

# Making Connections

8<sup>th</sup> Biennial  
Bay-Delta Science Conference

## TAKE A LOOK!

|                      |       |
|----------------------|-------|
| Plenary Session      | 2     |
| Schedule at a Glance | 2-3   |
| Daily Schedule       | 4-11  |
| Poster Session       | 12-16 |

**October 28-30, 2014**

**Sacramento Convention Center  
1400 J Street, Sacramento California**

### The Biennial Bay-Delta Science Conference

is a forum for presenting technical analyses and results relevant to the Delta Science Program's mission to provide the best possible, unbiased, science-based information for water and environmental decision-making for the Bay-Delta system. The goal of the conference is to provide new information and syntheses to the broad community of scientists, engineers, resource managers, and stakeholders working on Bay-Delta issues.

The conference program features a mix of plenary and contributed talks and poster presentations that provide scientific information on topical themes, as well as to the broader overall conference theme "Making Connections." Management of the Bay-Delta Ecosystem is at a critical crossroads with political and regulatory mandates seeking new ways to manage water exports while restoring landscape-level ecosystem attributes and functions. To support these activities requires that scientists make connections among external drivers, management actions, and ecosystem responses. Perhaps more critical, the scientific and management communities must make connections to ensure a two-way flow of needs, resources, ideas, and understanding.



### Conference Organizing Committee

#### Conference Co-Chairs:

Lenny Grimaldo, ICF  
Wim Kimmerer, Romberg Tiburon Center, SFSU

#### Program Chairs:

Steve Culberson, USFWS  
Louise Conrad, DWR

#### Poster Chairs:

Darcy Austin, USGS  
Josh Israel, USBR

#### Student Judging Chairs:

John Callaway, USF  
Hildie Spautz, DFW

#### Student Mentor Chairs:

Melissa Dekar, CVRWQCB  
Garrett Liles, Delta Science Program

#### Brown-Nichols Science Award Chairs:

Lauren Muscatine, UC Davis  
Michelle Shouse, USGS

#### Raffle Chair:

Kim Gazzaniga, DWR

#### Conference Coordinator:

Karen McDowell, SFEPC

#### Committee Members:

Shakoora Azimi-Gaylon,  
Delta Conservancy  
Marina Brand, Delta  
Science Program  
Kelsey Cowin, SFCWA  
Erin Foresman, US EPA



Delta Science Program  
Delta Stewardship Council



# Making Connections

Schedule at a Glance

Tuesday, October 28

## SPECIAL EVENTS!

### Student/Early Career Scientist Mentor Lunch

Tuesday, October 28  
12:25–1:25 PM Room 315

This event will be structured around broad career and science themes that will allow students, early career scientists, and mentors to exchange ideas and insights about career development, research interests and much more. Delta Science Program Lead Scientist Peter Goodwin will provide some opening remarks to kick things off and it's certain everyone will emerge from lunch energized and enriched! Pre-Registration is required for this event.

### Making Connections: Contemporary Art, Science, and Communication

Moderator: Enid Baxter Ryce, CSU Monterey Bay  
Wednesday, October 29  
12:20-1:20 PM, Rooms 311–313

What is the role of contemporary artists in interpreting the exceptional ecology and challenges of the Bay-Delta? Artists engage environmental or ecological subjects through unexpected creative collaboration with the sciences. The forms these creative investigations take are strange, multifaceted and participatory—engaging sensory metaphor, humor and emotion. Through these innovative, contemporary creative practices, artists and scientists can communicate their knowledge with greater urgency and impact.

## PLENARY SESSION Rooms 308-313

|               |   |
|---------------|---|
| 8:00AM        | <b>REGISTRATION—3rd Floor Lobby</b>   |
| 9:00-9:10     | <b>Welcome</b><br>Wim Kimmerer, San Francisco State University  |
| 9:10-9:40     | <b>Invited Speaker</b><br>Michael L Connor, Deputy Secretary, U.S. Department of the Interior   |
| 9:40-10:05    | <b>Cooperative Ecological Investigations in the San Francisco Estuary: Science for a Changing State</b><br>Anke Mueller-Solger, Associate Director for Projects, USGS |
| 10:05-10:25   | <b>BROWN-NICHOLS SCIENCE AWARD</b>  |
| 10:25-10:45   | <b>BREAK—3rd Floor Lobby</b>  |
| 10:45-11:10   | <b>Six Things the Delta Science Community has Learned in the Past Two Years</b><br>Peter Goodwin, Lead Scientist, Delta Science Program, Delta Stewardship Council    |
| 11:10-11:35   | <b>Making Science Actionable</b><br>Randy Fiorini, Chair, Delta Stewardship Council   |
| 11:35-12:00   | <b>Habitat Quality: A Fish's Perspective</b><br>Stephen Brandt, Fisheries and Wildlife Professor, Oregon State University   |
| 12:00-12:10PM | <b>PANEL PREVIEW: Making Connections: Contemporary Art, Science, and Communication</b><br>Enid Baxter Ryce, CSU Monterey Bay  |
| 12:10-1:35    | <b>LUNCH—Exhibit Hall B (1st Floor)</b>   |
| 12:25-1:25    | <b>SPECIAL EVENT: Student/Early Career Scientist Mentor Lunch (Room 315)</b>  |

## CONCURRENT SESSIONS



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|             |   |   |  |   |  |
|-------------|---|---|--|---|--|
| 1:35-3:15PM | Delta Smelt Ecology<br>Larry Brown, USGS                                | Food Webs I:<br>Where the Plankton Are<br>Wim Kimmerer, Romberg Tiburon Center,<br>SFSU | Managing through Drought<br>Sam Harader, Delta Science Program   | How Can Climate Science Best<br>Influence Public Policy in an Era<br>of Drought?<br>Sam Luoma, USGS, Emeritus<br>and UC Davis | Connecting Models with Habitat<br>Rainer Hoenicke, Delta Science Program     |
| 3:15-3:35   | <b>BREAK—3rd Floor Lobby</b>  |   |  |   |  |
| 3:35-5:15   | Native Fish Ecology:<br>From the Rivers to the Bay<br>Randy Baxter, DFW | Food Webs II:<br>Understanding Consumers<br>Betsy Wells, DWR                            | Making the Most of Technology:<br>New Tools for Water Quality<br>and Subsidence<br>Denise Barnard, USFWS | Funding the Delta's Fiscal Orphans:<br>Science, Governance, and<br>Ecosystem Stress Relief<br>Jeffrey Mount, PPIC             | Connecting Models with<br>Landscape<br>Martina Koller, Delta Science Program |
| 5:15-7:15   | <b>POSTER SESSION &amp; RECEPTION—Exhibit Hall B (1st Floor)</b>        |   |  |   |  |

\* Denotes student presenter

## Wednesday, October 29



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|              |   |   |   |  |   |
|--------------|---|---|---|--|---|
| 8:20-10:00AM | Ecohydraulic Applications in Fish and Water Management<br>Jon Burau, USGS   | Science and Media Panel<br>Bruce Herbold, Consultant  | Implementing the Delta Science Plan: Improving Science Capacity to Meet Current and Future Challenges<br>Shakoora Azimi-Gaylon, Delta Conservancy | Suisun Marsh and the Arc: New Findings on Tidal Marsh Fishes<br>Peter Moyle, UC Davis                  | Connecting Models with Behavior<br>Jason Hassrick, USBR |
| 10:00-10:20  | <b>BREAK—3rd Floor Lobby</b>  |   |   |  |   |
| 10:20-12:00  | Ecohydraulic Applications in Fish and Water Management<br>Josh Israel, USBR | Nutrients in the Bay-Delta: Ambient Conditions, Ecosystem Response, and Management Implications<br>David Senn, SFEI-ASC | The AFRI Rice Project: Developing a Strategy for Rice in the Sacramento-San Joaquin Delta<br>William Horwath, UC Davis                            | Design and Management of Resilient Landscapes: The Baylands Goals Update<br>Robin Grossinger, SFEI-ASC | Trends in Water Quality<br>Lester McKee, SFEI           |
| 12:00-1:35PM | <b>LUNCH—Exhibit Hall B (1st Floor)</b>                                     |   |   |  |   |

12:20-1:20 **SPECIAL EVENT (Rooms 311-313)—Making Connections: Contemporary Art, Science, and Communication**, Moderator: Enid Baxter Ryce, CSU Monterey Bay

|           |  |   |  |   |   |
|-----------|--|---|--|---|---|
| 1:35-3:15 | Salmonid Ecology<br>Bob Fujimura, DFW                            | Nutrients in the Bay-Delta: Ambient Conditions, Ecosystem Response, and Management Implications<br>Anke Muller-Solger, USGS | Progress in Floodplain Ecology: Lessons from Yolo Bypass<br>Louise Conrad, DWR | Design and Management of Resilient Landscapes: Implementation and Monitoring<br>Letitia Grenier, Baylands Ecosystem Habitat Goals | Water Quality in Space and Time<br>Bill Templin, DWR  |
| 3:15-3:35 | <b>BREAK—3rd Floor Lobby</b>                                     |   |  |   |   |
| 3:35-5:15 | Looking Ahead: Managing for Salmon<br>Cesar Blanco, USFWS        | Nutrients in the Bay-Delta: Ambient Conditions, Ecosystem Response, and Management Implications<br>David Senn, SFEI-ASC     | Progress in Floodplain Ecology: Lessons from Yolo Bypass<br>Ted Sommer, DWR    | Design and Management of Resilient Landscapes: Policy Panel Discussion<br>Matt Gerhart, SCC                                       | Water Quality: When It's Bad<br>Sarah Lesmeister, DWR |
| 5:15-7:15 | <b>POSTER SESSION &amp; RECEPTION—Exhibit Hall B (1st Floor)</b> |   |  |   |   |

