

**Interagency Ecological Program  
2025 ANNUAL WORKSHOP  
Short Program**

**March 4-6, 2025**



**Interagency  
Ecological Program**

COOPERATIVE ECOLOGICAL  
INVESTIGATIONS SINCE 1970

Science, Synthesis, Service

# Workshop Day 1: Tuesday, March 4

## REGISTRATION CHECK-IN

**1<sup>st</sup> Floor North Lobby (next to Auditorium)**

**7:30 am – 8:30 am**

## IEP Workshop Welcome

**Moderators and Speakers**

**8:30 am – 8:35 am**

8:30 – 8:35 Workshop Welcome & Housekeeping  
Rosemary Hartman, California Department of Water Resources (Organizer)  
Adam Nanninga, U.S. Fish and Wildlife Service (Co-Organizer)

## SESSION 1 –PLENARY 1

**Moderators and Speaker:**

**8:35 am – 9:50 am**

Rosemary Hartman, California Department of Water Resources (Organizer)

8:35 – 8:50 Update on IEP  
Stephanie Fong, IEP Program Manager, California Department of Fish and Wildlife

8:50- 9:50 The Law of the Delta  
Dr. Karrigan S. Börk, University of California Davis, School of Law and Interim Director at the University of California Davis, Center for Watershed Sciences

## BREAK

9:50 – 10:05

## SESSION 2 – LET’S SHAKE THINGS UP: REDESIGNING MONITORING

**Moderator and Speakers:**

**10:05 am – 11:05 am**

Claudia Macfarlane, U.S. Fish and Wildlife Service

10:05 – 10:25 The Redesign of CDFW Pelagic Fish Monitoring Studies in the San Francisco Estuary  
Aroon Melwani, Applied Marine Sciences

10:25 – 10:45 Remember that IEP Science Advisory Group Review from a Decade Ago?  
Adam Nanninga, U.S. Fish and Wildlife Service

10:45 – 11:05 Evaluating the Potential for Temporal or Spatial Redundancy in Sampling Across Zooplankton Monitoring Surveys in the Bay-Delta  
Kristi Arend, U.S. Fish and Wildlife Service

## BREAK

11:05 – 11:20

## SESSION 3 – NEW MONITORING AND EXPANSIONS

**Moderator and Speakers:**

**11:20 am – 12:36 pm**

Adam Nanninga, U.S. Fish and Wildlife Service

11:20 – 11:40 Evaluating a New Fishery-Independent Survey Method in Monitoring the Population of White Sturgeon (*Acipenser transmontanus*) in the California Central Valley

Vanessa Lo, Pacific States Marine Fisheries Commission

*Early Career Award candidate*

**NOTE:** *This presentation will not be recorded as part of the workshop recording.*

11:40 – 12:00 Spatially-Explicit Water Quality Data Collected Onboard the R/V Sentinel  
Craig Stuart, California Department of Water Resources

*Early Career Award candidate*

12:00 – 12:20 The Larval Entrainment Study (LES): 2024 on the Water

Morgan Gilbert, California Department of Fish and Wildlife

12:20 – 12:28 The Delta Juvenile Fish Monitoring Program Beach Seine Expansion Project

Jennifer Whitt, U.S. Fish and Wildlife Service

12:28 – 12:36 Contaminant Monitoring and Assessment in the Sacramento San Joaquin Delta to Inform Ecosystem Management: A Proposed Review by the Delta Independent Science Board (DISB)

Margo Mattson, CA Sea Grant Fellow, Delta Science Program – Adaptive Management Unit

*Early Career Award candidate*

## LUNCH

**Early Career Luncheon & Regular Lunch**

**12:36 pm – 1:50 pm**

12:36 – 1:50 **Early Career Luncheon:** Meet in Lobby (Registered attendees only)

12:36 – 1:50 **Regular Lunch:** Area Restaurants – All attendees on their own

## SESSION 4 – MUDDY WATERS, CLEAR GOALS: RESTORING WETLAND ECOSYSTEMS

**Moderator and Speakers:**

**1:50 pm – 2:50 pm**

Jennie Wiggins, U.S. Fish and Wildlife Service

- 1:50 – 2:10 A First Look at Adaptive Management Thresholds in Tidal Wetland Habitats  
Daniel Ellis, Interagency Ecological Program
- 2:10 – 2:30 Big Notch, Big Plans: Upcoming Operations and Adaptive Management Studies  
in the Yolo Bypass  
Dennis Finger, California Department of Water Resources
- 2:30 – 2:50 Assessing Aquatic Food Web Responses to Tidal Slough Restoration Using Low-  
Impact Techniques  
Joseph Merz, Cramer Fish Sciences

## POETRY SLAM

**Moderator:** **2:50 pm – 3:10 pm**

Rosemary Hartman, California Department of Water Resources

## SESSION 5 – POSTERS (2<sup>nd</sup> Floor, Rooms 2-221 B-C)

**Moderators:** **3:10 pm – 5:30 pm**

Erika Holcombe, U.S. Fish and Wildlife Service (Poster Chair)

Jennie Wiggins, U.S. Fish and Wildlife Service (Poster Chair)

See the Poster Abstract Booklet for list of poster titles and authors.

