# Cultivating Connections for a Dynamically Changing Environment

BAY-DELTA SCIENCE CONFERENCE

BayDeltaScienceConference.com
#BDSC2024

**Sept. 30–Oct. 2, 2024**

**SAFE Credit Union Convention Center**
**Sacramento, California**

**The Biennial Bay-Delta Science Conference** recognizes that, by harnessing the breadth of knowledge that exists across our community, we can meet the many challenges facing the Delta of today and into the future. However, the strongest path forward will require intentional cultivation and increased connection.

Just as cultivation can nurture the development of a sapling to a tree and the growth of many trees into a resilient forest, connection and cultivation will magnify our positive impact as practitioners, inhabitants, and stewards of the Bay-Delta facing the multiple challenges inherent with rapid change. Embracing connections across ways of knowing, disciplines, and geographies will be the key to fruitful adaptation. **We hope that the 2024 Bay-Delta Science Conference, "Cultivating Connections in a Dynamically Changing Environment" will plant the seed.**

## Special Event

*Tricia Lee, Delta Science Program*

### Town Hall: Jeopardy! Delta Science Plan Edition

### October 1 at 12:30-1:30 in Rm B3-5

What does it take to plan for the "doing of science" in the Delta? How can members of the Delta science community have their voices heard in the planning done by the Delta Science Program? What are the "Grand Challenges" in Delta science and what can we do about them? Attend this interactive and fun lunchtime session to hear about how the Delta Science Plan has successfully created change in Delta science over the last decade and how YOU can inform the forthcoming development of the 2025 Delta Science Plan.

## Organizing Committee:

**Conference Co-Chairs:**
*Jim Orlando, USGS*
*Michele Stevens, Sac State*

**Program Chairs:**
*Brian Mahardja, USBR*
*Laura Twardochleb, SWB*

**Conference Coordinators:**
*Miranda Bell-Tilcock, Delta Stewardship Council*
*Maggie Christman, Delta Stewardship Council*
*Events Enterprises Team*

**Poster Chairs:**
*Scott Navarro, Delta Stewardship Council*
*Florian Mauduit, UC Davis*

**Art Chairs:**
*Kim Luke, Delta Stewardship Council,*
*Jessica Weidenfeld, Delta Stewardship Council*

**Student Mentor Chairs:**
*Ben Geske, Delta Stewardship Council*
*Mandi Finger, UC Davis*

**Student Judging Chairs:**
*Stephen Elser, Delta Stewardship Council*
*Elizabeth Brusati, Delta Stewardship Council*
*Xoco Shinbrot, Delta Stewardship Council*

**Professional Societies Chair:**
*Darcy Austin, State Water Contractors*

***Brown-Nichols Science Award Chair:*** *Lauren Hastings, Delta Stewardship Council*

**Committee Members:**
*Amanda Cranford, NOAA/NMFS*
*Shawn Acuna, MWD*
*Christine Joab, CDFW/IEP*
*Tim Mussen, Sacramento Area Sewer District*
*Lisa Thompson, Sacramento Area Sewer District*
*Lauren Damon, Delta Conservancy*
*Anji Shakya, Delta Conservancy*
*Lydia Vaughn, SFEI*
*Donna Bell, SFEI*
*Lynn Takata, CDFW*

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## Plenary Session will feature talks from:

**Diana Almendariz, Cache Creek Conservancy**
*"Reinvigorating Waters and Soil: The Unexpected Benefits of Ash"*

**Don Hankins, Chico State**
*"Community Connections: Weaving Tradition & Science for Collaborative Conservation"*

**Karen Morrison, CDPR**
*"Downstream Impacts of Sustainable Pest Management"*

## *Plus! Find out the winner of the 2024 Brown-Nichols Science Award!*

See next page for talks and posters. Asterisks (*) indicate the presenter is competing in the student presentation awards competition.

| Day 1 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) | Session 6 (9/10) |
|---|---|---|---|---|---|---|
| **Session** | **From monitoring to management: a collaboratory to develop a spring-run Chinook Salmon juvenile production estimate.** | **Emerging Technologies (General)** | **Flow & Physical Processes 1** | **Beyond Fish (Birds)** | **Phragmites control efforts and expansion in Suisun Marsh over 2 decades: can collective action improve the outcome?** | **Artificial intelligence (AI) approaches to advance coastal ecosystem science** |
| **Moderator** | **Brett Harvey, DWR** | | | **Kim Luke, DSC** | **John Takekawa, Suisun RCD** | **Ashley Brereton, LBNL** |
| **1:30** | Building resilient data systems for Sacramento River spring-run Chinook salmon using human-centered data management<br>*Ashley Vizek- FlowWest* | Machine Learning Protocols for Bay-Delta Water and Environmental Modeling<br>*Kevin He- DWR* | The potential for discharge-mediated temperature management on the Sacramento River<br>*Cyril Michel-NOAA* | California Black Rail (Laterallus jamaicensis coturniculus) Response to Marsh Restoration at Bay Point Regional Shoreline<br>*Chris Barton-Easy Bay Regional Park* | A North American context: Phragmites invasion ecology, management, and post-management wetland restoration in complex social landscapes<br>*Karin Kettenring- Utah State Univ.* | Toward Near-/Real-time Prediction of Fish Entrainment, Guidance, and Response to Tidal Hydrodynamics with ELAM Theory-informed AI<br>*R. Andrew Goodwin-ERDC* |
| **1:50** | Catch me if you can! – Monitoring spring–run Chinook Salmon in the Sacramento River watershed to develop a juvenile production estimate<br>*Anna Allison-CDFW* | A Machine Learning Based Tool for Ion Constituent Simulation in the Sacramento-San Joaquin Delta<br>*Peyman Namdi-DWR* | Sensitivity of river temperature downstream of a dam to mechanisms in a warming climate<br>*Erin Bray-SFSU* | Utilizing Otolith Geochemistry to Identify Origins of Juvenile Chinook Salmon Preyed Upon by an Endangered Avian Piscivore<br>*Sami Araya- UC Davis* | *Phragmites* control efforts and expansion in Suisun Marsh over 2 decades<br>*John Takeawa- Suisun RCD* | The Regional Carbon and Climate Analytics Tool (RCCAT): A Deep-Learning Model to Predict Carbon Sequestration Potential and Greenhouse Gas Emissions<br>*Ashley Brereton-LBNL-* |
| **2:10** | Need for Speed: Rapid, high-throughput genetic identification of Chinook Salmon run-types in the Sacramento River Basin<br>*Sean Canfield-DWR* | Succession in novel ecosystems: generalities and divergence of post-restoration vegetation dynamics in carbon-capture wetlands informed by multi-temporal satellite observations<br>*Iryna Dronova-UC Berkeley* | The Impact of Climate Change on River Temperatures in Lowland Rivers downstream of Dams<br>*Andres Rojas-Aquirre-SFSU* | Higher survival for ducklings hatching closer to wetland brood habitat and in lower-salinity wetlands<br>*Sarah Peterson-USGS* | Restoring ecosystem services through targeted revegetation: Testing a post-Phragmites management strategy in Suisun Marsh<br>*Adrienne Ernst-Berry College* | Surrogate Model for Data Assimilation in Seawater Intrusion Problems<br>*Su Jiang-LBNL* |
| **2:30** | What are the odds? Forecasting survival of spring-run Chinook Salmon juveniles migrating from the Sacramento River and its tributaries to the Delta<br>*Flora Cordoleani-NOAA* | Harnessing AI for Custom Data Dashboards and Maps: Enhancements in Natural Resource Management, Operations, and Reporting on BayDeltaLive.com<br>*Amye Osti- 34 North* | Evaluating blue carbon in a working wetland<br>*Lyndsay Rankin-USGS* | Effects of a large-scale watercraft racing event on waterbirds in a highly urbanized estuary<br>*Tanya Graham-USGS* | Factors that facilitate or hinder collective action for managing invasive plants in managed wetlands: Qualitative evidence from Suisun Marsh<br>*Vaishnavi Tripuraneni-Univ. of Delaware* | Interaction between coastal wetland restoration and hydrological processes<br>*Yi Xu-UCSC* |
| **2:50** | A modeling approach for optimizing Chinook salmon adult monitoring data<br>*Liz Stebbins-FlowWest* | Estimating Effective Light Exposure of Phytoplankton using Property-Tracking Tracers<br>*Edward Gross-RMA* | How does beneficial reuse of dredged material influence wetland restoration rates and outcomes?<br>*Michelle D'Aguillo-USGS* | Identifying high priority areas for tidal marsh bird conservation in the Delta<br>*Kristen Dybala-Point Blue Conservation Science* | A mixed-methods approach to identifying opportunities for and barriers to collective action for invasive plant management in Suisun Marsh<br>*Zhao Ma-Purdue Univ.* | A suite of data-model fusion approaches for informing greenhouse gas emissions at restored wetlands<br>Kyle Delwiche-UC Berkeley |
| **3:10-3:30** | **Break** | | | | | |