## Thursday, October 30

|              |   |   |  |   |   |
|--------------|---|---|--|---|---|
| 8:20-10:00AM | What's New Using Acoustic Technology to Identify Behavior and Survival of Fishes<br>Lori Smith, USFWS       | Conundrums in the Delta: Balancing Regulations, Beneficial Uses and Management Objectives<br>Stephen McCord, McCord Env. Inc. and Jamie Anderson, DWR | Understanding Effects of Climate Change on the Bay-Delta<br>Rachel Johnson, NMFS   | Restoration Lessons Learned I<br>Donald Rataliff, USFWS   | Estuarine Geomorphology I<br>Jennifer Bigman, Delta Science Program   |
| 10:00-10:20  | <b>BREAK—3rd Floor Lobby</b>  |   |  |   |   |
| 10:20-12:00  | What's New Using Acoustic Technology to Identify Behavior and Survival of Fishes<br>Patricia Brandes, USFWS | Food Webs III: When Things Get Toxic<br>Peggy Lehman, DWR   | Accounting for Gear Limitations in Fish Survey Data to Make Inferences about Population Abundances<br>Matthew Dekar, USFWS | Restoration Lessons Learned II<br>Rosemary Hartman, DFW   | Estuarine Geomorphology II<br>David Contreras, DFW  |
| 12:00-1:00PM | <b>LUNCH</b>  |   |  |   |   |
| 1:00-2:4     | Species and Communities I: Community Response to Management<br>Stacy Sherman, DFW                           | Water Policy: Predicting Outcomes<br>Garrett Liles, Delta Science Program   | The Contaminant Connection<br>Stephanie Fong, State and Federal Contractors Water Agency                                   | Exploring Emergent Tidal Marsh Restoration in Suisun and the Delta for Fishes<br>Stuart Siegel, ESA                   | Flood Management<br>Paul Work, USGS   |
| 2:40-3:00    | <b>BREAK—3rd Floor Lobby</b>  |   |  |   |   |
| 3:00-4:40    | Species and Communities II: News from Suisun and the Bay<br>Kathy Hieb, DFW                                 | Water Policy: Working Towards Reconciliation<br>Kim Webb, USFWS   | The Contaminant Connection<br>Stephanie Fong, State and Federal Contractors Water Agency                                   | Exploring Emergent Tidal Marsh Restoration in Suisun and the Delta for Fishes<br>Chris Enright, Delta Science Program | Innovative Approaches in Assessing Non-Native Predators and Predation in a Modified System<br>Christopher Fitzer, ESA |
| 4:40         | <b>ADJOURN—Evaluation Form Submission and RAFFLE (East Lobby-3rd Floor)</b>                                 |   |  |   |   |

# Making Tuesday Connections



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

1:35-3:15PM

**Delta Smelt Ecology**  
Larry Brown, USGS

**Food Webs I: Where the Plankton Are**  
Wim Kimmerer, Romberg Tiburon Center, SFSU

**Managing through Drought**  
Sam Harader, Delta Science Program

**How Can Climate Science Best Influence Public Policy in an Era of Drought?**  
Sam Luoma, USGS, Emeritus and UC Davis

**Connecting Models with Habitat**  
Rainer Hoenicke, Delta Science Program

1:35

Is Flow the Cure for the Summertime Blues? A 12-Year Record of Summer Growth for Delta Smelt  
James Hobbs, UC Davis

Assessing Food Quality of Non-Algal Particles in the San Francisco Bay Estuary and Delta  
Peter Hernes, University of California

Spatio-Temporal Patterns of Open Surface Water in the Central Valley of California 2000-2011: Drought, Land Cover, and Waterbirds  
Matthew Reiter, Point Blue Conservation Science

**Panel Discussion:**  
Experts will discuss the current drought vis-à-vis climate issues and water policy.

Natural Delta Hydrodynamic Model Development  
John DeGeorge, Resource Management Associates, Inc.

1:55

Winter Food-Limitation: Impacts on Adult Delta Smelt Reproduction and Health  
Meredith Nagel, UC Davis

Limnology of the Sacramento Deepwater Ship Channel  
Erwin Van Nieuwenhuysse, USBR

Quasi-Decadal Oscillation in the CMIP5 and CMIP3 Climate Model Simulations: California Case  
Jianzhong Wang, DWR

**Panelists:**  
Daniel Cayan, Researcher and Research Meteorologist, USGS and Scripps Institution of Oceanography, UC San Diego

Reducing Hydrodynamic Complexity in Junctions and the Challenge of Producing Accurate Lagrangian Simulations  
Jon Burau, USGS

2:15

Organismal and Mechanistic Sensitivity to Elevated Temperature and Salinity in Delta Smelt  
Richard Connon, UC Davis

Estimating Mass Flux of Dissolved Inorganic Nitrogen and Chlorophyll-*a* at Blacklock Marsh, a Restored Site in Suisun Marsh  
Shannon Strong, \*Romberg Tiburon Center, SFSU

2014 Delta Drought Modeling  
Tara Smith, DWR

Ellen Hanak, Senior Fellow, PPIC  
Ruth Langridge, Researcher, UC Santa Cruz  
Glen MacDonald, IoES Director, UC Presidential Chair, and Distinguished Professor, UCLA

Reducing Uncertainty in Design of in-Delta Sampling Experiments Using Particle-Tracking Models  
Marianne Guerin, Resource Management Associates

2:35

Environment Parameters: The Choices of Delta Smelt  
Tien-Chieh Hung, UC Davis

Vertical Distributions of Phytoplankton in San Francisco Bay  
Charles Martin, USGS

Drought Decisions in a Highly Impacted California River; Using Umbrella Species to Inform Water Management  
Kirsten Sellheim, Cramer Fish Sciences

Kurt Schwabe, Associate Professor of Environmental Economics and Policy, UC Riverside

Temperature Dynamics in the Sacramento-San Joaquin Delta, CA  
Karia Gleichauf, \* Stanford University

2:55

Spawning Behavior of Cultured Delta Smelt in a Conservation Hatchery  
Amanda Finger, UC Davis

High Frequency Variability of Phytoplankton and Zooplankton Communities in the San Francisco Estuary  
Peggy Lehman, DWR

Benefits of an Advanced Quantitative Precipitation Information System—San Francisco Bay Area Case Study  
Lynn Johnson, NOAA

Phil Isenberg, Vice-Chair, Delta Stewardship Council  
Jay Lund, Director, Center for Watershed Sciences, UC Davis

Multi-Species Effects Analysis & Ecological Flow Criteria: Lessons from Application of the Ecological Flows Tool (EFT) to Water Planning Efforts in the Delta & Sacramento River  
Clint Alexander, ESSA Technologies Ltd

3:15-3:35

**BREAK—3rd Floor Lobby**



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

3:35–5:15PM

**Native Fish Ecology:  
From the Rivers to the Bay**  
Randy Baxter, DFW

**Food Webs II:  
Understanding Consumers**  
Betsy Wells, DWR

**Making the Most of Technology:  
New Tools for Water Quality  
and Subsidence**  
Denise Barnard, USFWS

**Funding the Delta's Fiscal Orphans:  
Science, Governance, and Ecosys-  
tem Stress Relief**  
Jeff Mount, PPIC

**Connecting Models with  
Landscape**  
Martina Koller, Delta Science Program

3:35

Sampling Uncharted Waters:  
Examining Longfin Smelt and Delta  
Smelt Rearing Habitat in Fringe  
Marshes of the Low Salinity Zone  
Lenny Grimaldo, ICF International

Biomass and Grazing Rates of Two  
Exotic Bivalves, *Corbicula fluminea*  
and *Potamocorbula amurensis*,  
Show Surprising Variability Over  
20–30 Year Sampling Period: What  
Does it Mean for Future Food Webs?  
Jan Thompson, USGS

Use of the Co-occurrence Pesticide  
Species Tool (CoPST) to Model  
Seasonal and Temporal Patterns of  
Pesticide Presence to Guide Water  
Quality Monitoring Timing and  
Location  
Richard Breuer, State Water Resources  
Control Board

**The Delta's Fiscal Orphans:  
A Score Card**  
Ellen Hanak, PPIC

What if We Could Start Over: Large  
Landscape Scale, 2D Hydrodynamic  
Modeling of Sacramento Valley  
"What if" Floodway Scenarios  
Chris Bowles, cbec eco engineering

3:55

Ancient Fish and Recent Invad-  
ers: White Sturgeon (*Acipenser  
transmontanus*) Diet Response to  
Invasive Species-Mediated Changes  
in a Benthic Prey Assemblage  
Steven Zeug, Cramer Fish Sciences

Clam Grazing and Suisun Bay  
Blooms Modeled with Nitrogen  
as Currency  
Richard Dugdale, Romberg Tiburon  
Center, SFSU

A System of Autonomous Fixed  
Station Measurements Together with  
Synoptic Spatial Characterization  
Provide Insights into Dynamics of  
Organic Matter, Nutrients and Algal  
Pigments in the San Francisco  
Bay-Delta  
Bryan Downing, USGS

**Panel Discussion:**  
Leaders from Delta science  
and management will discuss  
potential solutions to the lack of  
funding for the science required  
for ecosystem recovery and  
water supply reliability.

Numerical Modeling of Sediment  
Dispersal Following Dredged  
Material Placements to Examine  
Possible Augmentation of the  
Sediment Supply to Marshes and  
Mudflats in Far South San  
Francisco Bay  
Craig Conner, USACE

4:15

Connectivity and Effective Size of  
the Two Splittail (*Pogonichthys  
macrolepidotus*) Populations in the  
San Francisco Estuary  
Brian Mahardja, UC Davis

Increased Algae Concentration  
Broadens the Tolerance of a  
SFE Copepod to Salinity  
Bruce Hammock, UC Davis

The Use of DOC Surrogates to  
Measure DOC at two Municipal  
Intakes In the Sacramento–  
San Joaquin Delta  
Alexander Rabidoux, Solano County  
Water Agency and Shaun Rohrer, DWR

**Panelists:**  
Chuck Bonham, Director, DFW  
Byron Buck, Executive Director, SFCWA  
Randy Fiorini, Chair, Delta Stewardship  
Council  
Peter Goodwin, Lead Scientist, Delta  
Science Program  
Anke Mueller-Solger, Lead Scientist, IEP,  
and USGS

Modeling the Benefits of Yolo  
Bypass Restoration Actions on  
Chinook Salmon  
Paul Bergman, Cramer Fish Sciences

4:35

Metapopulation Structure of a  
Semi-Anadromous Migratory Fish  
(Sacramento Splittail, *Pogonichthys  
macrolepidotus*) Shaped by  
Climate-Induced Dynamic Habitat  
Fragmentation  
Fred Feyrer, USGS

Elemental and Isotopic Composition  
of Submerged Aquatic Vegetation in  
Suisun Bay and the Delta: Spatio-  
Temporal Patterns and Food Web  
Support  
Julian Moderan, Romberg Tiburon Center,  
SFSU

A Hybrid Coagulation-Wetland Sys-  
tem Designed to Decrease DOC, Hg,  
and Nutrient Loads from Subsided  
Islands in the Sacramento-San  
Joaquin Delta  
Sandra Bachand, Tetra Tech

Karla Nemeth, Deputy Director,  
California Natural Resources Agency  
Jay Lund, Director, UC Davis Center for  
Watershed Science

Use of Daily Historical Data and a  
Daily Reservoir Model to Evaluate  
Adaptive Implementation of  
Alternative Reservoir Operations  
Russ Brown, ICF International

4:55

Fall Run Chinook Pre-Smolt  
Outmigration to Alternate Rearing  
Areas in the Sacramento-San  
Joaquin Valley  
Colleen Petrik, UC Santa Cruz

Effects of Variable Freshwater Flow  
on Fish and Foodwebs of the San  
Francisco Estuary  
Wim Kimmerer, Romberg Tiburon Center,  
SFSU

