

# Interagency Ecological Program 2019 Annual Workshop

**MARCH 5-7, 2019**

**LAKE NATOMA INN  
FOLSOM, CA**



**Interagency  
Ecological Program**

COOPERATIVE ECOLOGICAL  
INVESTIGATIONS SINCE 1970

## **2019 Workshop Planning Committee Chairpersons**

Steven Culberson, IEP, and Ian Smith, USBR

## **2019 Workshop Planning Committee**

Denise Barnard, USFWS

Bryan Barney, UC Davis

Melinda Baerwald, DWR

Christina Burdi, CDFW

Towns Burgess, USBR

Alison Collins, MWD

Louise Conrad, DWR (now DSP)

Lauren Damon, CDFW

Dan Ellis, CDFW

Jared Frantzich, DWR

Pascale Goertler, DWR

Cory Graham, USFWS

John Kelly, CDFW

Brian Mahardja, USFWS

Nir Oksenberg, DSP

Elizabeth Stumpner, USGS

Lynn Takata, CDFW

The Interagency Ecological Program's mission is to provide and integrate relevant and timely ecological information for management of the Bay-Delta ecosystem and the water that flows through it. This is accomplished through collaborative and scientifically sound monitoring, research, modeling, and synthesis efforts for various aspects of the aquatic ecosystem.

The IEP addresses high priority management and policy science needs to meet the purposes and fulfill responsibilities

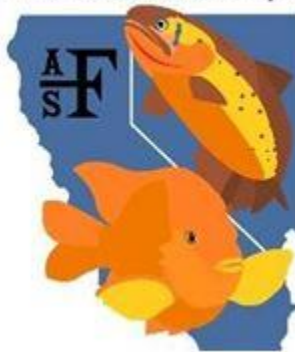
under State and Federal regulatory requirements. The IEP relies upon multidisciplinary teams of agency, academic, non-governmental agencies, and other scientists to accomplish its mission.

## **Interagency Ecological Program Science, Synthesis, Service**

The IEP Management Team and the IEP Workshop Planning Committee extend a wholehearted thank you to the Cal-Neva Chapter of the American Fisheries Society for its assistance administering this year's Annual Workshop. Members of the Executive Committee generously dedicated their valuable spare time and energy to make the 2019 Workshop possible.

Thank you Cal-Neva AFS!

California-Nevada Chapter



# TUESDAY, MARCH 5

## SESSION I – WELCOME AND INTRODUCTION

Moderator: Ian Smith, USBR

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- 8:30am-8:55am Changing Tides  
**Stephanie Fong, CDFW**
- 8:55am-9:20am IEP Science Strategy 2.0: *Beyond paper and beyond words*  
**Steven Culberson, IEP**
- 9:20am-9:45am Project Work Team Updates  
**M. Baerwald, S. Ainsley, S. Lesmeister, K. Hoffman, IEP**
- 9:45am-10:10am Patterns, Pace, and Processes of Water-Quality Variability in a Long-Studied Estuary  
**James E. Cloern, USGS (Ret.)**
- 10:10am-10:30am **BREAK**

## SESSION II – DIVERSITY and INCLUSION

Moderators:

Stacy Sherman, CDFW; Brian Mahardja, USFWS

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- 10:30am-10:40am Sharing Stories from our IEP Community  
**Brian Mahardja, USFWS**
- 10:40am-10:50am Many Rivers to Cross  
**Baker Holden, USFWS**
- 10:50am-11:00am Grad School with Kids  
**Shruti Khanna, CDFW**
- 11:00am-11:05am With an Eye on Humility – 40+ years of observations  
**Jan Thompson, USGS**

- 11:05am-11:10am Pathways Toward Diversity  
**Stacy Sherman, CDFW**
- 11:10am-11:25am Using the Next Generation Science Standards to Engage and Excite Diverse Groups of Learners  
**Marcus Sherman, Stockton Unified School District**
- 11:25am-11:40am Diversity and Inclusion: *The Power of a Workforce that Reflects the Population it Serves*  
**Erin Gleason, USFWS**
- 11:40am-12:10pm DISCUSSION
- 12:10pm-1:40pm **LUNCH: Area Restaurants**

### **SESSION III – ADAPTIVE MANAGEMENT**

Moderators:

Lauren Damon, CDFW; Towns Burgess, USBR

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- 1:40pm-1:55pm Delta Habitat Restoration Adaptive Management – IAMIT and So Are You!  
**Lauren Hastings, DSC**
- 1:55pm-2:10pm Role, Management, and Results of Targeted Delta Smelt Investigations in the Collaborative Science and Adaptive Management Program (CSAMP)  
**Pat Coulston, CDFW**
- 2:10pm-2:25pm Opportunities and Challenges for Adaptive Management of the Sacramento Deepwater Ship Channel  
**Erwin van Nieuwenhuyse, USBR**
- 2:25pm-2:40pm Using Nutrient Subsidies to Stimulate Primary Production and Increase Basal Food Web Resources in the