| Day 1 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) |
|---|---|---|---|---|---|
| **Session** | **Fishes in South Delta** | **Emerging Technologies (Fish)** | **Flow & Physical Processes 2** | **Beyond Fish (Mammals and Herps)** | **SF Estuary Wetlands Regional Monitoring Program: Regional Science to Inform Estuary Management** |
| **Moderator** | | | | **Elizabeth Brusati, DSC** | **Christina Toms, SF Bay Water Quality Control Board** |
| **3:30** | Assessing survival and routing for juvenile steelhead migrating through the South Delta<br>*Bryan Matthias-USFWS* | Reach-scale riverbed grain-size mapping with remote-sensing techniques<br>*Scott Wright-CBEC* | Hamilton Wetlands Restoration Project: Fish Community Response to changing Tidal Marsh Conditions<br>*Garrett Leidy-ESA* | The Effect of Salinity on Western Pond Turtle Occupancy in Suisun Marsh<br>*Melissa Riley-CDFW* | SF Estuary Wetlands Regional Monitoring Program: Regional Science to Inform Estuary Management<br>*Aviva Rossi-SFEI*<br>*Lisa Beers-SFEI* |
| **3:50** | The effects of hydrodynamic and environmental conditions on juvenile Chinook Salmon movements in the south Sacramento-San Joaquin Delta<br>*Sydney Gonsalves-Anchor QEA, Inc* | Immersed in Veg: Using High Resolution Drone Imagery to Understand the Effect of Vegetation on Fish Monitoring in The Yolo Bypass<br>*JT Casby-DWR* | Transport Dynamics in the Low Salinity Zone of the San Francisco Estuary<br>*Paul Stumpner-USGS* | Distribution of Giant Gartersnakes (Thamnophis gigas) in the Sacramento-San Joaquin Delta<br>*Anna Jordan-USGS* | SF Estuary Wetlands Regional Monitoring Program: Regional Science to Inform Estuary Management<br>*Alex Braud-SFEI* |
| **4:10** | Development and Calibration of An Individual Based Ecological Particle Tracking Model in the South Delta<br>*Xiaochun Wang-DWR* | Whose tag is it, anyway: recommendations for diagnosing predator detections in salmon telemetry data<br>*Rebecca Buchanan-Univ. of Washington* | Suspended particulate matter mixing in the Low Salinity Zone of the San Francisco Estuary, California<br>*Dan Haught-USGS* | An updated state of the mouse: A dynamic species in a dynamic environment<br>*Katie Smith-WRA* | SF Estuary Wetlands Regional Monitoring Program: Regional Science to Inform Estuary Management<br>*Justin DiGennaro-USGS* |
| **4:30** | Guidance Structure Evaluation Using a Novel Hydrodynamic, Fish Movement, and Survival Model Ensemble<br>*Kevin Clark-DWR* | Food-web responses to tidal marsh restoration in the San Francisco Bay-Delta: energy pathways and effects of native and non-native fishes<br>*Megan Pagliaro-UC Berkeley* | A comparative study of projected water availability in California using physical and statistical climate change projections<br>*Sudarshana Mukhopadhyay-Scripps Institute UCSD* | Conservation prioritization in the salt marsh harvest mouse<br>*Mark Statham-UC Davis* | SF Estuary Wetlands Regional Monitoring Program: Regional Science to Inform Estuary Management<br>*Daniel Nowacki-USGS* |
| **5:00-7:00** | **Art and Poster Reception** | | | | |

| Day 2 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) | Session 6 (9/10) |
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| **Session** | ***Oncorhynchus mykiss* (Steelhead)** | **Delta Carbon Farming** | **Applied Science & Adaptive Management** | **Unbottling the Secrets of the Bay-Delta: How Environmental DNA is Transforming Biological Monitoring** | **Longfin Smelt** | **Delta Collaboration 2.0: How Can We Improve Collaborative Engagements to Incorporate More Diverse Perspectives and Support More Robust Decisions?**<br><br>**Moderator**: Bruce DiGennaro- The Essex Partnership<br><br>**Panel**: Jay Zeigler, Tanya Heikkila, Sam Luoma, Darcy Austin, and Lenny Grimaldo |
| **Moderator** | | **Lauren Damon, Delta Conservancy** | **Stephen Elser, DSC** | **Daphne Gille, DWR and Sarah Brown, DWR** | **Shawn Acuna, MWD** | |
| **8:30** | South Delta STARS for juvenile steelhead: simulating through-Delta travel time, routing, and survival via modeled linkages to freshwater inflows and exports<br>*Adam C. Pope-USGS* | Long-term monitoring of greenhouse gas budgets in restored wetlands<br>*Patty Oikawa-CSU* | Adapting to Changing Climate Extremes: The Application of Physics-Based Coastal Modeling Tools<br>*Shannon McCarty- HDR Inc.* | An Environmental DNA Strategy for Science-Driven Management of Water Resources in California<br>*Daphne Gille-DWR* | Identifying the shifts in habitat use of a vulnerable fish species over four decades of paired sampling<br>*Andrew Kalmbach-ICF* | |
| **8:50** | Genetic Assessment of Oncorhynchus mykiss Sampled at the Central Valley Delta Water Projects<br>*Devon Pearse-NOAA* | Accessing the Carbon Market<br>*Peter Weisberg- 3Degrees* | Adaptive Management of the Delta Plan – Augmenting Science with Performance Measures<br>*Martina Koller-DSC* | Developing environmental DNA methods for monitoring rare species of concern in a dynamic estuarine environment<br>*Sarah Stinson-DWR* | Otolith-based variation in the life-history of Longfin Smelt<br>*Christian Denney-UC Davis* | |
| **9:10** | Quantifying Component Mortality Rates of Juvenile Steelhead Trout (Oncorhynchus mykiss)<br>*Elizabeth Greenheck-George Mason Univ.* | The Restoration of California Deltaic Methodology, how it came to be and its potential role<br>*Steven Deverel-HydroFocus* | Suisun Landscapes: Science to understand historical changes and plan a resilient future that reflects community priorities<br>*Sean Baumgarten-SFEI* | A comparison of eDNA sampling methods in an estuarine environment on presence of longfin smelt (Spirinchus thaleichthys) and fish community composition<br>*Lizabeth Bowen-UC Davis* | Otolith-based Age, Growth, and Life History of Adult Longfin Smelt<br>*Alex Lama-UC Davis* | |
| **9:30** | Monitoring a wild Oncorhynchus mykiss population with multiple life history strategies in the Lower Stanislaus River<br>*Steven Zeug-Cramer Fish Sciences* | Experiences from generating carbon credits from DWR's Multi-benefit wetland restoration projects<br>*Tyler Anthony-DWR* | Expanding the River Corridor: Opportunities in the Sacramento-San Joaquin River system<br>*G Matt Kondolf- UC Berkeley* | An Environmental DNA Approach to Monitor Fish Communities in Restored Tidal Wetlands*<br>*Leigh Sanders-UC Davis* | Temporal and Spatial Abundance Patterns of Delta and Longfin Smelts<br>*Gonzalo Castillo-USFWS* | |
| **9:50** | Migratory behavior of wild-origin Central Valley Steelhead from the Stanislaus River<br>*Jasmine Williamshen-Cramer Fish Sciences* | Staten Island: A Living Laboratory in Support of a Resilient Delta<br>*Sydney Chamberlin-TNC* | Key Role of Land Acquisition in Restoring Natural Processes<br>*John Cain-River Partners* | Unveiling the Hidden Diversity: Exploring eDNA Metabarcoding for Enhanced Monitoring of Phytoplankton and Cyanobacteria in the Delta<br>*Silvia Angles-DWR* | Longfin Smelt population modeling in the San Francisco Estuary<br>*Parsa Saffarinia-UC Berkeley* | |
| **10:10-10:30** | **Break** | | | | | |

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| **Session** | **Anadromous Fishes** | **Social Sciences & Human Dimensions** | **Healthy Rivers and Landscapes Program: Framing a Watershed-wide Adaptive Management Program** | **Leveraging Synthesis Science: A collaboration between the Delta Science Program Synthesis Working Group and National Center for Ecological Analysis & Synthesis (NCEAS)** | **HAB and Invasive Species** | **Interweaving Traditional Knowledge and Mainstream Science in the San Francisco Bay-Delta**<br><br>**Moderator:** Xoco Shinbrot-DSC<br><br>**Panel:** Zach Gigone, Shingle Springs Rancheria; Krystal Moreno, Shingle Springs Rancheria; Laverne Bill, Paskenta of Nomlaki Indians |
| **Moderator** | | **Rachel Klopfenstein,DSC** | **Louise Conrad, DWR** | **Miranda Bell-Tilcock, DSC** | **Elizabeth Brusati, DSC** | |
| **10:30** | Spatial Patterns and Drivers of Predatory Fish Hotspots in a Large Regulating Reservoir<br>*Parisa Hurley-DWR* | Science for Community Workshop Series and Supporting Pathways for Socio- Environmental Co-Production Research in the Delta<br>*Hanna P. Chaney-DSC* | Science-based Processes and Collaboration for Adaptive Management as Part of the Healthy Rivers and Landscapes Program<br>*Louise Conrad-DWR* | Four 5-minute Lightning Talks (Miranda Tilcock, Pascale Goertler, Catarina Pien, Xoco Shinbrot) | Ecosystem Engineering Impacts of Water Primrose in the Delta<br>*Bailey Morrison-UC Merced* | |
| **10:50** | Differences Among Chinook Salmon Runs in Routing Probability at the Georgiana Slough-Sacramento River Junction<br>*Summer Burdick-USGS* | Connecting Researchers, Students, and Communities through Youth-focused Community and Citizen Science: The Spinning Salmon Project<br>*Peggy Harte-UC Davis* | Maximizing Salmon Fisheries Outcomes in California through Flow and Habitat Enhancements: Perspectives from the Mokelumne River<br>*Michelle Workman- East Bay Mud* | Evaluating top-down, bottom-up, and environmental drivers of pelagic food web dynamics along an estuarine gradient<br>*Tanya Rogers-NOAA* | Merging satellite and field-based chlorophyll and phytoplankton data for improved harmful algal bloom monitoring in the Delta*<br>*Chloe Fehndrich-USGS* | |
| **11:10** | Examining the role of predation and habitat on Chinook Salmon smolt survival in the Sacramento River<br>*Jordan Massie-Univ. of Vermont* | Delta salinity management: Lessons learned from a workshop series<br>*Stephen Elser-DSC* | Restoring Functional Flows in The Sacramento River - Chinook Salmon Outmigration Survival in Relation to Spring Pulse Flows<br>*Jeremy Notch-NOAA* | Floodplain inundation and lateral connectivity promote productivity in the river ecosystem<br>*Shruti Khanna-UC Davis* | From Drought to Deluge: Use of Multiple Sampling Modalities to Monitor Cyanobacteria and Cyanotoxin dynamics in the Sacramento-San Joaquin Delta<br>*Ellen Preece-DWR* | |
| **11:30** | Facilitated migration could bolster migrant passage through anthropogenically altered ecosystems<br>*Benjamin Burford-NOAA* | Beneath Our Feet: Mapping Volatile Organic Compound Dispersion via Groundwater from Hazardous Waste Sites in the San Francisco Bay Area*<br>*Emma Lasky-UC Berkeley* | Restoration at a Landscape-Scale for Central Valley Floodplains, Supporting the Healthy Rivers and Landscapes Program<br>Charlotte Biggs-<br>*Pascale Goertler-DWR* | Evaluating the ecological, social, and economic costs and benefits of levee infrastructure within the Delta: a National Center for Ecological Analysis and Synthesis project 2023-2024<br>*Karrin Alstad-CDFW* | Integrated Pest Management to control invasive plant species in a CA vernal pool-grassland complex*<br>*Jasmine Rios-Sac State* | |
| **11:50** | Adult Green Sturgeon Movements In The Lower Sacramento River Relative To River Construction Projects<br>*Amy Hansen-USGS* | From Siloed Processes to Standardized Solutions: Our Data-Informed Strategy for an Enterprise-Wide SOP in 90 days<br>*Katheryn Rein-DWR* | Panel Discussion | Evaluating the Benefits and Equity Dimensions of Restoration Projects across the Bay-Delta<br>*Alexandra Thomsen-San Francisco Estuary Partnership* | Ballast Water Regulation in the World's Most Invaded Estuary<br>*Andrew Cohen-Bio Invasions* | |
| **12:10-1:30** | **Lunch; Town Hall: Planning for science in the dynamic Delta System (Rm B3-5)** | | | | | |

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| **Session** | **Chinook Salmon 1** | **Democratizing Water Futures 1** | **Tools for Decision-Making Under Uncertainty 1** | **Species & Communities** | **Contaminants** | **2023 Delta Residents Survey: The first of holistic effort to monitor human well-being in the Delta** |
| **Moderator** | | **Eric Danner, NOAA** | **Corey Philis, MWD** | | | **Jessica Rudnik, US Forest Service** |
| **1:30** | Revealing Vulnerabilities and Resilience: Insights into the Dynamics of Butte Creek's Spring-run Chinook Salmon Population<br>*Ally Li– UC Davis* | Just Transitions in the Delta: Exploring Climate Adaptation and Salinity Management Through Participatory Scenario Planning<br>*Brett Milligan-UC Davis* | Using a Structured Decision Making (SDM) process to evaluate the potential benefits of installing salmonid guidance structures at Sutter and Steamboat sloughs<br>*Alejo Kraus-Polk-ESA* | Webb Tract Multi-Benefit Wetland Project: Design Considerations, Challenges, and Opportunities<br>*Gregg Shellenbarger-CBEC* | Pesticide presence related to Sacramento and San Joaquin Valley water year hydrologic classification indices<br>*Matthew Uychutin-USGS* | Overview of the 2023 Delta Residents Survey and Key Findings<br>*Jessica Rudnick-US Forest Service* |
| **1:50** | Widespread thiamine deficiency in California salmon linked to poor nutritional quality of their simplified marine prey base<br>*Nate Mantua-NOAA* | Building A Collaboratory for Equity in Water Allocations<br>*Ted Grantham-UC Berkeley* | Reorienting to Recovery: An Experiment in Values Informed, Landscape Scale, Collaborative Decision Making Towards an Equitable Outcome<br>*Rene Henery-Trout Unlimited* | Investigation and implementation of floating peat wetlands, Sacramento-San Joaquin Delta, CA<br>*Steven Deverel-HydroFocus, Inc* | Quantifying 6PPD-quinone in Water Samples from the Sacramento-San Joaquin Delta Samples, 2018-2024<br>*Gabrielle Black-USGS* | Reproducibility and Public Accessibility of Complex Data in the Delta Residents Survey<br>*Kenji Tomari- UC Davis* |
| **2:10** | Estimating Juvenile Production and Run Timing of Spring Chinook Salmon Leaving the Delta<br>*Russ Perry- USGS* | Following drinking water flows: System source water in a changing climate*<br>*Jenny Rempel –UC Berkeley*<br>*Kristin Dobbin-UC Berkeley* | Reorienting to Recovery: Adapting Decision Support Models for Comprehensive and Collaborative Chinook Salmon Management<br>*Erin Cain-FlowWest* | Modeling riparian forest structure on geomorphically active floodplains to estimate large wood inputs and other ecosystem services to the Bay-Delta ecosystem<br>*John Stella-SUNY ESF* | Determining the Starting Point and Operating System of Nature and Emulating It to Restore the Sacramento-San Joaquin Delta Ecosystem<br>*Terry Gong-Harmon Systems Int, LLC* | How sense of place influences civic engagement/participation and adaptive capacity for climate actions: Insights from the Delta Residents Survey in California<br>*Vincent Chireh- UC Berkeley* |
| **2:30** | Reconstructing life history diversity of spring-run Chinook salmon across the Central Valley<br>*Malte Wilmes-Norwegian Institute for Nature Resources* | An approach to exploring the fate of Sacramento winter-run Chinook salmon under alternative water and climate futures<br>*Ann-Marie Osterback-NOAA* | Value of Information: sensitivity analysis for decision makers<br>*Michael Runge-USGS* | Processes Influencing Plant Zonation in a Brackish Tidal Wetland Under a Mediterranean Climate<br>*Morgan Stickrod-Sol Ecology* | Methylmercury Effects on Birds: Review, Toxicity Reference Values, and a New Tool for Injury Assessment<br>*Josh Ackerman-USGS* | Discussion |
| **2:50** | Advancements in our understanding of Central Valley Chinook salmon life history diversity through genomic study<br>*Mariah Meek-MSU* | Panel Discussion | The interaction of scientific uncertainty and a decision maker's objectives in river management<br>*Brian Healy-USGS* | Long-term tidal marsh restoration outcomes in some of the San Francisco Bay's oldest restoration projects and a comparison with broader west coast results<br>*Christopher Janousek-Oregon State University* | Understanding effects of contaminants on fish behavior can inform conservation efforts<br>*Amelie Segarra- UC Davis* | Discussion |
| **3:10-3:30** | **Break** | | | | | |

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|---|---|---|---|---|---|---|
| **Session** | **Chinook Salmon 2** | **Democratizing Water Futures 2** | **Tools for Decision-Making Under Uncertainty 2** | **Retro-ecological Futures for the 22nd Century** | **Predation** | **Understanding Tribal Data Sovereignty, Research Protocols, and CARE + FAIR Principles**<br><br>**Trainer:** Shasta Gaughen |
| **Moderator** | | **Eric Danner** | **Corey Phillis** | **John Durand** | | |
| **3:30** | Loss of age diversity among Central Valley Chinook salmon<br>Brad Cavallo-Cramer Fish Sciences | Applications of Data Visualization for Communication and Engagement in Water Management<br>Yuya Kawakami-UC Davis | Value of Information as a tool to assess flow actions and minimize impacts to Chinook Salmon in the Sacramento River<br>Chase Ehlo-USBR | Alternate Restoration Futures: Rethinking Restoration for the 22nd Century<br>John Durand-UC Davis | Intraspecific Movement of Striped Bass in a Large Regulating Forebay<br>Taylor Spaulding-ESA | |
| **3:50** | Application of parentage-based designs: Preliminary results from winter-run genetic analysis 2020-2023<br>Scott Blankenship-Cramer Fish Sciences | The meaning of equity in California water allocations<br>Liane Bauer-UCSC<br>Ajay Singh-Sac State | Show Me the Value: Decision Analysis for Delta Smelt Summer-Fall X2 Action<br>Brian Mahardja-USBR | High plankton productivity in managed wetlands of Suisun Marsh<br>Alice Tung- UC Davis | Fish go where water flows - response of nonnative piscivores to flows in the San Joaquin Basin<br>Dana Lee-FISHBIO | |
| **4:10** | Evaluating intraspecific diversity and effective population size in Central Valley Chinook salmon over the past 20 years<br>Erin Collins-MSU | Expert Evaluation of the Uncertainties Associated with CalSim3 Assumptions as a Basis for Transparency in Model-Guided Scenario Planning Processes<br>Laurel Larsen-UC Berkeley<br>Cheryl Schwab-UC Berkeley | Evaluating the Value of Information for Winter-run Chinook Salmon Management<br>Catarina Pien-USBR | Novel plant assemblages favored in waterfowl management boost plankton production in managed wetlands<br>Kyle Phillips-UC Davis | Blinded by the Light: could reducing nighttime artificial illumination benefit native fish?<br>Brendan Lehman-NOAA | |
| **4:30** | Impacts of food availability on the thermal tolerance and physiology of juvenile Chinook salmon<br>Cassidy Cooper-UC Davis | Just Transitions in the Delta: Perceptions of Drivers, Strategies, and Equity in Climate Adaptation Management<br>Ashley DePew-UC Davis | Quantifying the Value of Monitoring Survival Response to Fry Habitat Restoration for Endangered Juvenile Sacramento River Winter-Run Chinook Salmon<br>Corey Phillis-Metropolitan Water District | Fish and Fowl: Potential for co-management of fish and fowl in the Suisun Marsh<br>Jake Sousa-UC Davis | You Don't Have to Go Home, but You Can't Stay Here: Predator Removal in Clifton Court Forebay<br>Steven Brumbaugh-DWR | |
| **4:50** | Advancing Genetic Tools in Juvenile Salmon Salvage Operations: CRISPR/SHERLOCK Assays for Rapid Chinook Salmon Genetic Run Identification<br>Bryan Nguyen-DWR | Panel Discussion | Empowering Decision Makers: Leveraging Value of Information Tools in the Bay Delta<br>Mathew Nobriga-USFWS | Managed wetlands of Suisun Marsh present distinct fish assemblages and elevated primary production compared to nearshore tidal habitats<br>Elsie Platzer-UC Davis | Large-Scale and Long-Term Study of Predatory Fishes and Predation of Juvenile Chinook Salmon in the Stanislaus River<br>Matthew Peterson- FISHBIO | |
| | **End of Day 2** | | | | | |

| Day 3 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) |
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| **Session** | **Delta Smelt 1** | **Post Normal Decision Making in the Bay-Delta** | **Human Dimensions of the San Francisco Bay-Delta: A Path Toward Sustainability** | **Cultivating science-management connections to inform wetland restoration and management using the Dutch Slough Restoration's living laboratory design 1** | **Water & Sediment Quality** |
| **Moderator** | | **Alejo Kraus-Polk, ESA & Brett Milligan, UC Davis** | **Xoco Shinbrot, DSC** | **Molly Ferrell, DWR** | |
| **8:30** | Evaluation of Delta Smelt Distribution Reveals Association with other Small Pelagic Species: Implications for Competitive Dynamics and Proxy Monitoring<br>*Mike Tillotson-ICF* | What is Decision-Making under Deep Uncertainty and how it can help with management challenges of the Bay-Delta System?<br>*Jayantha Obeysekera-Delta ISB* | Mapping the Adaptation Governance Network of the Delta: A Mixed-Methods Approach*<br>*Tara Pozzi-UC Davis* | The Seed: Dutch Slough Tidal Marsh Restoration – A Living Laboratory<br>John Cain-River Partners<br>*Katie Brandy-DWR* | Comparing in situ chlorophyll fluorometers; when do they differ and why?<br>*Emily Richardson-USGS* |
| **8:50** | Growth, foraging, and health effects of turbidity on captive Delta Smelt<br>*Bruce Hammock-UC Davis* | Planning and Implementing a Mosaic of Regenerative Land Uses in the Sacramento San-Joaquin Delta through Transdisciplinary Science and Co-Design Integration<br>*Brett Milligan-UC Davis* | Data Infrastructure for Land-use Planning<br>*Catherine Brinkley and Clancy McConnell - UCDavis* | Setting the Stage: Design of the Dutch Slough Project from Concept to Implementation<br>*Mark Lindley-ESA*<br>*Molly Ferrell-DWR* | Flow modification, increased water age, and cyanobacterial blooms in Franks Tract<br>*Keith Bouma-Gregson-USGS* |
| **9:10** | Observing Fish During Delta Smelt Experimental Releases Inferred from ARIS Sonar<br>*Veronica Violette-USGS* | Fishing for Solutions: A Tale of Lessons Learned from Implementing a Collaborative Structured Decision Making Process<br>*Kimberly Horndeski- Community Consulting* | Collaboration for Wetland Restoration in the California Bay-Delta: A Historical Network Approach*<br>*Kyra Gmoser-Daskalakis-UC Davis* | Making connections between restoration design, greenhouse gas fluxes and carbon stocks<br>*Karen Thorne-USGS* | Inferring unknown salinity loads using a response-based inverse modeling method<br>*Zhenlin Zhang-DWR* |
| **9:30** | Using otoliths to inform the management of Delta Smelt<br>*Levi Lewis-UC Davis* | Reorienting to Recovery: Decision analysis to identify broad-sense recovery strategies for Central Valley salmonids<br>*Brian Crawford-Compass Resource Management* | Delta Adapts: Developing regional adaptation priorities through interdisciplinary science for the Sacramento-San Joaquin Delta and Suisun Marsh<br>*Morgan Chow-DSC* | Dutch Slough and Other Wetlands: How We Can Influence GHG Fluxes*<br>*Robert Shortt-UC Berkeley*<br>*Dennis Baldocchi-UC Berkeley* | Progress of the evolution of restored tidal wetlands<br>*Daniel Cox-CDFW* |
| **9:50** | Fit for the Wild: Cultivating Release-Ready Delta Smelt in Impoundments<br>*Florian Mauduit-UC Davis* | Panel Discussion | | Investigation of the groundwater hydrologic effects of restoration<br>*Marc Olds-HydroFocus* | Mapping and Monitoring Mercury in San Francisco Bay<br>*Niky Taylor-USGS* |
| | **Break** | | | | |

| Day 3 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) |
|---|---|---|---|---|---|
| **Session** | **Delta Smelt 2** | **Engineering with Nature and Strategic Placement of Dredged Material in San Francisco Bay** | **Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River) - Part 1** | **Cultivating science-management connections to inform wetland restoration and management using the Dutch Slough Restoration's living laboratory design 2** | **Collaborative Monitoring and Research: Advancing Nutrient and Algal Bloom Understanding in the Bay Delta** |
| **Moderator** | | **Jessie Lacy, USGS and Michael MacWilliams, FlowWest** | **Rachel Johnson, NOAA** | **Molly Ferrell, DWR** | **Melissa Turner, MIJ Environmental** |
| **10:30** | Initial Comparison of Delta Smelt Experimental Release Methods<br>*Katie Osborn-DWR* | Overview of Engineering with Nature approaches to Marsh Resilience and Strategic Placement of Dredged Material<br>*Julie Beagle-US Army Core of Engineers* | Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River)<br>*Chief Caleen Sisk-Winnemem Wintu* | Monitoring Aquatic Communities at Dutch Slough Tidal Restoration: A Case Study of Post-Restoration Colonization in a Highly Invaded Estuary*<br>*Lynette Williams-UC Davis* | Advancing Nutrient Monitoring: An Overview of the Delta Regional Monitoring Program's Strategic Developments<br>*Melissa Turner-MIJ Environmental* |
| **10:50** | A structured approach to incorporating contaminant metrics in decision-making for Delta Smelt management<br>*Shawn Acuna-Metropolitan Water District* | Dredging with Nature: The Strategic Sediment Pulse Agitation Dredging Approach to Marsh Nourishment Applied to Tidal Flood Control Channels in San Francisco Bay<br>*Roger Leventhal-Marin County Flood Control District* | Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River)<br>*Cathy Marcinkevage-NOAA*<br>*Tina Bartlett-CDFW* | Tracking aquatic food web response to tidal slough restoration with low impact techniques<br>*Joseph Merz- Cramer Fish Sciences* | From Daring Dreams to Data Deluge: 7 Years of High-Resolution Water Quality Mapping in the Delta<br>*Tamara Kraus-USGS* |
| **11:10** | The summer of our discontent: A summer-fall habitat action for Delta Smelt, 2023<br>*Rosemary Hartman-DWR* | Modeling and Analysis of Strategic Sediment Placement in San Francisco Bay<br>*Michael MacWilliams-FlowWest* | Three years of joint learning in reuniting winter run Chinook salmon (Nur) to their ancestral waters<br>*Rachel Johnson – NOAA*<br>*Marine Sisk-Winnemem Wintu* | Dutch Slough Wetland Restoration Design Results in Rapid Avian Biodiversity Gains<br>*Jason Riggio-UC Davis* | HAB you seen it? USGS Research and Monitoring for Harmful Algal Blooms in the Bay-Delta<br>*Keith Bouma-Gregson-USGS* |
| **11:30** | Post-surgical survival of Delta smelt after implantation with miniaturized acoustic transmitters; Part 1<br>*Eric Chapman-ICF* | Sediment Transport and Dispersal Following the 2023 Pilot Shallow-Water Placement of Dredged Material in South San Francisco Bay<br>*Jessie Lacy-USGS* | Raising mountain climbers: Nur Nature Base System for rematriation of Chinook salmon<br>*Anne Todgham- UC Davis*<br>Reintroducing Chinook salmon (Nur) into the McCloud River (Winnemem Waywaket) via Volitional Passage<br>*John Ferguson-Anchor QEA* | Insect diversity on restored and unrestored Sacramento-San Joaquin Delta sites<br>*Lynn Kimsey-UC Davis* | Overwintering Microcystis seed stock plays an important role in estuarine bloom dynamics<br>*Ellen Preece-DWR* |
| **11:50** | Sublethal effects in Delta smelt after implantation with miniaturized acoustic transmitters; Part 2<br>*Sebastian Gonzales-UC Davis* | Benthic community response to a pilot shallow-water dredged material placement in south San Francisco Bay<br>*Susan De La Cruz-USGS* | Preparing to rematriate wild New Zealand Nur (Chinook salmon) taken from Winnemem Waywaket (McCloud River)<br>*Melanie Cheung-Winnemem Wintu*<br>*Hamish Stevenson- Central South Island Fish and Game* | Panel discussion | Panel: Charting the Future of Nutrient and Harmful Algae Bloom Monitoring in the Delta |
| | **Lunch** | | | | |

| Day 3 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) |
|---|---|---|---|---|---|
| **Session** | **Advancements in Longfin Smelt Science and Management 1** | **Advancing modeling tools to support long-range water allocation planning in a changing climate** | **Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River) - Part 2** | **Food Webs 1** | **Assessing the drivers and impacts of the August 2022 Heterosigma akashiwo bloom in San Francisco Bay, California 1** |
| **Moderator** | **Brian Schreier, DWR and Michael Eakin, CDFW** | **Laurel Larson, UCB** | **Rachel Johnson,NOAA** | | **Schuyler Nardelli, USGS and Dan Killam, SFEI** |
| **1:30** | Connecting ecological knowledge, data, and statistical methods through graphical causal models of the Longfin Smelt life cycle<br>*Vanessa Tobias-USFWS* | Developing machine learning based surrogate models representing Delta salinity transport subject to large scale geometry changes and sea level rise<br>*Eli Ateljevich-DWR*<br>*John DeGeorge-RMA* | **See next page for detailed agenda of talks** | How Do Food Webs Change Following Tidal Restoration? An Assessment of Restoration Success in Fish Restoration Project (FRP) Wetlands<br>*Gabriel Ng-CDFW* | Overview and emerging understanding of the 2022 Heterosigma bloom in San Francisco Bay<br>*David Senn-SFEI* |
| **1:50** | Assessing the Maturation, Fecundity, and Captive Culture of Longfin Smelt<br>*Nikolas Floros-UC Davis* | Central Valley Water System Risk Informed Climate Scenarios for Planning and Adaptation<br>*Andrew Schwarz-DWR* | | Tidal Wetland Food Webs: Understanding the Roles of Restoration and Environmental Drivers<br>*Christy Bowles-CDFW* | Carbon and nitrogen uptake during a rare Heterosigma akashiwo bloom in San Francisco Bay<br>*Alexander Parker-Ca State Univ. Maritime Academy* |
| **2:10** | Next Steps in Developing the Longfin Smelt Conservation Hatchery Program: Adding Genetics<br>*Shannon Blair-UC Davis* | Assessment of environmental flows in the Central Valley under different management scenarios<br>*Sooyeon Yi-UC Berkeley* | | Reconnecting Delta food webs: evaluating the influence of tidal marsh restoration on prey productivity and diet of native fishes<br>*Isa Woo-USGS* | HABs and nutrient interactions in the dynamically changing San Francisco Bay assessing the drivers and impacts of the August 2022 Heterosigma akashiwo bloom in San Francisco Bay, California)<br>*Frances Wilkers, SFSU* |
| **2:30** | The Larval Entrainment Study: LES is More<br>*Morgan Gilbert-CDFW* | Updating the winter-run Chinook salmon life-cycle model (WRLCM) to meet the management needs of a changing climate<br>*Noble Hendrix-QEDA* | | Exploring scientific and management implications of upper trophic level food webs in the Delta<br>*Robert Naiman-Delta ISB* | Basin-scale nitrogen utilization and ecosystem metabolism measured during a major Harmful Algal Bloom in San Francisco Bay, CA<br>*Martin Volaric-SFEI* |
| **2:50** | Development of environmental DNA (eDNA) monitoring techniques for conservation of an endangered fish species in the San Francisco Bay Delta<br>*Shahinur Islam-UC Davis* | Exploring Central Valley Drought Scenarios under a Changing Climate<br>*James Gilbert-UC Santa Cruz* | | Missed connections: Identifying key species interactions for management in the Bay-Delta Estuary<br>*Lillian McCormick-USBR* | Understanding the 2022 Heterosigma akashiwo bloom in San Francisco Bay: Combining Remote Sensing and Lab-Based Experiments<br>*Raphael Kudela-UC Santa Cruz* |
| | **Break** | | | | |

| Day 3 | Session 3 (B6-8) |
|---|---|
| **Session** | **Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River) - Part 2** |
| **Moderator** | **Anne Todgham, UC Davis** |
| **1:30** | Genetic Diversity and Divergence of Recently Introduced Populations of Chinook salmon (Oncorhynchus tshawytscha) in New Zealand<br>*Sarah Hugentobler-MSU* |
| **1:40** | Environmental surveillance of pathogens in relation to the reintroduction of winter-run Chinook Salmon to the McCloud River<br>*Miles Daniels-UC Santa Cruz* |
| **1:50** | Deployment of the Juvenile Salmonid Collection System to Target Winter-run Chinook Salmon in Shasta Reservoir<br>*Theo Claire-DWR* |
| **2:00** | Physical Considerations and Effects of a Head-of-Reservoir Juvenile Salmonid Collection System in Shasta Reservoir (Where do you put it and how does it perform?)<br>*Maureen Downing-Kunz-ESA* |
| **2:10** | Survival and capture efficiency of, and predation on, juvenile Chinook salmon (Nur) in the McCloud River (Winnemem Waywaket)<br>*Jesse Frey-NOAA* |
| **2:20** | Reservoir studies to inform rematriation of Nur (Chinook salmon) into the Winnemem Waywaket, (McCloud River) upstream of Shasta Dam<br>*Jill Hardman, USGS* |
| **2:30** | Indigenous knowledge sparks innovation and improvements to juvenile salmon monitoring<br>*Carson Jeffres-UC Davis* |
| **2:40** | The once and future homeland of the Winter-Run Chinook Salmon: the value of reintroductions for an endangered salmonid<br>*Alyssa FitzGerald-NOAA* |
| **2:50** | **Q&A** |
| **3:10-3:30** | **BREAK** |

| Day 3 | Session 1 (B2) | Session 2 (B3-5) | Session 3 (B6-8) | Session 4 (B-9) | Session 5 (B10) |
|---|---|---|---|---|---|
| **Session** | **Advancements in Longfin Smelt Science and Management 2** | | **Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River) - Part 3** | **Food Webs 2** | **Assessing the drivers and impacts of the August 2022 Heterosigma akashiwo bloom in San Francisco Bay, California 2** |
| **Moderator** | **Brian Schreier, DWR and Michael Eakin, CDFW** | | **Melanie Cheung, Winnemem Wintu** | | **Schuyler Nardelli, USGS and Dan Killam, SFEI** |
| **3:30** | Finding Longfin Smelt: Improvements to Smelt Larva Survey & 20-mm Monitoring<br>*Vanessa Mora-CDFW* | | Panel Discussion | Productivity responses to pluvial phenomena in the Yolo Bypass<br>*Mackenzie Miner-DWR* | Investigating phytoplankton community dynamics during the August 2022 Heterosigma akashiwo bloom in San Francisco Bay, California<br>*Schuyler Nardelli-USGS* |
| **3:50** | Are there always plenty of fish in the sea? What we do and don't know about Longfin Smelt in the California Current<br>*Matthew Young-USGS* | **Perspectives on science supporting decision-making under deep uncertainty**<br>**Moderator:** Lisa Wainger and Tanya Heikkila<br>Panel: John Andrew, DWR; Jeff Henderson, DSC; Kathleen Schaefer, UC Davis; Felicia Marcus, Stanford University | Panel Discussion | Shallow Water Fish Sampling in Tidal Wetlands in the San Francisco Bay-Delta: Patterns of Species Composition Across Seasons and Gear Types<br>*Emma Davidson-CDFW*<br>*Stacy Sherman-CDFW* | Assessing the impacts of the August 2022 Heterosigma akashiwo bloom on fish populations in the San Francisco Bay California<br>*Jim Hobbs-UC Davis* |
| **4:10** | Mechanisms underlying the response of longfin smelt to freshwater flow in the northern San Francisco Estuary<br>*Wim Kimmerer-SFSU* | | Panel Discussion | Finding Fish Food: Zooplankton Trends in the Cache Lindsey Slough Complex 2014-2024<br>*Kim Luke-UCD;DSC* | The Role of Community Science in Monitoring the 2022 & 2023 Heterosigma akashiwo Blooms in San Francisco Bay<br>*Ian Wren-SF Baykeeper* |
| **4:30** | Bay Area Dining Guide: Top Picks for Longfin Smelt<br>*Christina Burdi-DWR* | | Awards | The San Francisco Estuary Microbiome: A Catalogue of High-Quality Genomes of Uncultured Bacteria, Archaea, Viruses, and Picoeukaryotes for Monitoring and Modeling<br>*Lauren Lui-Lawrence Berkeley National Laboratory* | Evolution of the 2022 South Bay HAB: Physical Drivers and Diagnostic Modeling<br>*Rusty Holleman-RMA* |
| **4:50** | Relative abundance of northern anchovy Engraulis mordax, a potential predator of larval longfin smelt Spirinchus thaleichthys, across salinity gradients in the northern San Francisco Estuary<br>*Jason Hassrick-ICF* | | Closing Statements - Gifts | | The Bloom That Didn't Blossom: Unraveling Why Suisun Bay Avoided the Ecological Disruption of the 2022 Heterosigma akashiwo Harmful Algal Bloom<br>*Brian Bermagaschi-USGS* |
| | **End of Day 3** | | | | |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 1 | Applied Science & Adaptive Management | Delta Integrated Modeling Framework and Collaboratory | Ben Geske, DSC |
| 2 | Applied Science & Adaptive Management | Delta Science Tracker: Fostering Collaboration and Transparency in the Sacramento-San Joaquin Delta Science Community | George Isaac, DSC |
| 3 | Applied Science & Adaptive Management | The State of Bay-Delta Science: Extreme climatic and weather events affecting the San Francisco Estuary and its watershed | Denise Colombano, DSC |
| 4 | Applied Science & Adaptive Management | Monitoring in the Estuary: Bay-Delta Connections for Wetland Management | Hannah Kempf, SF Estuary Partnership |
| 5 | Applied Science & Adaptive Management | Designing Habitat Projects to Benefit Birds and Salmon | Cliff Feldmein, Ducks Unlimited |
| 6 | Applied Science & Adaptive Management | Brood Year Assessments of Sacramento River Winter-Run Chinook Salmon (Oncorhynchus tshawytscha) to Inform Water Management in a Changing Environment. | Emma Nordlund, Anchor QEA |
| 7 | Applied Science & Adaptive Management | Ecosystem Flux Partitioning in Tidal Wetlands: Analyzing Net Ecosystem Exchange and Evapotranspiration Through Artificial Neural Networks | Eduardo Gamez Jr, CSU-Easy Bay* |
| 8 | Applied Science & Adaptive Management | Earth observations to combat invasive aquatic vegetation | Bailey Morrison, UC Merced |
| 9 | Applied Science & Adaptive Management | Lamprey Passage Improvements to New and Existing Facilities in the Yolo Bypass | Zoltan Matica, DWR |
| 10 | Applied Science & Adaptive Management | Promoting Independent Scientific Peer Review and Advice | Rachel Klopfenstein, DSC |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 11 | Applied Science & Adaptive Management | Development of Quantitative Tools to Forecast Larval and Post-Larval Longfin Smelt Entrainment Risk at Seasonal and Biweekly Scales | Kim Brewitt, ICF |
| 12 | Applied Science & Adaptive Management | Health and mortality effects of using a propeller fish pump to transport Delta Smelt | Yi-Jiun Tsai, UC Davis |
| 13 | Applied Science & Adaptive Management | Living Pilings: Evaluating a novel approach to subtidal habitat restoration | Samantha Richman, USGS |
| 14 | Applied Science & Adaptive Management | The Delta Monitoring Enterprise: A Comprehensive Review by the Delta Independent Science Board | Margot Mattson, DSC |
| 15 | Applied Science & Adaptive Management | Evaluating the early detection, rapid response framework for aquatic species in the Delta | Christine Whitcraft, CSULB |
| 16 | Applied Science & Adaptive Management | Big Plans for Big Notch: Adaptive Management in Action | Brandy Smith, DWR |
| 17 | Advancing Ecosystem Restoration Towards a Resilient Delta | Advancing Ecosystem Restoration Towards a Resilient Delta | Elizabeth Brusati, DSC |
| 18 | Advancing Ecosystem Restoration Towards a Resilient Delta | An Overview of the Delta Conservancy's Ecosystem Restoration and Climate Adaptation Grant Program | Anjali Shakya, Delta Conservancy |
| 19 | Advancing Ecosystem Restoration Towards a Resilient Delta | The Landscape Scenario Planning Tool: A single mapping toolbox that brings together ten years of science-based research and peer-reviewed methods for California's Suisun-Delta region. | Helen Casendino, SFEI |
| 20 | Advancing Ecosystem Restoration Towards a Resilient Delta | Advancing Climate Resilience in the Department of Water Resources (DWR)'s Multibenefit Habitat Restoration Projects | Michelle Jesperson, DWR |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 21 | Contaminants | Current-use Pesticides in Zooplankton and Water Collected from the Yolo Bypass and Cache Slough Complex, 2022-2023 | James Orlando, USGS |
| 22 | Contaminants | A Systematic Review of Dissolved Pesticide Concentrations in the Sacramento-San Joaquin Delta from 2015 to 2024 | Matthew De Parsia, USGS |
| 23 | Contaminants | Sublethal Toxicity Testing of Commonly Used Pesticides at Varying Salinities in Menidia beryllina | Katherine Berreman, OSU* |
| 24 | Emerging Technologies | Metabolomic & metagenomics of the IAV in the California Bay-Delta | Skylar Carlson, Univ. of the Pacific |
| 25 | Emerging Technologies | Delta Drought Response Pilot Program: A Novel Approach to Building Resiliency to Drought | Rachel Lane, Delta Conservancy |
| 26 | Emerging Technologies | Developing a Multiplexed SHERLOCK Genetic Assay for Rapid Detection of Central Valley Chinook Early and Late Migration Phenotypes | Hannah Miller, UC Davis |
| 27 | Emerging Technologies | Evaluating Image-Based Deep Learning Methods for Zooplankton Sample Processing | Katie Hostetler, CDFW |
| 28 | Emerging Technologies | Using parentage-based tagging to identify origins of Chinook salmon (Oncorhynchus tshawytscha) returning to a restored creek | Alana Luzzio, UC Davis* |
| 29 | Emerging Technologies | AquaWatch California-Australia: Updates on International Cooperation to Pilot a “Weather Service” for Water Quality in the Sacramento-San Joaquin Delta | Erin Hestir, UC Merced |
| 30 | Emerging Technologies | Introducing a hydraulic injection method for instream egg incubation above a rim dam in California’s Central Valley | Jason Hassrick, ICF |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 31 | Emerging Technologies | Utilizing In Situ Monitoring and ESA Earth Observations within the BayDeltaLive Constituent Tracker Decision Support Tool to Monitor Environmental Conditions | Amye Osti, 34 North |
| 32 | Emerging Technologies | Assessing A Changing World: Analyzing Sea Level Rise Inundation on Coastal Wetlands in San Pablo Bay, CA | Steve Brewer, John Hopkins Univ.* |
| 33 | Fish Biology, Ecology, & Protection | Assessing the Life History of Central Valley Steelhead Using Otoliths | Feng Zhao, UC Davis |
| 34 | Fish Biology, Ecology, & Protection | Needle in the Haystack: Quantifying Otolith Banding Patterns to Identify Wild Age-2 Delta Smelt | Claire Chung, UC Davis |
| 35 | Fish Biology, Ecology, & Protection | Geochemical and thermal tagging techniques for cultured Delta Smelt | Brian Alper, UC Davis |
| 36 | Fish Biology, Ecology, & Protection | Can we use vertebral counts to differentiate Chinook Salmon, Oncorhynchus tshawytscha, populations? | Pete Nelson, DWR |
| 37 | Fish Biology, Ecology, & Protection | Salmon Need Safer Routes Through the Delta | Douglas Brown, Douglas Environmental |
| 38 | Fish Biology, Ecology, & Protection | Characterizing movement patterns of native and non-native fishes in the Stanislaus River | Emily Jonagan, FISHBIO |
| 39 | Fish Biology, Ecology, & Protection | Diel changes in abundance and size of larval Longfin Smelt (Spirinchus thaleichthys) across salinity and depth gradients in the San Francisco Estuary | Teague Corning, ICF |
| 40 | Fish Biology, Ecology, & Protection | Estimated Striped Bass Biomass From A Predatory Fish Removal Study | Alexander Tasoff, DWR |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 41 | Fish Biology, Ecology, & Protection | Salmonid conservation through the study of an annelid worm: Manayunkia occidentalis in the Feather River, CA. | Dana Hartwigsen, Pacific Sate Marine Fisheries Commission* |
| 42 | Fish Biology, Ecology, & Protection | Combining multiple gears to evaluate impacts of the San Francisco Bay Living Shorelines Project on fish community abundance and diversity | Dana Lee, FISHBIO |
| 43 | Fish Biology, Ecology, & Protection | Energy use in the Bay and Delta and Central Valley Chinook salmon spawning migration survival | Alyssa Fitzgerald, NOAA |
| 44 | Fish Biology, Ecology, & Protection | Forensic geochemistry identifies the natal origins of record high numbers of steelhead (Oncorhynchus mykiss) salvaged at the state and federal water project pumps | George Whitman, UC Davis |
| 45 | Fish Biology, Ecology, & Protection | The Spring Kodiak Trawl: A Survey in Summary | Jennifer Oceguera Zavala, CDFW |
| 46 | Fish Biology, Ecology, & Protection | History of and results from a Yolo Bypass adult salmon and sturgeon acoustic telemetry study | Dennis Finger, DWR |
| 47 | Fish Biology, Ecology, & Protection | Correlating ambient water velocities to the catch of small pelagic fish species of the San Francisco Bay Estuary and Delta. | Timothy Carrara, ICF |
| 48 | Flow & Physical Processes | Is particle size a good predictor of bulk density? | Samantha McGill, USGS |
| 49 | Food Webs | Finding the Zooplankton Buffet – Does high chlorophyll mean more Cladocera, Copepods, Rotifers, or Mysids? | Rosemary Hartman, DWR |
| 50 | Food Webs | Estimating historical and current primary production and fishery yield from regressions of nitrate uptake, carbon uptake and chlorophyll on ammonium with reference to the origin of the POD | Richard Dugdale, SFSU |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| **51** | Food Webs | Modeling phytoplankton productivity: insights from a light utilization approach | Reed Hoshovsky, SFSU* |
| **52** | Harmful Algal Blooms | Exploring the potential for managing large scale hydrodynamic conditions to address cyanobacteria harmful algal blooms in the Sacramento-San Joaquin Delta | Ellen Preece, DWR |
| **53** | Harmful Algal Blooms | Evaluating the ability of chlorophyll fluorescence sensors to detect cyanobacterial colonies common in the California San Francisco Bay Delta | Tim Baxter, USGS |
| **54** | Harmful Algal Blooms | Identifying spatio-temporal patterns in cyanoHABs using flow-through SPATTs in the California Sacramento-San Joaquin Delta | Katerina Cone, USGS |
| **55** | Harmful Algal Blooms | Insights from years of boat-based water quality mapping surveys in the San Francisco Bay Delta | Jacob Brinkman, USGS |
| **56** | Harmful Algal Blooms | A new approach to detecting subclinical levels of domoic acid exposure in two nearshore sentinel species | Liz Bowen, USGS |
| **57** | Harmful Algal Blooms | Machine Learning-Based Harmful Algal Blooms (HABs) Modeling in the Sacramento-San Joaquin Delta | Gourab Saha, DWR |
| **58** | Inclusion, Equity, Diversity in Co-Production of Science | Ensuring Post-Disaster Liquidity and Affordability: Strategies for Flood Resilience in the California Bay-Delta | Kathleen Schaefer, CWS-UC Davis* |
| **59** | Inclusion, Equity, Diversity in Co-Production of Science | Delta Stewardship Council Outreach Posters | Megan Nguyen & Dane Whicker, DSC |
| **60** | Inclusion, Equity, Diversity in Co-Production of Science | Water Data for the People! | Jill Fantauzza, UC Berkeley |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 61 | More Than Just Fish | Restoration Design Update for a Multi-Benefit Mosaic Wetland Project on Webb Tract | Jennifer Burt, GEI Consultants, Inc. |
| 62 | Retro-ecological Futures for the 22nd Century | “Piscivorous birds are utilizing restored tidal habitat aimed towards fish conservation in Suisun Marsh, San Francisco Estuary” | Mason Rogers, CWS-UC Davis |
| 63 | Retro-ecological Futures for the 22nd Century | Stocked, but not Forgotten: A Comparison of Isolated Bay-Delta Waters Retaining Sacramento Perch | Abigail Deen, CWS-UC Davis |
| 64 | Species & Communities | Comparison of Phytoplankton Community Structure and Nutrient Conditions in the San Francisco Estuary During Flow Augmentation and Non-action Periods | Caitlin Hall, ICF |
| 65 | Species & Communities | Long-term Patterns in Splittail Abundance: Is a Trend Hidden in Their Inherent Recruitment Variability? | Savannah Valdez, CDFW |
| 66 | Species & Communities | Salinity-Driven Change in the Suisun Bay Benthos: A Case Study for Identifying Causal Drivers | Phoebe Carpenter, DWR |
| 67 | Species & Communities | Covariation between zooplankton and phytoplankton communities in the San Francisco Bay-Delta. | Julien Moderan, ICF |
| 68 | Species & Communities | Preservation of salt marsh harvest mouse in San Francisco Bay Estuary | Alexander Xu, Mountain View Highschool* |
| 69 | Water & Sediment Quality | Modeling the Impact of Friant Dam Releases on San Joaquin River Temperatures: Implications for Chinook Salmon | Owen Cancroft, SFSU* |
| 70 | Water & Sediment Quality | Continuous and discrete monitoring of the effects of land use changes on island drainage water quality in the Sacramento-San Joaquin Delta | Christina Richardson, UC Santa Cruz |