Radar Remote Sensing of  
Subsidence in the Sacramento-  
San Joaquin Delta  
Priyanka Sharma, Jet Propulsion Lab, CIT

The Delta Salinity Gradient (DSG)  
Model  
Paul Hutton, MWD

5:15-7:15 **POSTER SESSION & RECEPTION—Exhibit Hall B (1st Floor)**

# Making Wednesday Connections



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|              |  |   |  |   |  |
|--------------|--|---|--|---|--|
| 8:20-10:00AM | <b>Ecohydraulic Applications in Fish and Water Management</b><br>Jon Burau, USGS   | <b>Science and Media Panel</b><br>Bruce Herbold, Consultant   | <b>Implementing the Delta Science Plan: Improving Science Capacity to Meet Current and Future Challenges</b><br>Shakoora Azimi-Gaylon, Delta Conservancy                               | <b>Suisun Marsh and the Arc: New Findings on Tidal Marsh Fishes</b><br>Peter Moyle, UC Davis                            | <b>Connecting Models with Behavior</b><br>Jason Hassrick, USBR   |
| 8:20         | Spatial Analysis of Juvenile Chinook Salmon Entrainment in Tidally Forced Junctions<br>Ryan Reeves, DWR  | <p><b>Panel Session:</b><br/>Discuss methods for improving Californians' awareness and knowledge of SF Bay Delta with science and media professionals.</p> <p><b>Panelists:</b><br/>Chris Austin, Maven's Notebook<br/>Mary Miller, Exploratorium<br/>Lauren Sommer, KQED Science Reporter<br/>Kelly Zito, Director of Communications US EPA Region 9</p> | The Delta Science Plan<br>Peter Goodwin, Delta Science Program, Delta Stewardship Council  | Thirty-Five Years of Fish Studies in Suisun Marsh: Perspectives and Animations<br>Amber Manfree & Peter Moyle, UC Davis | North Delta Hydrodynamics from a Fish Perspective<br>Rachel Johnson, USGS  |
| 8:40         | Using Acoustic Telemetry to Assess the Effect of a Floating Fish Guidance Structure on Entrainment of Juvenile Salmon into Georgiana Slough<br>Russell Perry, USGS |   | Interim Science Action Agenda<br>Lindsay Correa, Delta Science Program, Delta Stewardship Council  | Fishes of Suisun Marsh: Trends and Connectivity<br>Teejay O'Rear & Filipe La Luz, UC Davis                              | Estimating Habitat Based Movement and Mortality of Winter-Run Chinook in the Central Valley<br>Noble Hendrix, QEDA Consulting LLC  |
| 9:00         | Diel Activity Patterns of Juvenile Late-Fall Chinook Salmon with Implications for Operation of the Delta Cross Channel<br>John Plumb, USGS                         |   | Delta Science Vision—Sustaining Data Integration Efforts while Taking Advantage of Constantly Evolving Technology<br>Rainer Hoenicke, Delta Science Program, Delta Stewardship Council | Fishes of the North Delta: Trophic Pathways & Habitat Use<br>Matthew Young & Kathleen Berridge, UC Davis                | How Do Habitat Restoration, Flow, and Temperature Affect Salmon and Steelhead Populations? Conclusions from an Individual-Based Model<br>Steven Railsback, Lang Railsback & Associates |
| 9:20         | Individual Based Modeling of Juvenile Chinook Salmon<br>Edward Gross, Resource Management Associates, Inc.   |   | Successful Business Models to Support Sustainable Technology Initiatives<br>Tony Hale, SFEI  | Hydrodynamics and Pelagic Productivity: Suisun Marsh and Cache Slough<br>Jacob Montgomery & Thomas Handley, UC Davis    | Where and Why are the Fish? Investigating the Relationship between Hydrodynamic Complexity and Delta Smelt Abundance in Suisun Bay<br>Aaron Bever, Delta Modeling Associates, Inc.,    |
| 9:40         | Evaluation of a Hypothesis for How Water Flow Pattern Shapes Fish Trajectories near Infrastructure<br>R. Andrew Goodwin, USACE                                     |   | A Restoration Hub for the Delta— <i>Better Tools and Process for Science Based Restoration</i><br>Campbell Ingram, The Delta Conservancy   | Passive and Active Restoration of Tidal Habitat in Suisun Marsh<br>Brian Williamson & John Durand, UC Davis             | DSM2 PTM, an Open Source Platform for Delta Fish Migration Behavior Research and Model Development<br>Xiaochun Wang, DWR   |
| 10:00-10:20  | <b>BREAK—3rd Floor Lobby</b>   |   |  |   |  |



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|               |   |  |   |  |  |
|---------------|---|--|---|--|--|
| 10:20-12:00PM | <b>Ecohydraulic Applications in Fish and Water Management</b><br>Josh Israel, USBR  | <b>Nutrients in the Bay-Delta: Ambient Conditions, Ecosystem Response, and Management Implications</b><br>David Senn, SFEI-ASC   | <b>The AFRI Rice Project: Developing a Strategy for Rice in the Sacramento-San Joaquin Delta</b><br>William Horwath, UC Davis                           | <b>Design and Management of Resilient Landscapes: The Baylands Goals Update</b><br>Robin Grossinger, SFEI-ASC  | <b>Trends in Water Quality</b><br>Lester McKee, SFEI   |
| 10:20         | Juvenile Salmon Response to Levee Repair on the Sacramento River<br>David Smith, USACE  | Quantifying Nutrient Loads and Transformations in the Delta<br>Emily Novick, SFEI  | Rice in the Delta—The Potential to Mitigate Subsidence and Enhance Sustainability<br>Philip Bachand, Tetra Tech   | The Baylands and Climate Change: What We Can Do<br>Letitia Grenier, Baylands Ecosystem Habitat Goals   | An Historical Perspective of Nutrients and Dissolved Oxygen: Changes in Wastewater Loads and Water Quality in Lower South San Francisco Bay, 1957-2013<br>Simret Yigzaw, San Jose-Santa Clara Regional Wastewater Facility |
| 10:40         | Ecohydraulic Design and Post-Project Appraisal of Salmonid Spawning and Rearing Habitat Enhancement Projects on the Lower American River<br>Chris Hammersmark, cbec eco engineering | Ocean Nutrients in the Bay-Delta System: When and Where are they Important?<br>John Largier, Bodega Marine Lab, UC Davis   | The Influence of Soil Total Carbon on Yield and Nitrogen Uptake in Continuously Flooded Rice Paddy Soils Dominated by Peat<br>Matthew Espe, * UC Davis  | Baylands Habitat Evolution: How Sea Level Rise and Other Drivers of Change May Change the Bay<br>Jeremy Lowe, ESA  | Trends and Environmental Implications of X2 in Northern San Francisco Bay, 1988-2012<br>Ivy Huang, * Stanford University   |
| 11:00         | Using Agent-Based Models to Gain Insight into the Influence of Behavior, Predation and Water Project Operations on Fates of Migrating Chinook Salmon Smolts<br>Doug Jackson, NOAA   | Biogeochemical Fluxes in Bay-Delta Sediments: Seasonal and Spatial Synthesis<br>Jeffrey Cornwell, University of Maryland   | Interannual Variation in CO2 and CH4 Fluxes from a Rice Paddy in the Sacramento-San Joaquin Delta, California<br>Sara Knox, * UC Berkeley               | Managing for Uncertainty—Maximizing Resilience of Plant and Animal Populations in the Face of Climate Change and Other Stressors<br>Nadav Nur, Point Blue Conservation Science | The Effect, or Lack Thereof, of Sediment Supply and Deposition on Subsequent Fall Turbidity in Suisun Bay<br>David Schoellhamer, USGS  |
| 11:20         | Visualizing Juvenile Salmonid Behavior, Mortality, and Salvage in the Delta: Practical Application of an Individual-Based Model<br>Travis Hinkelman, Cramer Fish Sciences           | New Insights from Continuous Monitoring of Nutrient Dynamics in the North Delta and Cache Slough Complex<br>Brian Pellerin, USGS   | Hydrologic and Water Quality Effects of Varying Land- and Water-Management Strategies, Sacramento-San Joaquin Delta<br>Steven Deverel, HydroFocus, Inc. | The Role of Carbon in the Development and Management of the Baylands<br>John Callaway, USF   | Status and Implications of Storm-water Quality Monitoring in the Cache Slough Watershed (2010-2014)<br>Lucas Paz, ARCADIS-US   |
| 11:40         | A Reevaluation of the Relationships Between X2, the Low Salinity Zone, and Fish Habitat Utilization<br>Michael MacWilliams, Delta Modeling Associates, Inc.                         | Estimates of Phytoplankton Nitrogen Uptake and Pelagic Nitrification During Fall in the High Nutrient San Francisco Estuary Delta<br>Alexander Parker, California Maritime Academy | Expanding Rice Farming in the Delta: Significance for GHG, Water Supply Reliability and Water Quality<br>Amy Merrill, Stillwater Sciences               | Connection and Transgression: Designing a Dynamic Upland-Estuarine Transition Zone at Rush Ranch<br>Christina Toms, ESA  | South San Francisco Bay: Status, Trends, and a 21st Century Baseline<br>Mélanie Raimonet, USGS   |

12:00-1:35PM **LUNCH—Exhibit Hall B (1st Floor)**

12:20-1:20 **SPECIAL EVENT (Rooms 311-313)—Making Connections: Contemporary Art, Science, and Communication**, Moderator: Enid Baxter Ryce, CSU Monterey Bay

|           |   |  |   |  |  |
|-----------|---|--|---|--|--|
| 1:35-3:15 | <b>Salmonid Ecology</b><br>Bob Fujimura, CDFW   | <b>Nutrients in the Bay-Delta: Ambient Conditions, Ecosystem Response, and Management Implications</b><br>Anke Muller-Solger, USGS                                     | <b>Progress in Floodplain Ecology: Lessons from Yolo Bypass</b><br>Louise Conrad, DWR                       | <b>Design and Management of Resilient Landscapes: Implementation and Monitoring</b><br>Letitia Grenier, Baylands Ecosystem Habitat Goals   | <b>Water Quality in Space and Time</b><br>Bill Templin, DWR  |
| 1:35      | Factors Affecting Juvenile Chinook ( <i>Oncorhynchus tshawytscha</i> ) Growth Variability in a Large Freshwater Tidal Estuary<br>Pascale Goertler, University of Washington | Continuous Monitoring of Dissolved Oxygen in San Francisco Bay, California: Using High-Frequency Data to Explore Dynamics and Mechanisms<br>Maureen Downing-Kunz, USGS | Insights from the Inland Sea: The Hydrology and Management of the Yolo Bypass Floodplain<br>Ted Sommer, DWR | Experimental Adaptation Pilot Projects: Results to Date from Living Shoreline Reefs, Active Tidal Marsh Revegetation, and High Tide Refuge Island Construction<br>Marilyn Latta, SCC | Tracing Nitrate and Ammonium Dynamics within the San Joaquin-Sacramento River Confluence Region Using Stable Isotopes<br>Megan Young, USGS |
| 1:55      | Using Otolith Strontium Isotopes to Reconstruct Life History Portfolios within Salmon Populations: When Do Different Phenotypes Contribute?<br>J.D. Wikert, USFWS           | High-Frequency Measurements Enable a Detailed Assessment of Surface Ammonium Concentration Dynamics in the Bay-Delta<br>Aaron Strong, * Stanford University            | Yolo Bypass as a Source of Delta Phytoplankton: Not Just a Legend of the Fall?<br>Jared Frantzych, DWR      | Addressing Climate Change in the South Bay Salt Pond Restoration Project<br>John Bourgeois, SCC  | Salinity and Flow Variability in Suisun Bay during FLASH<br>Liv Herdman, Stanford University   |

\* Denotes student presenter



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|           |  |   |  |  |   |
|-----------|--|---|--|--|---|
| 2:15PM    | Genetic Analysis of Hatchery Steelhead from the Central Valley Reveals Patterns of Reproduction and Migration<br>John Carlos Garza, NOAA & UC Santa Cruz           | Egg Production and Egg Viability of the Copepods <i>Acartia</i> and <i>Eurytemora</i> Differ When Grown on Food of Varying N:P Ratios<br>Katie Bentley, * Univ. of Maryland                                     | Nutrient and Chlorophyll Concentrations in the Lower Yolo Bypass<br>Chris Foe, CVRWQCB   | San Francisco Bayshores: Patterns of Transformation, Migration, and Resilience<br>Julie Beagle, SFEI-ASC   | Real-Time Water Quality Mapping in the Cache Slough Complex: High Resolution Data across Space and Time<br>Elizabeth Stumpner, USGS   |
| 2:35      | Large-Scale Genetic Tagging Experiment with Chinook Salmon from the Feather River Hatchery Allows for Pedigree-Based Inference<br>Anthony Clemente, NOAA Fisheries | The Form of Nitrogen Alters Total Chlorophyll, the Composition of Phytoplankton, and Total Productivity: Experimental Results and Implications for the 2014 Spring Bloom<br>Patricia Glibert, Univ. of Maryland | Evaluation of Flow Thresholds and Their Effects on the Composition and Relative Abundance of Lower Trophic Biota in the Yolo Bypass, California, USA,<br>Kristopher Jones, DWR | Delta Landscape Metrics: Creating a Spatial Framework to Inform Restoration Planning<br>Robin Grossinger, SFEI-ASC   | Application of an Estuary Model to Quantify Factors Contributing to Low Dissolved Oxygen Conditions in the San Joaquin River Deep Water Ship Channel<br>Mary Kay Camarillo, University of the Pacific |
| 2:55      | Application of Genetic Methods To Salvaged ESA-listed Chinook Salmon<br>Scott Blankenship, Cramer Fish Sciences  | Physiological Assessment of the "Bad Suisun" Phenomenon: Nutrient-Phytoplankton Interactions<br>Mine Berg, Applied Marine Sciences  | You are What You Eat: Isotope Forensic Science to Track Floodplain Rearing on the Yolo Bypass<br>Rachel Johnson, Cramer Fish Sciences & UC Davis                               | Framework to Integrate Compliance and Effectiveness Monitoring for Water Quality and Habitat Conservation Plans<br>Josh Collins, SFEI-ASC  | Spatial and Temporal Patterns in Bay-Delta Sediment Quality: Relationship to CA Sediment Quality Objectives<br>Steven Bay, SCCWRP   |
| 3:15-3:35 | <b>BREAK—3rd Floor Lobby</b>   |   |  |  |   |
| 3:35-5:15 | <b>Looking Ahead: Managing for Salmon</b><br>Cesar Blanco, USFWS   | <b>Nutrients in the Bay-Delta: Ambient Conditions, Ecosystem Response, and Management Implications</b><br>David Senn, SFEI-ASC  | <b>Progress in Floodplain Ecology: Lessons from Yolo Bypass</b><br>Ted Sommer, DWR   | <b>Design and Management of Resilient Landscapes: Policy Panel Discussion</b><br>Matt Gerhart, SCC   | <b>Water Quality: When It's Bad</b><br>Sarah Lesmeister, DWR  |
| 3:35      | What do We Need to Know about Juvenile Salmonids Entering the Delta and How Will We Know it?<br>Bradley Cavallo, Cramer Fish Sciences                              | Heavy Hitters in the San Francisco Bay Phytoplankton Community—Diatoms, Dinoflagellates, and Cryptophytes<br>Tara Schraga, USGS   | Telemetry Studies of Adult Chinook Salmon and White Sturgeon in the Yolo Bypass<br>Myfanwy Johnston, * UC Davis  | <p><b>Panel Discussion:</b><br/>This facilitated, interactive panel session will explore resiliency through the lens of policy, regulation and management, focusing on challenges and changes that will be needed to develop new solutions to climate change.</p> <p><b>Panelists:</b><br/>Joe LaClair, BCDC<br/>Dan Ray, Delta Stewardship Council<br/>Sam Schuchat, SCC<br/>Carl Wilcox, DFW<br/>Bruce Wolfe, SF Bay Water Board</p> | The Contribution of Sacramento Valley Rice Systems to Methyl-mercury in the Sacramento River<br>Christy Tanner, * UC Davis  |
| 3:55      | 2012 Georgiana Slough Non-Physical Barrier Performance Evaluation<br>Christopher Fitzer, ESA   | Does San Francisco Bay have a Harmful Algal Bloom Problem?<br>Raphael Kudela, UC Santa Cruz   | Who's There? Genetic Tools Reveal Habitat-use by Juvenile Chinook Salmon in the Yolo Bypass<br>Mariah Meek, UC Davis   |  | Using Biosentinels to Assess Mercury Risk in Wetland Restoration Projects<br>April Robinson, SFEI   |
| 4:15      | A Method to Estimate the Annual and Daily Abundance of Salmonid Juveniles in the Delta<br>Li-Ming He, NOAA Fisheries   | Examining Long-Term Phytoplankton Monitoring Data in the San Francisco Estuary: What Changes Have Occurred?<br>Anthony Malkassian, SFEI and UC Santa Cruz   | Managing Floodplain Productivity: Slow it Down, Spread it Out, Grow 'Em Up<br>Jacob Katz, Caltrout   |  | The Potential Influence of Pyrethroids, Metals, and Sediment Characteristics on Benthic Communities in Cache Slough<br>Lenwood Hall, Univ. of Maryland  |
| 4:35      | Impacts of Interior Delta Flows on Salmonid Species<br>Jeff Stuart, NOAA Fisheries   | What Caused the Diatom Decline in Suisun Bay after 1986?<br>Lisa Lucas, USGS  | Depth and Flow: Do Juvenile Salmon Demonstrate Preference on a Managed Agricultural Floodplain?<br>Lynn Takata, Department of Water Resources                                  |  | Concentrations and Loads of Current-Use Pesticides Entering the Sacramento/San Joaquin Delta May 2012–April 2013<br>James Orlando, USGS   |
| 4:55      | Chinook Salmon Rearing in the Lower Sacramento River: Effects of Physical Variables on Near-Shore Habitat Use<br>Michael Hellmair, FISHBIO                         | The Suisun Bay Problem: Food Quality or Food Quantity<br>Jim Cloern, US Geological Survey   | Invertebrate Abundance and Colonization Pathways on a Managed Floodplain in the Yolo Bypass<br>Nicholas Corline, * UC Davis  |  | A Multi-Year Temporal and Spatial Evaluation of Pyrethroid Concentrations and Biological Effects in the Lower American River<br>Stephen Clark, Pacific EcoRisk  |
| 5:15      | <b>POSTER SESSION &amp; RECEPTION—Exhibit Hall B (1st Floor)</b>   |   |  |  |   |

# Making Thursday Connections



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|              |   |   |  |   |   |
|--------------|---|---|--|---|---|
| 8:20-10:00AM | <b>What's New Using Acoustic Technology to Identify Behavior and Survival of Fishes</b><br>Lori Smith, USFWS                          | <b>Conundrums in the Delta: Balancing Regulations, Beneficial Uses and Management Objectives</b><br>Stephen McCord, McCord Env. Inc. and Jamie Anderson, DWR                            | <b>Understanding Effects of Climate Change on the Bay-Delta</b><br>Rachel Johnson, NMFS  | <b>Restoration Lessons Learned I</b><br>Donald Ratcliff, USFWS  | <b>Estuarine Geomorphology I</b><br>Jennifer Bigman, Delta Science Program  |
| 8:20         | South Delta Salmon Smolt Survival Studies<br>Patricia Brandes, USFWS  | Connecting Process Understanding, Field Observations, and Management Needs to Develop Mercury Cycling Models for the Delta and Yolo Bypass<br>Jamie Anderson, DWR                       | Severe Storms and California's Fragile Delta—Historical Impacts and a New Monitoring Network<br>Michael Dettlinger, USGS & Scripps Inst. of Oceanography | Using Scenarios to Support Climate-Smart Adaptation for the South Bay Salt Ponds Restoration Project<br>Samuel Veloz, Point Blue Conservation Science     | Using Process-Level Science on Peat Formation to Inform Wetland Restoration<br>Judith Drexler, USGS   |
| 8:40         | Juvenile San Joaquin Steelhead Migration and Survival through the South Delta, 2011 and 2012<br>Rebecca Buchanan, Univ. of Washington | Addressing the Delta Methylmercury Conundrum—Prioritizing Nonpoint Source Management Practices for On-site and Receiving Water Objectives<br>Stephen McCord, McCord Environmental, Inc. | The Next Generation of 21st Century Coastal Flood Maps for San Francisco Bay<br>Patrick Barnard, USGS  | Lessons Learned in Large Scale Environmental Restoration Project Management and Scale Dependent Alternatives Assessment<br>Charles Rowney, ACR, LLC       | Evaluating the Influence of Suspended Sediment Concentrations on Marsh Resiliency for Three Marsh Accretion Models in San Francisco Bay<br>Lisa Schile, SF Bay NERR |
| 9:00         | Sharing Risks: Applicability of the Surrogate Species Approach for San Joaquin River Salmonid Species<br>Joshua Israel, USBR          | Too Much or Too Little? Assessing the Impact of Reduced Nutrient Loading from Wastewater Effluent on Foodweb Dynamics in the Delta<br>Tamara Kraus, USGS                                | The Diminishing Odds of "Normal" Snow Packs as California Warms<br>Dan Cayan, UCSD & USGS  | Evaluation of Restoration Actions in the San Joaquin River using Ecosystem Diagnosis & Treatment<br>Chip McConnaha, ICF International                     | Sediment Flux between San Francisco Bay Shallows and Marshes<br>Jessica Lacy, USGS  |
| 9:20         | Sacramento River Reach-Specific Movement and Survival Rates of Outmigrating Winter-Run Chinook Salmon Smolts<br>Jason Hassrick, USBR  | No Skeletons in this Closet—Identifying Key Drivers of Methylmercury Reductions in Municipal Wastewater Treatment Facilities in the Delta Region<br>Charles Hardy, West Yost Associates | Implications of Water Temperatures from Climate Change Projections for Delta Smelt in the Sacramento-San Joaquin Delta, California<br>Larry Brown, USGS  | Immediate Fish Response to Salmonid Rearing Habitat Enhancement in the Spawning Reach of a Highly Altered Central Valley Stream<br>Andrea Fuller, FISHBIO | Mitigating Wave-induced Erosion with Vegetation on Breached Delta Wetlands Levees<br>Matt Brennan, ESA  |
| 9:40         | Salmon Migration Behavior and Survival in Sacramento River—Knights Landing to the Delta<br>Natalie McNair, USACE                      | Using Permanent Wetlands as Polishing Ponds to Remove MeHg: Results of a Large Scale Replicated Field Experiment at the Yolo Bypass Wildlife Area<br>Wesley Heim, MLMML                 | Water Temperatures in the North Delta: What Does the Future Hold for Delta Smelt?<br>Tara Morgan-King, USGS  | Managing for Changing Tides: Restoring a Tidal Marsh in an Urbanized Area<br>Katherine Dudney, URS Corporation  | Sea-Level Rise Impacts on Salt Marsh Vegetation in the San Francisco Bay Estuary<br>Christopher Janousek, Oregon State Univ. and USGS                               |
| 10:00-10:20  | <b>BREAK—3rd Floor Lobby</b>  |   |  |   |   |