## Workshop Day 2: Wednesday, March 5

### REGISTRATION CHECK-IN

**1<sup>st</sup> Floor North Lobby (next to Auditorium)** **7:30 am – 8:30 am**

### IEP Workshop Welcome

**Moderators and Speakers** **8:30 am – 8:35 am**

8:30 – 8:35 Workshop Welcome & Housekeeping  
Rosemary Hartman, California Department of Water Resources (Organizer)  
Adam Nanninga, U.S. Fish and Wildlife Service (Co-Organizer)

### SESSION 6 – PLENARY 2

**Moderators and Speakers:** **8:35 am – 9:30 am**

Rosemary Hartman, California Department of Water Resources (Organizer)

Stephanie Fong, IEP (IEP Program Manager)

8:35 – 9:30 Regulatory Panel - IEP Monitoring: Informing Resource Management

*Panel Members:*

Sam Bashevkin, State Water Resources Control Board

Brooke Jacobs, California Department of Fish and Wildlife

**NOTE:** Session 6 will not be recorded as part of the workshop recording.

## BREAK

9:30 – 9:45

## SESSION 7 – FLOW AND PHYSICAL PROCESSES

### Moderator and Speakers:

**9:45 am – 10:57 am**

Sam Bashevkin, California State Water Resources Control Board

9:45 – 10:06 Testing and Quantifying a Conceptual Model for the Response of Longfin Smelt to Outflow

Jason Hassrick, ICF, Fish and Aquatic Science

~~10:05 – 10:13 Physical Characteristics of Estuary Turbidity Maximums (ETMs) in the San Francisco Estuary [Canceled Presentation]~~

~~Kim Brewitt, ICF~~

10:06 – 10:16 Fate and Transport of Hydrophobic Organic Contaminants in a Terminal Slough: Impacts of Boat-Induced Turbidity

Cristina G.B. La, Southern Illinois University, Center for Fisheries, Aquaculture, and Aquatic Sciences

*Early Career Award candidate*

10:16 – 10:26 Long-Term Continuous Flow Monitoring in the Sacramento-San Joaquin Delta

Lex Thomas, U.S. Geological Survey

*Early Career Award candidate*

10:26 – 10:47 Suspended Sediment and Turbidity in the Sacramento-San Joaquin Delta, California, Influenced by an Unregulated Watershed During the Wet Water Year of 2023

Tara Morgan-King, U.S. Geological Survey

10:47 – 10:57 Long-Term Suspended-Sediment Monitoring in the Sacramento-San Joaquin Delta and San Francisco Bay

Bryan Gopez, U.S. Geological Survey

*Early Career Award candidate*

## BREAK

10:57 – 11:10

## SESSION 8 – FISH MODELING

### Moderator and Speakers:

11:10 am – 12:38 pm

Matt Murphy, U.S. Fish and Wildlife Service

- 11:10 – 11:30 A Framework for a Juvenile Production Estimate of Central Valley Steelhead  
Chase Ehlo, U.S. Bureau of Reclamation
- 11:30 – 11:50 Long-term Changes in the Rearing Habitat of Delta and Longfin Smelts  
Gonzalo Castillo, U.S. Fish and Wildlife Service
- 11:50 – 12:10 Phenology-Informed Decline Risk of Estuarine Fishes and Their Prey Suggests  
Potential for Future Trophic Mismatches  
Robert Fournier, University of California Berkeley  
*Early Career Award candidate*
- 12:10– 12:30 Identifying a Possible Relation Between Population Dynamics of White  
Sturgeon and Hydrology  
Jorge Arroyo-Esquivel, California Department of Fish and Wildlife
- 12:30 – 12:38 Recovering High-Frequency Plankton Dynamics from Low-Frequency Samples  
Delia Carpenter, Scripps Institution of Oceanography  
*Early Career Award candidate*

## LUNCH

12:38 – 1:50 **Regular Lunch:** Area Restaurants – All attendees on their own

## SESSION 9 – ENVIRONMENTAL STRESSORS ON SALMON AND SMELT

### Moderator and Speakers:

1:50 pm – 3:34 pm

Florian Mauduit, University of California Davis

- 1:50 – 2:10 Advances in California Central Valley Salmon Science: Implications for  
Landscape Scale Management in a Changing Climate  
Brett Harvey, California Department of Water Resources
- 2:10 – 2:30 Going Viral: Presence and Abundance of Pathogens in Ocean Caught Chinook  
Salmon Prior to Freshwater Entry  
Andrea Chandler, University of California Davis, School of Veterinary Medicine,  
Department of Anatomy, Physiology, and Cell Biology  
*Early Career Award candidate*
- 2:30 – 2:38 Assessing Sublethal Effects of 4,4'-DDE in Juvenile Chinook Salmon  
(*Oncorhynchus tshawytscha*) Using Internal Body Residues  
Cristina G.B. La, Southern Illinois University, School of Biological Sciences
- 2:38 – 2:58 Evaluating the Impact of Pesticide Mixtures on Juvenile Chinook Salmon  
Behavior Using Body Residues

Louise Cominassi, University of California Davis, School of Veterinary Medicine,  
Department of Anatomy, Physiology, and Cell Biology

*Early Career Award candidate*

2:58 – 3:18

Larval Delta Smelt: Recent Observational and Experimental Results

Khiet Huynh, University of California Davis, Aquatic Health Program

*Early Career Award candidate*

3:18 – 3:26

An Assessment of 6PPD-Quinone Acute and Sublethal Toxicity on Endangered  
Smelt in the Sacramento-San Joaquin Delta

Jackie Lang, University of California Davis

*Early Career Award candidate*

3:26 – 3:34

Estimating Survival of Chinook Salmon Eggs and Measuring Hyporheic  
Conditions During Incubation in the Sacramento River

Jamie Byrne, Cramer Fish Sciences

*Early Career Award candidate*

## **SESSION 10 – POSTERS (2<sup>nd</sup> Floor, Rooms 2-221 B-C)**

**Moderators:**

**3:34 pm – 5:30 pm**

Erika Holcombe, U.S. Fish and Wildlife Service (Poster Chair)

Jennie Wiggins, U.S. Fish and Wildlife Service (Poster Chair)

See the Poster Abstract Booklet for list of poster titles and authors.

## Workshop Day 3: Thursday, March 6

### REGISTRATION CHECK-IN

#### 1<sup>st</sup> Floor North Lobby (next to Auditorium)

7:30 am – 8:30 am

*The Cyanobacteria Harmful Algal Blooms Sub-Team (a focused working group under the IEP Water Quality and Phytoplankton Project Work Team) will be hosting a concurrent Cyanobacteria Harmful Algal Bloom Annual Meeting from 8:30 a.m. to 1:00 p.m. in the 2<sup>nd</sup> floor conference room 2-201. The goal of this meeting is to implement recommendation 1.5 of the Delt CHABs Monitoring Strategy “to hold an annual meeting focused specifically on Delta CHABs”. The objectives of the meeting are to enhance Delta CHAB collaboration by organizing a collaborative approach to implement the Delta CHAB Strategy and promote coordination, collaboration, and communication among agency and community partners. Contact the meeting organizers if you have questions: Laura Twardochleb ([Laura.Twardochleb@waterboards.ca.gov](mailto:Laura.Twardochleb@waterboards.ca.gov)), Tricia Lee ([Tricia.Lee@deltacouncil.ca.gov](mailto:Tricia.Lee@deltacouncil.ca.gov)), Ellen Preece ([Ellen.Preece@water.ca.gov](mailto:Ellen.Preece@water.ca.gov)), and Keith Bouma-Gregson ([kbouma-gregson@usqs.gov](mailto:kbouma-gregson@usqs.gov)).*

### IEP Workshop Welcome

#### Moderators and Speakers

8:30 am – 8:35 am

8:30 – 8:35      Workshop Welcome & Housekeeping  
Rosemary Hartman, California Department of Water Resources (Organizer)  
Adam Nanninga, U.S. Fish and Wildlife Service (Co-Organizer)

*The Cyanobacteria Harmful Algal Blooms Sub-Team (a focused working group under the IEP Water Quality and Phytoplankton Project Work Team) will be hosting a concurrent Cyanobacteria Harmful Algal Bloom Annual Meeting from 8:30 a.m. to 1:00 p.m. in the 2<sup>nd</sup> floor conference room 2-201. Contact the organizers if you have questions.*

### SESSION 11 – FOOD WEBS AND PREDATION

#### Moderator and Speaker:

8:35 am – 10:35 am

Brian Hutchinson, U.S. Fish and Wildlife Service

8:35 – 8:55      Missed Connections: Identifying Key Food Web Interactions for Management in the Bay-Delta Estuary  
Lillian McCormick

8:55 – 9:15      Quantifying Component Mortality Rates of Juvenile Steelhead Trout (*Oncorhynchus mykiss*)  
Elizabeth Greenheck, George Mason University  
*Early Career Award candidate*



- 9:15 – 9:35 Examining the Role of Predation and Habitat on Chinook Salmon Smolt Survival in the Sacramento River  
Jordan Massie, University of Vermont, Rubenstein School of Environment and Natural Resources  
*Early Career Award candidate*
- 9:35 – 9:55 Estimated Population Level Impacts from Piscivorous Predation on Juvenile Chinook Salmon in the Stanislaus River  
Matthew Peterson, FISHBIO
- 9:55 – 10:15 How Four Introduced Copepod Species Interact in the San Francisco Estuary: Accommodation in a Low-Productivity Environment  
Wim Kimmerer, San Francisco State University, Estuary & Ocean Science Center
- 10:15 – 10:35 Exploring Food-Web Subsidies from Shasta-Keswick Reservoirs as a Potential Management Strategy for Highly-Altered Downstream Ecosystems  
Francisco J. Bellido-Leiva, University of California Davis, Center for Watershed Sciences  
*Early Career Award candidate*

## BREAK

10:35 – 11:10

## SESSION 12 – MANAGEMENT AND POLICY

**Moderator and Speakers:**

**11:10 am – 12:23 pm**

Nicholas Rasmussen, California Department of Water Resources

~~10:55 – 11:15 COEQWAL: Water Allocation and Planning Data for Everyone [Canceled Presentation]~~

~~Eric Danner, NOAA Fisheries~~

11:10 – 11:31 Decision Uncertainty and Research Prioritization for Delta Smelt Summer-Fall X2 Action

Brian Mahardja, U.S. Bureau of Reclamation

11:31 – 11:41 Science Action Agenda Progress Summary

Kim Luke, Delta Stewardship Council

*Early Career Award candidate*

11:41 – 12:02 Machine Learning for Natural Resource Management

Kai Ross, Cramer Fish Sciences

12:02 – 12:23 Multi-Year Regional-Scale Efficacy Comparison of Two Herbicides for Treatment of Invasive Floating Aquatic Vegetation in a California Estuary

Shruti Khanna, IEP

## LUNCH

12:23 – 1:45 **Regular Lunch:** Area Restaurants – All attendees on their own

## SESSION 13 – PHYTOPLANKTON AND HABS (PART I)

**Moderator and Speakers:** **1:45 pm – 2:53 pm**

Ted Flynn, California Department of Water Resources

- 1:45 – 2:05 Harmful Algal Toxins are Widespread in Shellfish Across the San Francisco Estuary  
Ellen Preece, California Department of Water Resources
- 2:05 – 2:25 Using Genome Resolved Metagenomics to Assess the Taxonomic, Metabolic, and Toxigenic Diversity of Cyanobacteria in the Delta  
Keith Bouma-Gregson, U.S. Geological Survey
- 2:25 – 2:45 More than Meets the Eye: Using Metabarcoding for Cyanobacteria and Phytoplankton Monitoring in the Delta  
Silvia Angles, California Department of Water Resources
- 2:45 – 2:53 Comparative Analysis of Primary Production and Nutrient Cycling in Shoal and Channel Regions of the San Francisco Bay and Sacramento-San Joaquin Delta  
Alexander R. Ryan, U.S. Geological Survey  
*Early Career Award candidate*

## BREAK

2:53 – 3:15

## SESSION 14 – PHYTOPLANKTON AND HABS (PART II)

**Moderator and Speakers:** **3:15 pm – 4:23 pm**

Hannah Chaney, Delta Stewardship Council

- 3:15 – 3:35 Investigating Phytoplankton Community Dynamics During the August 2022 *Heterosigma akashiwo* Bloom in San Francisco Bay, California  
Schuyler Nardelli, U.S. Geological Survey  
*Early Career Award candidate*
- 3:35 – 3:55 Vertical Mixing in Dead-End Channels of the Delta  
Sienna White, University of California Berkeley  
*Early Career Award candidate*
- 3:55 – 4:15 Investigating Drivers of Phytoplankton Dynamics in the South Delta  
Nick Framsted, U.S. Geological Survey  
*Early Career Award candidate*

4:15 – 4:23      Response of Phytoplankton to the Regional San Upgrade – Wet Years Versus Dry Years  
Frances Wilkerson, San Francisco State University, Estuary and Ocean Science Center

## CLOSING REMARKS

### **Moderators and Speakers:**

**4:23 pm – 4:30 pm**

Rosemary Hartman, California Department of Water Resources (Organizer)

Adam Nanninga, U.S. Fish and Wildlife Service (Co-Organizer)

4:23 – 4:30      Closing Remarks

Rosemary Hartman, California Department of Water Resources (Organizer)

Adam Nanninga, U.S. Fish and Wildlife Service (Co-Organizer)