| Poster # | Section | Poster Title | Presenting Author |
|---|---|---|---|
| 71 | Water & Sediment Quality | Assessing Sediments as a Nutrient Source/Sink for the Sacramento-San Joaquin Delta | Nick Framsted, USGS |
| 72 | Water & Sediment Quality | What Where When: USGS Water Quality, Nutrient, and Phytoplankton Network | Maura Uebner, USGS |
| 73 | Water & Sediment Quality | Pesticide types and concentrations entering the Sacramento-San Joaquin Delta via island drainage | Christina Richardson, UC Santa Cruz |
| 74 | Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River) | Nur Nature-Based System: Winnemem Wintu indigenous science guides the rematuration of winter-run Chinook salmon to the McCloud River | Leanne Pearle, UC Davis |
| 75 | Weaving together Indigenous and Western sciences to restore wild Nur (Chinook salmon) to the Winnemem Waywaket (McCloud River) | Pedigree reconstructions of juvenile winter run Chinook salmon (Nur) reveal insights into stream-side incubation approaches for reintroduction | Jaime Ward, Winnemem Wintu Tribe |
| 76 | Late Breaking | California Vernal Pools | Andrew Tate, UC Davis |
| 77 | Late Breaking | Wallace Weir's Wild Winter: Unprecedented Fish Occurrence in the Yolo Bypass | Hailey Mico, DWR |
| 78 | Late Breaking | Baylands Habitat Map: Mapping Progress Toward Habitat Restoration Goals | Alex Braud |
| 79 | Late Breaking | Climate-Smart Tools to Protect California’s Freshwater Biodiversity | Ted Sommer |
| 80 | Late Breaking | Water-carbon measurements for annual drought management in the Delta | Olmo Guerrero Medina |

| Poster # | Section | Poster Title | Presenting Author |
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| 81 | Late Breaking | Gaps and opportunities for predicting the effects of water and agricultural managements decisions on community economic and food security through hydro-economic modeling: A meta-analysis | Trevor Partridge, USGS |
| 82 | Late Breaking | Rapid Detection of Chinook Salmon eDNA Using CRISPR-based SHERLOCK Assay | Diana Munoz, UC Davis |
| 83 | Late Breaking | Pattern, Process, and Precision: understanding data limitations for littoral food webs of the Sacramento-San Joaquin Delta | Matthew Young, USGS |
| 84 | Late Breaking | Examining the effects of management practices on plankton productivity in managed wetlands of Suisun Marsh, San Francisco Estuary | Francheska Torres, UC Davis |
| 85 | Late Breaking | Future Drought in the Delta Watershed | Dan Cayan, Scripps-UC San Diego |
| 86 | Late Breaking | Aquatic plant community restoration following the long-term management of invasive Egeria densa with fluridone treatments | Jeffrey Caudill, CA State Parks |
| 87 | Late Breaking | Shaping the Future of Delta Science: Join Us in Collaborative Science Planning! | Tricia Lee, DSC |
| 88 | Late Breaking | Experimental Field Study of Growth and Survival of Invasive Clams in Montezuma Slough | Jessica Weidenfeld - UC Davis & Delta Stewardship Council |
| 89 | Late Breaking | Not all floods are created equal: floods and fish in the Yolo Bypass | Matthew Young, USGS |
| 90 | | | |