|               |  |   |  |   |  |
|---------------|--|---|--|---|--|
| 10:20-12:00PM | <b>What's New Using Acoustic Technology to Identify Behavior and Survival of Fishes</b><br>Patricia Brandes, USFWS   | <b>Food Webs III: When Things Get Toxic</b><br>Peggy Lehman, DWR  | <b>Accounting for Gear Limitations in Fish Survey Data to Make Inferences about Population Abundances</b><br>Matthew Dekar, USFWS  | <b>Restoration Lessons Learned II</b><br>Rosemary Hartman, DFW  | <b>Estuarine Geomorphology II</b><br>David Contreras, DFW  |
| 10:20         | Survival and Movement Rates of Wild Spring-Run Chinook Salmon ( <i>Oncorhynchus tshawytscha</i> ) Smolts from Mill and Battle Creeks through San Francisco Bay, 2013-2014<br>Jeremy Notch, *NOAA Fisheries | Understanding Nitrogen Assimilation and Inhibition in Cultures of <i>Microcystis aeruginosa</i> : Implications for Cyanobacterial Bloom Development in the San Francisco Delta<br>Jamie Lee, * Romberg Tiburon Center, SFSU | Influence of Incomplete Capture on Fish Monitoring and Management: Problems and Solutions<br>James Peterson, USGS  | How Do Restoration Site Characteristics, Plant Caging, and Parental Source Affect Native Pacific Cordgrass ( <i>Spartina foliosa</i> ) Establishment?<br>Whitney Thornton, * SF Estuary Invasive Spartina Project | Estuarine Tidal Flat Evolution at Decadal and Seasonal Time Scales<br>Bruce Jaffe, USGS  |
| 10:40         | Reach-Specific Movement and Survival Rates of Emigrating Feather River Spring-Run Chinook Salmon Smolts<br>Arnold Amman, National Marine Fisheries Service   | Ecotoxicological Effects of <i>Microplastic</i> and Priority Pollutants in a Bay-Delta Food Chain<br>Chelsea Rochman, UC Davis  | Incorporating Gear Evaluation Studies Data in a Delta Smelt Life Cycle Model (DSLDM)<br>Ken Newman, USFWS  | Blacklock Restoration Project in Suisun Marsh—5 Years of Post-Breach Monitoring<br>Kristin Garrison, DWR  | Hydraulic and Geomorphic Processes in an Overbank Flood Along a Gravel-Bed, Meandering, River: Implications for Chute Formation<br>Lee Harrison, NOAA  |
| 11:00         | Eliminating Bias in Survival Estimates Due to the Effect of Tag Failure on Right-Skewed Travel Time Distributions: A Bayesian Approach<br>Adam Pope, USGS  | The Future of <i>Microcystis</i> spp. in the San Francisco Estuary Delta: Investigations into the Role of Temperature and Salinity Tolerance on Growth<br>Allison Johnson, * Romberg Tiburon Center, SFSU                   | Constructing Juvenile Chinook Salmon Abundance Indices from Beach Seine Data Collected within the San Francisco Estuary, CA<br>Joseph Kirsch, USFWS                                    | Lessons Learned from Community-Based Restoration of Transition Zone Habitat<br>Donna Ball, Save The Bay   | Subsurface Flow through a Gravel River Bar: Physical Controls to Suitable Spawning Habitat for Chinook Salmon ( <i>O. tshawytscha</i> ) in the San Joaquin River Basin<br>Erin Bray, UC Berkeley |
| 11:20         | The Importance of Identifying and Quantifying Fish Behaviors to Predict the Migration Rate of Juvenile Salmonids<br>David Delaney, Cramer Fish Sciences  | The Distribution, Ecology and Genetics of <i>Microcystis</i> Blooms Throughout the San Francisco Bay Delta<br>Timothy Otten, University of North Carolina at Chapel Hill  | Early Warning of Delta Smelt Movement During an Extreme Drought: Intensive Springtime Kodiak Trawling at Jersey Point<br>Leo Polansky, Consultant                                      | Optimizing Island Nesting Habitat for Waterbirds Breeding in Wetlands of San Francisco Bay<br>Alex Hartman, USGS  | Effects of Human Alterations on the Hydrodynamics and Sediment Transport in the Sacramento-San Joaquin Delta, California<br>Mathieu Marineau, USGS   |
| 11:40         | Out to Sea and Home Free? Shifting the Salmon Freshwater-Ocean Survival Paradigm: Is Selection Now Favoring Shorter Fresh Water Life Histories?<br>Sean Hayes, NOAA & UCSC                                 | Pesticide Mixture Toxicity Assessments Differ Between Single Species Tests and Mesocosm Studies<br>Simone Hasenbein, * UC Davis   | Compare and Contrast the Midwater and Otter Trawl of the Longfin Smelt San Francisco Bay Study<br>Shawn Acuña, MWD   | Quantifying Greenhouse Gas (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O) Release via Ebullition in Restored Delta Wetlands<br>Gavin McNicol, * UC Berkeley   | Exploring the Complex Couplings between Environmental Drivers and Greenhouse Gas Exchange in Restored Delta Wetlands<br>Cove Sturtevant, UC Berkeley   |
| 12:00-1:00PM  | <b>LUNCH</b>   |   |  |   |  |
| 1:00-2:40     | <b>Species and Communities I: Community Response to Management</b><br>Stacy Sherman, DFW   | <b>Water Policy: Predicting Outcomes</b><br>Garrett Liles, Delta Science Program  | <b>The Contaminant Connection</b><br>Stephanie Fong, State and Federal Contractors Water Agency  | <b>Exploring Emergent Tidal Marsh Restoration in Suisun and the Delta for Fishes</b><br>Stuart Siegel, ESA  | <b>Flood Management</b><br>Paul Work, USGS   |
| 1:00          | Shorebird Response to Varying Salinity and Water Depth in an Experimental Design in Salt Pond Management<br>Lacy Smith, USGS   | It's the Economy, Stupid: How the Great Recession May Increase the Risk of Shipping-Mediated Introductions of Nonindigenous Species into the San Francisco Bay-Delta<br>Chris Scianni, SLC                                  | Using Whale Earplugs to Assess Chemical Profiles in Marine Ecosystems: Lifetime Contaminant Exposure and Hormone Profiles<br>Sascha Usenko, Baylor University                          | Conundrum: Understanding Native Fish Functions of Emergent Tidal Marsh Restoration in a Highly Altered Landscape Largely Devoid of Tidal Marsh<br>Stuart Siegel, ESA  | Yolo Bypass Widening into the Elkhorn Basin: A Multi-Benefit Opportunity for Flood Control, Floodplain Habitat and Fish Passage<br>Jai Singh, cbec eco engineering                               |
| 1:20          | Emerging Perspectives on Salt Marsh Harvest Mouse Conservation and Management—Ducks, Dikes, and Demographics<br>Katherine Smith, * UC Davis  | Projected Impacts of Climate, Urbanization, and Water Management on Waterfowl Habitats and Ecology in California<br>Elliott Matchett, USGS  | What do Contaminants Have to do with it? Lessons Learned from the Pelagic Organism Decline Investigations into Contaminant Effects on Fishes and Their Food Web<br>Randall Baxter, DFW | Value of Wetlands to Aquatic Foodwebs and Fish<br>Bruce Herbold, Estuarine Ecology Consultant, Oakland CA   | An Integrative Approach to Modeling Effects of Reactivation of River Migration on Aquatic and Floodplain Habitats<br>Glen Leverich, Stillwater Sciences  |

\* Denotes student presenter



**Room 306**  
Species and  
Community Ecology



**Room 307**  
Food Webs, Water  
Quality, and Policy



**Room 308-310**  
Policy, Floodplains,  
and Toxics



**Rooms 311-313**  
Climate Change,  
Restoration,  
and Policy



**Room 314**  
Modeling and  
Physical Science

|           |   |  |  |  |  |
|-----------|---|--|--|--|--|
| 1:40PM    | Diving Duck Response to Multi-Species Pond Management at Eden Landing Ecological Reserve<br>Susan De La Cruz, USGS  | Agricultural Losses from Salinity in California's Sacramento-San Joaquin Delta<br>Josue Medellin-Azuara, UC Davis  | Regulatory Challenges of Protecting Aquatic Life and Controlling Contaminants<br>Tessa Fojut, CVRWQCB  | Direct and Indirect Effects of Large-Scale Restoration and Implications for Science and Management<br>Chris Enright, Delta Science Program, Delta Stewardship Council                          | Background Quality of Delta Island Soil and Ground Water and the Implications for Reusing Dredged Sediments<br>Steven Michelson, Applied Water Resources                     |
| 2:00      | Rapid Fouling Community Shifts in San Francisco Bay Linked to Climatic Extremes and Water Management<br>Andrew Chang, Smithsonian Environmental Research Center                     | Ensuing Delta Wetland Restoration Heightens Water Quality Concerns for Southern California... or Not?<br>Robert Eckard, * UC Davis   | Stormwater Transport of Urban and Agricultural Pesticides into Suisun Marsh<br>Donald Weston, UC Berkeley  | Conceptual Model of Fish Benefits of Tidal Marshes, Food Webs, and Linkages to Adjacent Habitats<br>Denise De Carion, * UC Davis   | Post-Cyclic Behavior of Sherman Island Peat<br>Ali Shafiee, * UCLA   |
| 2:20      | Ballast Water Management Compliance of Commercial Vessels Operating in the San Francisco Estuary: A Ten-Year Perspective<br>Christopher Brown, SLC                                  | Operational Ecosystem Modeling to Support Adaptive Management—Lessons from 40 Years of Decision Support for the Great Lakes<br>John Wolfe, LimnoTech                       | Contaminant-Related Thyroid Endocrine Disruption in California Fish<br>Jesus Reyes, Pacific Coast Environmental Conservancy  | Unraveling Sources of Food Web Support in the Sacramento-San Joaquin Delta's Marsh Ecosystems Using Fatty Acid Biomarkers and Multiple Stable Isotopes<br>Emily Howe, University of Washington | Subsidence and Levee Movement in the Sacramento-San Joaquin Delta: Application of Radar Imaging to a Region-Wide Levee Assessment<br>Cathleen Jones, Jet Propulsion Lab, CIT |
| 2:40-3:00 | <b>BREAK—3rd Floor Lobby</b>  |  |  |  |  |
| 3:00-4:40 | <b>Species and Communities II: News from Suisun and the Bay</b><br>Kathy Hieb, DFW  | <b>Water Policy: Working Towards Reconciliation</b><br>Kim Webb, USFWS   | <b>The Contaminant Connection</b><br>Stephanie Fong, State and Federal Contractors Water Agency  | <b>Exploring Emergent Tidal Marsh Restoration in Suisun and the Delta for Fishes</b><br>Chris Enright, Delta Science Program   | <b>Innovative Approaches in Assessing Non-Native Predators and Predation in a Modified System</b><br>Christopher Fitzer, ESA   |
| 3:00      | Trophic Integration of an Invasive Plant: <i>Lepidium latifolium</i> 's Impact on the Suisun Song Sparrow Food Webs<br>Rachel Wigginton, * UC Davis                                 | Reconciling Fish, Farms and Fowl on the Yolo Bypass<br>Robyn Suddeth, UC Davis   | Predicted Population Decline in Fish Due to Bifenthrin Exposure: Implications for Aquatic Ecosystems in the Bay-Delta<br>Susanne Brander, University of North Carolina, Wilmington | Ecosystem-Scale Rates of Primary Production Within Wetland Habitats of the Northern San Francisco Estuary<br>Risa Cohen, Georgia Southern University   | Predation in the North Delta: Tales from the Digestive Goo<br>Brian Schreier, DWR  |
| 3:20      | Variation in Salinity Tolerance among Olympia Oyster Populations: Implications for Restoration in the Face of Climate Change<br>Jillian Bible, * Bodega Marine Laboratory, UC Davis | Fish, Farms, and Fowl on the Yolo Bypass: Measuring the Benefits and Impacts of Floodplain Restoration<br>Katie Jagt, American Rivers                                      | Integration of both Exposure and Effect in a Complex Watershed<br>Debra Denton, US EPA   | Nutrient and Organic Carbon Cycling Processes in Tidal Marshes and Shallow Water Habitats<br>Brian Bergamaschi, USGS   | Predator Densities and Associated Salmonid Smolt Mortality around Water Diversions<br>Cyril Michel, UC Santa Cruz  |
| 3:40      | California Gull Population Growth and Response to South Bay Salt Pond Restoration<br>Natalie Washburn, San Francisco Bay Bird Observatory   | Measuring the Compatibility of Agricultural Crops with Periodic Floodplain Inundation on the Lower San Joaquin River<br>Alejo Kraus-Polk, * UC Davis, American Rivers      | Connecting Fish Tissue Selenium Concentrations to Sources and Exposure in a Dynamic Estuary: The Case of Sacramento Splittail<br>Robin Stewart, USGS                               | The Utilization of Tidal Marshes by Fishes of the Upper San Francisco Estuary<br>Matt Nobriga, USFWS   | Making the Connection between Fish Predation Hot Spots and Regional Hydrodynamics<br>Nancy Monsen, Stanford University   |
| 4:00      | Seeds, Space and Time: Assessing Plant Community Dispersal Dynamics in the South Bay Salt Pond Restoration Project<br>Dylan Chapple, * UC Berkeley                                  | Building Capacity for Multi-Benefit Water Management: Governance Arrangements in California's Integrated Regional Water Management Process<br>Esther Conrad, * UC Berkeley | Physiological Responses to High Water Temperature in Longfin Smelt and Delta Smelt<br>Ken Jeffries, UC Davis   | Linking Tidal Marshes, Open Water, and Novel Ecosystems for Fish Recovery in the Upper San Francisco Estuary<br>Peter Moyle, UC Davis  | Interactive Effects of Habitat Alterations and a Non-Native Predator, Striped Bass, on Native Juvenile Salmon Mortality<br>Megan Sabal, NOAA Fisheries                       |
| 4:20      | Abiotic and Biotic Drivers of Native Pondweed ( <i>Stuckenia spp.</i> ) Distribution in Suisun Bay and the West Delta<br>Katharyn Boyer, Romberg Tiburon Center, SFSU               | The Untapped Potential of California's Water Supply: Efficiency, Reuse, and Stormwater<br>Heather Cooley, Pacific Institute and Kate Poole, NRDC                           | Characteristics of Suspended Solids affect Bifenthrin Toxicity to Calanoid Copepods of the San Francisco Estuary<br>Sarah Lesmeister, UC Davis                                     | Delta ISB Review of BDCP Documents, Particularly Regarding Reliance on Habitat Restoration<br>Tracy Collier, Delta Independent Science Board   | Using a Predator Density Manipulation Study to Quantify Salmon Smolt Predation in the San Joaquin River<br>Joseph Smith, University of Washington                            |
| 4:40      | <b>ADJOURN—Evaluation Form Submission and RAFFLE (East Lobby-3rd Floor)</b>   |  |  |  |  |

## Poster Cluster

### Yolo Bypass: Connecting Science, Policy and Management

Hydrodynamic Modeling in the Yolo Bypass to Support Salmonid Habitat Restoration  
Chris Campbell, CBEC, Inc.

Uncharted Territory: Paving the Road for Future Large-Scale Restoration Projects  
Joshua Martinez, DWR

Bloom or Bust: Fall Fish Food Trends in the Yolo Bypass  
Angelica Munguia, DWR

Conserving Terrestrial Species on the Yolo Bypass Floodplain  
Rebecca Sloan, ICF International

Presence of Juvenile Fishes in Yolo Bypass during Dry Years  
Mollie Ogaz, DWR

Yolo Bypass Fish Monitoring Program  
Naoaki Ikemiyagi, DWR

Utility of Passive Integrated Transponder (Pit) Technology To Examine Juvenile Salmon Habitat Preference on an Agricultural Floodplain  
Naoaki Ikemiyagi, DWR

Discovering the Flyway at the Yolo Bypass Wildlife Area  
Robin Kulakow, Yolo Basin Foundation

Resolving Stakeholder Concerns in the Name of Restoration: Case Study of the Yolo Bypass  
Chris Soncarty, ICF International

A New Method for Quantifying Flood Plain Habitat and Function  
Mary Matella, Coastal Commission

Recent Applications of the Estimated Annual Habitat Method to Measure, Design, and Evaluate Floodplain Habitat  
John Cain, American Rivers

Flood Management Planning—Drivers for Change in the Yolo Bypass  
Mary Jimenez, DWR

Central Valley Flood System Conservation Strategy  
Monique Wilber, DWR

Lower Putah Creek: Restoration Design within a Highly Managed Yolo Bypass  
Eve Pier Kieli, ESA-WWR

Permanent Wetlands Act as Polishing Ponds to Remove MeHg from Managed Freshwater Seasonal Wetland Tailwater in the Yolo Bypass Wildlife Area  
Wesley Heim, Moss Landing Marine Laboratories

## General Sessions

### Fish Biology, Ecology and Protection

How to Estimate Trophic Position of Fish from Lag in Contaminant Bioaccumulation  
William Beckon, USFWS

Into the Belly of the Beast: Traditional and Genetic Prey Detection in Liberty Island's Mississippi Silversides  
Tricia Bippus, DFW

Inter-annual Variability of Delta Smelt Fall Growth in Association with the Fall Low-Salinity Habitat Study  
Eva Bush, UC Davis

Effects of Water Year Type on Juvenile Chinook Salmon Size at Emigration in the Lower Yuba River, California  
Paul Cadrett, USFWS

Use of *Menidia berylina* in Determining Impacts of Exposure to Endocrine Disrupting Chemicals in the SSJ Delta  
Bryan Cole, UC Davis

Trophic Ecology of Larval Delta Smelt from Liberty Island, 2010-2012  
Jeffery Cordell, University of Washington

The Central Valley Spring-Run Chinook Life Cycle Model: A Tool to Evaluate the Impact of Water Project Operations and Habitat Restoration on the Population Dynamics of Threatened Salmon Populations  
Flora Cordoleani, UCSC

Tidal Marsh Restoration Attracts Longfin Smelt  
Patrick Crain, ICF International & UC Davis

San Joaquin River White Sturgeon Telemetry Study  
Jimmy Faulkner, USFWS

Survival and Initial Feeding Response of Delta Smelt Larvae (*Hypomesus transpacificus*) Exposed to Sacramento-San Joaquin Delta Water, April-June 2012 to 2014  
J. Scott Foott, USFWS

Age-0 Striped Bass Regional Prey Consumption in the Fall (2011)  
Alison Furler, DFW

The Role of Visual Stimuli and Flow in Green Sturgeon Rheotaxis Behavior  
Sean Goodside\*, UC Davis

Combining Acoustic Tag and Hydrodynamic Data to Assess Velocity Habitat Suitability for Predatory Fishes in the Sacramento-San Joaquin Delta, California  
Marin Greenwood, ICF International

Determination of Optimal Fish Density in Experimental Systems using Physiological Stress Responses  
Matthias Hasenbein\*, UC Davis

Stress Response to Turbidity and Salinity utilizing Feeding Performance, Biochemical, and Molecular Biomarkers in Delta Smelt (*Hypomesus transpacificus*)  
Matthias Hasenbein\*, UC Davis

The Toxic Effects of Two New Herbicides on Early Life Stages of Delta Smelt (*Hypomesus transpacificus*)  
Krista Callinan Hoffmann\*, UC Davis

San Joaquin River White Sturgeon Spawning Survey  
Zachary Jackson, USFWS

The Sublethal Effects of Chronic Ammonia Exposure in Larval and Embryonic Delta Smelt (*Hypomesus transpacificus*)  
Julie Jones\*, UC Davis

Physiological Responses of Delta Smelt to Low Salinity Acclimation  
Brittany Kammerer, UC Davis

Screening of Infectious Pathogens in Wild Striped Bass and Delta Smelt Populations using Next Generation Sequencing Technology  
Tomofumi Kurobe, UC Davis

Reproductive Biology of Female Delta Smelt and Their Life History Model in the San Francisco Delta  
Tomofumi Kurobe, UC Davis

Use of Video Cameras in Monitoring  
Katrina Martens, Cramer Fish Sciences

Employing Multiple Strategies to Restore Connectivity, Fish Populations and Aquatic Habitat in the Cosumnes, Mokelumne and Calaveras Rivers  
Donald Ratcliff, USFWS

2014 Georgiana Slough Floating Fish Guidance Structure Performance Evaluation  
Ryan Reeves, DWR

Identifying When Tagged Fishes Have Been Consumed by Piscivorous Predators: Application of Multivariate Mixture Models to Movement Parameters of Telemetered Fishes  
Jason Romine, USGS

Finding the Females: Developing a Novel Tool to Investigate the Skewed Bay Delta Striped Bass Sex Ratio  
Andrea Schreier, UC Davis

Juvenile Salmonid Utilization of Floodplain Rearing Habitat after Gravel Augmentation in a Regulated River  
Kirsten Sellheim, Cramer Fish Sciences

Determining the Feasibility of Fish Passage, Calaveras Dam Replacement Project, California  
Jonathan Stead, URS

Does Gravel Size Influence Benthic Macroinvertebrate Density, Biomass and Feeding Guild Composition?  
Jamie Sweeney, Cramer Fish Sciences

\* Denotes student presenter

## Posters (continued)

An Integrated Approach for Health Assessment of the Endangered Delta Smelt (*Hypomesus transpacificus*)  
Swee Teh, UC Davis

Health of Juvenile Delta Smelt (*Hypomesus transpacificus*) in Summer 2012 and 2013  
Swee Teh, UC Davis

Warming Water Temperatures in California's Central Valley: Potential Effects on Upstream Salmonid Habitat Conditions  
Rick Wilder, ICF International

### Flood Management

Tidal Habitat Restoration and Regional Flood Protection Nexus: Planning for Multiple-Benefits in the Lower Sacramento North Delta Region  
John Downs, DFW

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 Effects on GHG Emissions  
Roni Gehlke\*, Delta Science Center

### Food Webs

Lower Food Web Dynamics of the Sacramento-San Joaquin Delta  
Jennifer Bigman, Delta Science Program, Delta Stewardship Council

Impacts of Population Growth on the San Francisco Bay and Delta Ecosystem (SFE)  
Curtiss Davis, Oregon State University

What Would Fish be without Food? How Herbicides Affect Aquatic Communities from Bottom-Up  
Simone Hasenbein\*, UC Davis

Analysis of Nutrient Mitigation and Organic Matter Production in Waters of Liberty Island  
Tricia Lee\*, Romberg Tiburon Center, SFSU

Spatial and Temporal Variation in Aquatic Plant and Invertebrate Communities in Suisun Bay and the Sacramento-San Joaquin Delta  
Jennifer Miller, Romberg Tiburon Center, SFSU

Effect of a Diet Devoid of Docosahexaenoic Acid on Fish Larval Vision  
Alejandro Ruiz\*, UC Davis

Limiting the Impact of Benthic Grazers and Maximizing Foodweb Enhancements under BDCP  
Kathleen Swanson, ICF International

Are There Phytoplankton Blooms and Elevated Primary Productivity in the Fall in the Northern Estuary? (Fall Habitat Study)  
Frances Wilkerson, Romberg Tiburon Center, SFSU

Recent Progress of the Sacramento-San Joaquin Delta and Suisun Bay Ecopath Model  
Marissa Wulff, USGS

### Global Perspectives

Planning Treatment Plant Infrastructure for Sea Level Rise  
Jim Ervin, San Jose-Santa Clara Regional Wastewater Facility

The Behavior of and Benefits to Researchers Using Open Access Electronic Journals  
Lauren Muscatine, UC Davis

The Use of Antifouling Coatings to Deter Biofouling on Commercial Ships Arriving to San Francisco Bay-Delta Ports  
Raya Nedelcheva, SLC

Rainwater Storage for Evaporative Air Cooling  
Nasim Tajmand\*, WCEC

Preliminary Review of the Relative Effectiveness of Ballast Water Management in Preventing New Introductions of Non-Native Zooplankton in the San Francisco Estuary  
Jonathan Thompson, SLC

### Human Consequences

Sacramento District Regulatory Division in the Sacramento San Joaquin Delta  
Kahleem Dadey, USACE

Improving Communication of Fish Consumption Advisories in the Bay Delta System  
Matt Douraghi, CSU East Bay

Local Ballot Measures Provide Opportunities for Funding Multiple Stressors Management  
Emma Freeman, PPIC

Fishing for the Right Message: Community Involvement in Reducing Human Exposure to Mercury in Delta fish  
Lauren Joe, California Department of Public Health

Novel Technique for Assessing Ammonium Utilization by Phytoplankton in the San Francisco Bay-Delta Estuary  
Calla Schmidt, University of San Francisco

Effects of Nitrogen Fertilization and Soil Carbon Variables on CH<sub>4</sub> and N<sub>2</sub>O Emissions from Rice Fields  
Rongzhong Ye, UC Davis

### Integrative Applied Science

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

California Estuaries Portal: Bringing Science to the Public  
Kelsey Cowin, State Federal Contractors Water Agency

Enhancing Capacity for Habitat Restoration Project Tracking, Assessment and Reporting  
Kristal Davis Fadtke, Sacramento-San Joaquin Delta Conservancy

New Insights on Measuring and Up-Scaling Wetland Canopy Leaf Area Index in the Sacramento-San Joaquin Delta  
Iryna Dronova, UC Berkeley

Optimizing Secondary Treatment for Energy Savings & Nutrient Removal  
Jim Ervin, San Jose-Santa Clara Regional Wastewater Facility

Subsidence Reversal through Marsh Re-establishment on Twitchell Island  
Madeline Foster\*, UC Berkeley

Assessing Regional Digital Elevation Model Suitability for Tidal Wetland Restoration Planning in Suisun Marsh  
Daniel Gillenwater, Environmental Science Associates

The Bay Delta Science Conference Interacts with a Conceptual Model of Sacramento River Salmonid Biology and Management—Make Your Connection!  
Joshua Israel, USBR

Regional Data Exchange: From Concept to End User Data Tools  
Won Kim, Oregon DEQ

Where Are Our Wetlands and How Are They Doing?  
Jon Marshack, California Water Quality Monitoring Council

What Does a Pigment-Based Analysis Tell us about the Phytoplankton Community Composition in San Francisco Bay?  
Melissa Peacock, UC Santa Cruz

Understanding Stem Strength and Flood Tolerance of *Schoenoplectus californicus* for Enhanced Restoration Success  
Taylor Sloey\*, Univ. of Louisiana at Lafayette

Integrating Surface and Shallow Subsurface Hydrologic and Water Quality Interactions for Developing Management Practices for Rice in the Sacramento-San Joaquin Delta, CA  
Nicole Stern, Tetra Tech, Inc.

Effectiveness Monitoring for Adaptive Management of the Lower Yolo Restoration Project  
Ramona Swenson, Environmental Science Associates

\* Denotes student presenter

## Posters *(continued)*

Response of Sacramento River Phytoplankton Community Composition to Ammonium-Rich Effluent in Mesocosms  
Nicole Travis\*, Romberg Tiburon Center, SFSU

Communicating Science: The South Bay Salt Pond Restoration Project  
Laura Valoppi, USGS

### Modeling

Modeling the Influence of Fall Outflow and Community Structure on the Delta Smelt Population  
Gonzalo Castillo, USFWS

Modeling the Bay-Delta Circulation and Ecosystem  
Yi Chao, UCLA

Sacramento River Chinook: A Statistical Model for Evaluating the Influence of Environmental Variability and Competition on Survival  
Curry Cunningham\*, Univ. of Washington

SF Estuary Salinity Field and Fish Abundance and Distribution Visualization  
Erin Foresman, USEPA

Comparison of Mixing at a Junction Computed With Two- and Three-Dimensional Models to the Simple Flow-Weighting Scheme Used in One-Dimensional Models  
Oliver Fringer, Stanford University

Habitat Restoration and Water Diversion Effects of the Proposed Bay Delta Conservation Plan on the Hydrodynamics of a Key River Junction within the Sacramento-San Joaquin Delta, California  
Marin Greenwood, ICF International

Enhancing the Vision for Managing California's Environmental Information: A Vision Document  
George Isaac, Delta Science Program, Delta Stewardship Council

Projecting Boundary Conditions for a Hydrodynamic Model of the Bay-Delta under Scenarios of Climate Change  
Noah Knowles, USGS

The Calibration of a 3D Hydrodynamic Model for the Assessment of Water Quality Indicators in the San Francisco Bay-Delta System  
Rosanne Martyr, UC San Diego

Airborne Surface Water Elevation Observation for Hydrodynamic Modeling in the Sacramento-San Joaquin Delta  
Claire Michailovsky, Jet Propulsion Lab, California Inst. of Tech.

Lessons Applicable to the Bay-Delta Nutrients Program from a Nutrient TMDL Developed for a Polluted Urban Watershed  
Pradeep Mugunthan, Anchor QEA, LLC

Improving Process Based Modeling of CO<sub>2</sub> and CH<sub>4</sub> from Managed Wetland and Rice Systems in the Delta  
Patricia Oikawa, UC Berkeley

Modeling Selenium Biogeochemistry in the Delta and San Francisco Bay  
Sujoy Roy, Tetra Tech Inc.