- Sacramento Deep Water Ship Channel  
**Luke Loken, UC Davis**
- 2:40pm-2:55pm CVPIA Structured Decision Making –  
Have a SIT  
**Rod Wittler, USBR**
- 2:55pm-3:10pm Planning, Partnerships, and Action: *The  
Clear Creek Adaptive Management  
Story*  
**Tricia Bratcher, CDFW**
- 3:10pm-3:20pm Q&A
- 3:20pm-3:40pm **BREAK**
- 3:40pm-3:50pm Poster Introductions & Poetry Slam  
**(Oksenberg, Burdi)**

**SESSION IV – OPERATION BASELINE:  
Water Quality and Phytoplankton Community**  
Moderator: Elizabeth Stumpner, USGS

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- 3:50pm-3:55pm Operation Baseline Studies: *What You  
Need to Know*  
**Dylan Stern, DSC**
- 3:55pm-4:10pm Water Residence Time and  
Biogeochemical Rates in the San  
Francisco Bay Delta  
**Bryan Downing, USGS**
- 4:10pm-4:25pm Nutrient Uptake and Transformation  
Rates in Delta Wetlands and Elsewhere  
**Tamara Kraus, USGS**
- 4:25pm-4:40pm Water Residence Time Relationship  
with Phytoplankton Biomass and  
Diagnostic Pigments  
**Alex Parker, California Maritime  
Academy**

- 4:40pm-4:55pm Turbidity Tracker: Following the Movements of Muddy Waters  
**Jon Burau, USGS**
- 4:55pm-5:10pm Phytoplankton and Nutrients: Who, What, Where, and When?  
**Brian Bergamaschi, USGS**
- 5:10pm-7:00pm Poster Reception

## WEDNESDAY, MARCH 6

### SESSION V – NEWSFEED ON FLOAT: Outcomes of Flow Alteration Actions in 2018

Moderators:

Jared Frantzich, DWR, Louise Conrad, DSP

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- 8:30am-8:35am Overview of the North Delta Flow Action  
**Jared Frantzich, DWR**
- 8:35am-8:45am High-frequency Water Quality of the 2018 Toe Drain Pulse  
**Elizabeth Stumpner, USGS**
- 8:45am-8:55am Evaluating phytoplankton productivity outcomes to flow alteration actions in the North Delta  
**Frances Wilkerson, SFSU/RTC**
- 8:55am-9:05am Spatial and Temporal Effects on Zooplankton Communities in Response to the North Delta Flow Action  
**Mallory Bedwell, DWR**
- 9:05am-9:20am Q&A
- 9:20am-9:25am Fantastic Flows and Where to Guide Them: *An overview of the 2018 Suisun March Salinity Control Gate Action (SMSCG)*

**Ted Sommer, DWR**

9:25am-9:35am Summer 2018 Suisun Marsh Salinity Control Gate Action: Salinity, Temperature, Turbidity and Chlorophyll Dynamics

**Michael Koochafkan, DWR**

9:35am-9:45am Invasive Bivalve Patterns in Suisun Marsh and Their Response to the 2018 Salinity Control Gate Operation

**Elizabeth Wells, DWR**

9:45am-9:55am Did Lower Salinity Mean Different Fishes? A Look at the 2018 Fish Community in Suisun Marsh

**Michael Beakes, USBR**

9:55am-10:10am Q&A

10:10am-10:30am **BREAK**

**SESSION VI – TIDAL WETLAND RESTORATION**

Moderator: Dan Ellis, CDFW

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10:30am-10:50am Wetlands are Wild and Wonderful: *Variation in Shallow-water Communities Across the Ecocline*

**Rosemary Hartman, CDFW**

10:50am-11:10am Comparing 2017 and 2018 Fish Catches Outside Future Tidal Wetland Restoration Sites

**Dave Contreras, CDFW**

11:10am-11:30am Physical Structure of Restored Wetlands Affects Fish Assemblage and Distribution

**Matt Young, USGS**



- 11:30am-11:50am Pre-Planting to Preclude Persistent Pest Plants  
**Gina Darin, CDWR**
- 11:50am-12:10pm The Importance of Seasonality and Water Source in Assessing the Potential Impact of Current-Use Pesticides on Restoration Sites in the North Delta  
**James Orlando, USGS**
- 12:10pm-1:40pm **LUNCH: Area Restaurants / MENTORING LUNCHEON**

## **SESSION VII – WORKSHOP: FAME, FREEDOM AND FAIRNESS WITH OPEN DATA**

Moderator: Melinda Baerwald, DWR

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- 1:40pm-2:00pm Open Science Overview  
**Brian Schreier, DWR; Brian Mahardja, USFWS; Vanessa Tobias, USFWS**
- 2:00pm-2:10pm Data Management Plans and QA/QC  
**Rosemary Hartman, CDFW; Rachel Pisor, DWR**
- 2:10pm-2:20pm Data Publication  
**Brittany Davis, DWR; Melinda Baerwald, DWR**
- 2:20pm-2:30pm Data Portals  
**Sarah Lesmeister, DWR; Kris Jones, DWR**
- 2:30pm-2:40pm Group Exercise
- 2:40pm-2:55 pm Status and Trends Reports  
**Nick Rasmussen, DWR; Louise Conrad, DSP**
- 2:55pm-3:20pm Q & A; Interactive Activity

3:20pm-3:40pm      **BREAK**

**- ROOM 1 -**

**SESSION VIII – WORKSHOP: IEP  
SCICOMMSCAPE**

Moderator: Nir Oksenberg, Delta Science Program

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3:40pm-5:20pm

Success of the IEP is directly connected to its ability to synthesize and communicate technical scientific results to decision makers, the public, scientists, and other stakeholders. The goal of this workshop is to identify the science communication priorities of different IEP agencies and to identify gaps, potential partnerships, and new strategies. This workshop is not a science communication training. It will be a (fun!) working session with group activities aimed at better understanding the IEP science communication landscape. All IEP Workshop attendees are invited to join this session. Attendees will leave with a better understanding of both IEP's and their organization's science communication strengths, gaps, and priorities.

5:20pm-7:00pm      **Poster Reception**

- ROOM 2 -

**SESSION IX – WORKSHOP: EAT OR BE EATEN  
– A SYNTHESIS OF PREDATION**

Moderator: Pascale Goertler, DWR

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3:40pm-5:20pm

Introduction

**Pascale Goertler, DWR**

Striped Bass (*Morone saxatilis*) Return to Spawn Migration Timing as it Relates to Climate

**Pascale Goertler, DWR**

Trends in Relative Abundance of Juvenile Sacramento Pikeminnow (*Ptychocheilus grandis*) in the Sacramento-San Joaquin Delta

**Felipe LaLuz, CDFW**

Spatial Patterns and Environmental Associations of Piscivorous Predation throughout the South Sacramento-San Joaquin River Delta in 2017

**Cyril Michel, NMFS**

Experimental Quantification of Piscivore Density and Habitat Effects on Juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) Survival

**Steve Zeug, Cramer Fish Science**

Predator-rich Fish Communities in Flooded Islands Invaded by Aquatic Weeds

**Louise Conrad, DSP**

Size-based Susceptibility of Juvenile  
Green Sturgeon (*Acipenser medirostris*)  
to Predatory Fish Common in the Delta  
**Anna Steel, UC Davis**  
Discussion and Reporting

5:20pm-7:00pm **Poster Reception**

## THURSDAY, MARCH 7

### SESSION X – ANADROMOUS FISHES I

Moderator: John Kelly, CDFW

- 8:30am-8:40am Introduction  
**John Kelly, CDFW**
- 8:40am-8:55am Recovery Plan for the Southern Distinct  
Population Segment of the North  
American Green Sturgeon: *Overview  
and Insights*  
**Joe Heublein, NMFS**
- 8:55am-9:10am An Introduction to San Francisco  
Estuary White Sturgeon Datasets and  
Potential Management Uses  
**Andrew Danos, CDFW**
- 9:10am-9:25am A Hybrid Study Design Combining  
Acoustic Telemetry and Coded Wire  
Tagging to Estimate Trawl Gear  
Efficiency and Run-Specific Abundance  
of Juvenile Salmon Entering and Exiting  
the Delta  
**Russ Perry, USGS**
- 9:25am-9:40am Multi-year Analyses of Trawl Catch of  
Juvenile Chinook Salmon at Chipps  
Island and Sacramento River  
**Brian Pyper, USGS**

- 9:40am-9:55am The Central Valley Spring-Run Chinook Salmon Life Cycle Model: *A Tool to Manage This Threatened Stock*  
**Flora Cordoleani, NOAA**
- 9:55am-10:10am Developing a Probabilistic Length-at-Date (PLAD) Assignment Tool for Central Valley Chinook Salmon  
**Noble Hendrix, QEDA Consulting**
- 10:10am-10:30am **BREAK**

## **SESSION XI – ANADROMOUS FISHES II**

Moderator: Alison Collins, The Metropolitan Water District of Southern California

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- 10:30am-10:40am The Effect of Ration on Juvenile White Sturgeon Metabolic Rate, Foraging Behavior, and Temperature Preference  
**Vanessa Lo, UC Davis**
- 10:40am-10:55am Steelhead Survival through the South Delta: Six-Year Steelhead Study Results, 2011-2016  
**Rebecca Buchanan, University of Washington**
- 10:55am-11:10am Southern DPS Green Sturgeon (*Acipenser medirostris*) and White Sturgeon (*Acipenser transmontanus*) