* and Associated Pests in the Sacramento-San Joaquin Delta

Patrick Moran, USDA-ARS

Invasion Trends in San Francisco Estuary Sessile Invertebrate Communities over Fifteen Years (2000 to 2014)

Andrew Chang, Smithsonian Environmental Research Center

Nutrient Removal

Treatment Plant Nutrient Removal Utilizing a Freshwater Marsh

Chase Campbell, The City of Palo Alto Watershed Protection Group

Opportunities to Increase Bayshore Resiliency and Reduce Infrastructure Vulnerability by Re-plumbing the East Bay

Carolyn Doehring, San Francisco Estuary Institute

The Horizontal Levee: Combining Nutrient Removal from Wastewater with Flood Control and Habitat Restoration

Aidan Cecchetti*, UC Berkeley

Nutrients

Monitoring Water Quality in the San Francisco Bay-Delta Using High-resolution Remote Sensing

Cedric Fichot, Jet Propulsion Laboratory, CIT

Nutrients Affecting the Water Quality in State Water Project Supplies

Marcia Scavone-Tansey, DWR

Characterization of and Potential Mechanisms for Low Dissolved Oxygen in the Sloughs of San Francisco Bay

Emily Novick, San Francisco Estuary Institute

Fixed-Station Measurements and Synoptic Spatial Characterization Provide Insights into Organic-Matter, Nutrient, and Algal-Pigment Dynamics in the San Francisco Bay-Delta

Elizabeth Stumpner, USGS

Primary Productivity

Do Drought Conditions Increase Nutrients and Productivity in the Northern San Francisco Estuary?

Frances Wilkerson, Romberg Tiburon Center, SFSU

The Influence of Irradiance and Nutrients on the Growth of Two Diatoms Isolated from Northern San Francisco Bay

Mine Berg, Applied Marine Sciences

Temporal Trends of Benthic and Pelagic Primary Production in Historical Marshes

Tricia Lee*, Romberg Tiburon Center, SFSU

The Response of Bay Delta Phytoplankton Communities to Wastewater Ammonium Inputs and Changes in Irradiance

Matt Mills, Stanford University

Recycled Water

Emulating Volcanism to Create a New Class of Recycled Water

Terry Gong, HIS and ERT

Regional Monitoring Program for Water Quality in San Francisco Bay

Effects of California's Drought on San Francisco Bay Specific Conductance and Temperature

Maureen Downing-Kunz, USGS

Evaluation of Mercury and PCB Trends in San Francisco Bay Region Stormwater

Donald Yee, San Francisco Estuary Institute

Fipronil Water Pollution and Its Sources

Kelly Moran, TDC Environmental, LLC

Microplastic Contamination in San Francisco Bay

Shavonne Stanek*, San Francisco Estuary Institute

Poly- and Perfluoroalkyl Substances in Wastewater Effluent Discharged to SF Bay

Erika Houtz, DTSC

Biogeochemical Effects of Shifts in Ammonia-Oxidizing Microbial Community Structure and Gene Expression in the Waters of Suisun Bay and the Sacramento River

Julian Damashek*, Stanford University

Reservoir Monitoring

Impact of Small Urban Reservoirs on Water Quality in East Bay Watersheds

Laura Rademacher, University of the Pacific

Sediment Core Derived History of Metal Cycling through Small Urban Reservoirs in the San Francisco East Bay Area

Kristina Faul, Millis College

Runoff Infrastructure

Watershed Planning for Green Infrastructure Implementation through the GreenPlan-IT Toolkit

Lester McKee, San Francisco Estuary Institute

Rain Gardens in Richmond: A Low-cost, Community Driven Solution for Stormwater Filtration

Martha Berthelsen, The Watershed Project

Performance of a Bioswale on Urban Runoff Management

Qingfu Xiao, UC Davis

Sediment Transport

Sediment: Checks and Balances

Heather Perry, BCDC

Observations and Modeling of Dumbarton Mudflat Evolution at Decadal Time Scales

Bruce Jaffe, USGS

Sediment Source Analysis to Inform Sediment Management Actions for Wildcat Creek, California

Anthony Falzone, FlowWest

High-resolution Field Measurements of Cohesive Sediment Characteristics and Dynamics in Northern San Francisco Bay

Ivy Huang*, Stanford University

Implementing Fine Sediment TMDLs on Private Lands with the Voluntary, Incentive-based Fish Friendly Farming Environmental Certification Program

Laurel Marcus, Ca. Land Stewardship Inst.

Watershed Management

Water Supply and Instream Habitat Improvements in Suisun Creek

Laurel Marcus, Ca. Land Stewardship Inst.

Upper Napa River Water Quality Improvement and Habitat Enhancement Program

Laurel Marcus, Ca. Land Stewardship Inst.

Central Valley Flood System Conservation Strategy - Planning Tools, Key Datasets, and Measurable Objectives

Ron Melcer Jr., DWR

RipZET: A GIS-Based Decision Support Tool for Estimating Riparian Zones at the Watershed and/or Project Scale

Scott Dusterhoff, San Francisco Estuary Institute

Using Multiple Indicators and Assessment Methods to Develop an Ecological Baseline

Tami Church, Zone 7 Water Agency