How Much Floodplain Habitat is in the Central Valley and How Much Do We Need to Achieve the AFRP Chinook Salmon Doubling Goal?  
Mark Tompkins, NewFields

Building a Public Community around the D3D-FM San Francisco Bay-Delta Model  
Mick van der Wegen, UNESCO-IHE and Deltares

### Physical Processes

San Francisco Bay Sediment Dynamics in Low Energy Turbulence  
Rachel Allen\*, UC Berkeley

Daily Tracking and Evaluation of Effective Delta Outflow and Delta Salinity (EC) During the 2014 Drought  
Russ Brown, ICF International

Blacklock Restoration Project in Suisun Marsh—Changes to Marsh Plain Elevations and Channel Network Evolution Over Five Years  
Kristin Garrison, DWR

Evaluating the Measured Effects of Delta Outflow on San Francisco Estuary Salinity in WY 2011  
Anne Huber, ICF International

Floc Depositional Characteristics within the Sacramento-San Joaquin River Delta, Northern California, USA  
Andrew Manning, HR Wallingford, Univ. of Hull, Plymouth Univ. (UK)

Comparison of Downscaled CMIP5 Precipitation Datasets for Projecting Changes in Extreme Precipitation in the San Francisco Bay Area  
Cristina Milesi, NASA Ames Research Center

Influence of Wind, Wind Waves, and Tidal Forcing on Sediment Resuspension, Liberty Island, CA  
Tara Morgan-King, USGS

Beyond the 10% Rule: A New Method for Predicting Salmon Spawning Potential from Substrate Grain Size and Fish Length  
Leonard Sklar, SFSU

Evaluation of Junction Hydrodynamics in the Sacramento-San Joaquin Delta  
Paul Stumpner, USGS

Central Valley Outflow over Time: Water Budgets and Other Estimates  
Peter Vorster, The Bay Institute

### Population Estimation and Viability

Developing Tools for Endangered Salt Marsh Harvest Mouse Conservation: Genetic Identification of Species and Population Variation using Functional Loci  
Anastasia G. Ennis\*, Romberg Tiburon Center, SFSU

### Sampling Methods and Design

Mobile Acoustic Sampling to Quantify the Distributions and Behaviors of Salmon Smolt Predators in the San Joaquin River  
David Demer, NOAA

Designing Passive, Baited, GPS Enabled Monitoring Buoys to Measure Juvenile Chinook Salmon Predation in a River Environment  
Nicholas Demetras, NOAA

Tidal Marsh Restoration under BDCP: Adapting to Uncertainty in Management and Environment  
Christopher Earle, ICF International

Mud on the Move: Measuring Suspended Sediment Concentrations within Tidal Wetlands in the San Francisco Estuary  
Matthew C. Ferner, San Francisco Bay NERR

Method for Continuous In-situ Measurement of Phytoplankton Settling Rates Using Existing Flow-Through Fluorometers  
Alexander Tsompanas, USGS

The Tail of Two Marshes: A Case Study Comparing a "Designer" and "Self-Design" Marsh  
Isa Woo, USGS

### Species and Communities

Status and Trends of Fish and Invertebrate Assemblages in the South Bay Salt Pond Restoration Programs Restorations Ponds  
Jon Cook, UC Davis

Summer vs. Winter: Estimating the Conservation Value of Riparian Habitat to Birds throughout the Annual Cycle  
Kristen Dybala, UC Davis

San Francisco Estuary Invasive *Spartina* Project Tidal Marsh Restoration Program in Support of California Clapper Rail  
Jeanne Hammond, SF Estuary Invasive *Spartina* Project/Olofson Environmental, Inc.

Response of Invasive *Spartina* to Suspended Treatment at 10 San Francisco Bay Marshes  
Ingrid Hogle, SF Estuary Invasive *Spartina* Project

Variation in Oyster Performance between and within Two Restoration Sites in San Francisco Bay  
Stephanie L. Kiriakopoulos, University of California Davis

Effect of Drought Conditions on the Distribution and Bioaccumulation of Selenium in Two Invasive Clam Species in North San Francisco Bay  
Amy Kleckner, USGS

Communities of Nitrogen-Cycling Bacteria in the North and Central San Francisco Bay: How Salinity Determines Who's There  
Jessica Lee\*, Stanford University

California Clapper Rail Survey Results at *Spartina*-Invaded Marshes from 2010 to 2014 and the Implications for Eradication of Invasive *Spartina* from the SF-Bay Estuary  
Jennifer McBroom, SF Estuary Invasive *Spartina* Project/Olofson Environmental, Inc.

Biomass Distribution of *Potamocorbula amurensis* and *Corbicula fluminea* in the San Francisco Bay and Delta during Several Dry and One Wet Year  
Francis Parchaso, USGS

Native Plant Expansion: Historic Imagery Reveals Recent Spread of SAV in the Northern Estuary  
Melissa Patten\*, Romberg Tiburon Center, SFSU

Habitat Preferences of Fishes in the North Delta: An Electrofishing Study  
Martin Perales, UC Davis

Management Implications of the Diet of Barn Owls Foraging in San Pablo Bay Wetlands  
Katherine Powelson, USGS

### Sustainable Habitats and Ecosystems

Preliminary Results of the Bobcat Flat Rehabilitation Project, Post-Implementation Monitoring Plan, Lower Tuolumne River, CA  
Kes Benn, USFWS

Habitat Restoration and Adaptive Management: How the Delta Plan Can Help  
Jessica Davenport, Delta Stewardship Council

Interacting and Changing Ecological Constraints on Riparian Restoration Success: Insights from the Merced River  
Zoey Diggory, Stillwater Sciences

San Francisco Bay Transition Zone Conservation and Management Decision Support System  
Brian Fulfroost, SFBBO

The Effect of Stocking Density on Length and Gut Fullness of larval Delta Smelt Reared in Small Vessels  
Tewdros Ghebremariam, UC Davis

CRAM: New Online Management Tools for Uploading and Accessing Wetland Condition Information  
Cristina Grosso, SFEI-ASC

What Do We Have Now? Species Specific Floodplain Habitat in the Sacramento Basin  
Katie Jagt, American Rivers

The 2015 State of the Estuary Report  
Judy Kelly, SFEF

Effect of Flow and Water Year (WY) Type on Nutrient and Organic Matter Sources and Biogeochemical Processes in the San Francisco Estuary: Use of a Multi-Isotope Fingerprinting Approach for Habitat Characterization during the Fall and Spring 2006-2014  
Carol Kendall, USGS

Challenges and Approaches to Natural Resource Mitigation in a Changing Environment  
Phillip Lebednik, Weston Solutions, Inc.

Formation and Erosion of Tidal Wetland near Martinez from 1850 to Present  
Phillip Mineart, URS

McCormack Williamson Tract and Grizzly Slough: New Analyses for Floodplain and Tidal Marsh Restoration  
Anitra Pawley, DWR

Delta Riparian Habitat Restoration on Rock Stabilized Levee Repair Sites  
George Strnad, URS

Effect of Light and Turbidity in Larval Delta Smelt Rearing Trials  
Galen Tigan, UC Davis

Adaptive Management in Action: The South Bay Salt Pond Restoration Project  
Laura Valoppi, USGS

Future San Francisco Bay Tidal Marshes: An Improved Climate Smart Planning Tool  
Julian Wood, Point Blue Conservation Science

### Water and Sediment Quality

Seasonal, High Resolution Nutrient Dynamics in the Northern San Francisco Estuary under Varying Water Year Types  
Edmund Antell, Romberg Tiburon Center

Evaluation of South Delta Salinity Sources and Alternatives for Improving EC Compliance  
Russ Brown, ICF International

Multi-Purpose Planning Efforts for Phase II of the San Francisco Bay to Stockton Navigation Improvement Study  
Katie Chamberlin, Anchor QEA, LLC

Can San Francisco Bay "Filter" Nitrogen Between the Land and the Sea? The Microbiology and Biogeochemistry of Nitrification in Estuary Waters  
Julian Damashek\*, Stanford University

Relationships between Water Quality Constituents in the Delta and the Influence of Different Sources of Water  
Richard Denton, Water Resources Consultant

Toward the Remote Sensing of Water Quality and Contaminants in the California Delta  
Cedric Fichot, California Institute of Technology

Mapping Bathymetric Change as Alviso Salt Pond Restoration Projects Progress  
Amy Foxgrover, USGS

## Posters *(continued)*

Using Bathymetric Surveys to Estimate Mercury Mobilization from Scour within Alviso Slough  
Theresa Fregoso, USGS/UCSC

Changes in Total and Methyl Mercury Concentrations in Water, Sediment, and Biota Resulting from Connectivity of a Post Restoration Tidal Marsh to a Tidal Slough  
Wesley Heim, Moss Landing Marine Laboratories

Using Mesocosms to Test the Effect of Land Management Practices on Monomethylmercury Production in Freshwater Seasonal Wetlands  
Wesley Heim, Moss Landing Marine Laboratories

The Delta Regional Monitoring Program: Connecting Water Quality Management and Science in the Delta  
Thomas Jabusch, SFEI-ASC

Ibuprofen Exposure Reduced Reproductive Output in Adult Inland Silversides  
Ken Jeffries, UC Davis

Potential for *In Situ* Coagulation in Conjunction with Constructed Wetlands to Reduce Total and Methyl Mercury Concentrations, Loads and Bioavailability  
Tamara Kraus, USGS

Sacramento-San Joaquin Delta Improved Continuous Monitoring Network for Water and Habitat Quality  
Scott Nagel, USGS

In Stream Nitrate Dynamics in the Presence and Absence of Effluent in the Sacramento River, CA  
Katy O'Donnell\*, USGS

Water Quality Monitoring in the Cache Slough Complex  
Steven San Julian, DWR

Nutrient Trends in the Sacramento and San Joaquin Basins: A Comparison to State and Regional Water-Quality Policies  
Brandon Schlegel\*, CSU Sacramento

Potential Benefits of C-N-S Isotopes of Dissolved Organic Matter (DOM) for Pelagic Organism Decline (POD) and Habitat Studies in the San Francisco Estuary (SFE)  
Steve Silva, USGS

Putah Creek Watershed Mercury Project  
Genevieve Sparks\*, CSU Sacramento

Assessing Habitat Quality using New Optical Methods Developed for In-Situ, Real-Time Detection of Habitat Quality Indicators  
Amy Story, USGS

Understanding the Relationships Between TKN, SKN, NH<sub>3</sub>, and NO<sub>3</sub> Discharged into San Francisco Bay  
Emily Volkmar, Caltest Analytical Laboratory

Developmental Effects of Fipronil on Japanese Medaka (*Oryzias latipes*) Embryos using a 96-Well Plate Exposure Method  
Scott Wagner\*, UC Davis

### Water Supplies and Instream Flows

Hydraulic Modeling of an Upstream Passage Barrier for Adult Spring-Run Chinook Salmon on Butte Creek  
Mark Gard, USFWS

Are Mid-Winter Droughts in Northern California Increasing?  
Maurice Roos, DWR

Development of a Quality Assurance System for the California Department of Fish and Wildlife Instream Flow Program  
Beverly van Buuren, Moss Landing Marine Laboratories

Phase 4: Development and Implementation of Flow Objectives for Priority Bay-Delta Tributaries  
Public Trust Unit, SWRCB, Division of Water Rights

### Watersheds

Connecting Bay Area Students to the San Francisco Bay-Delta Watershed  
Rachelle Cardona, Save The Bay

GIS-Based Decision Support Tool for Estimating Riparian Zones at the Watershed and/or Project Scale  
Marshall Kunze, SFEI

The Delta Watershed Initiative Network (Delta WIN)  
Kathryn Kynett, Sacramento-San Joaquin Delta Conservancy

Characterization of the Mass Flux of Salts, Nutrients, and Oxygen-Demanding Substances from the San Joaquin River to the Estuary  
William Stringfellow, Univ. of the Pacific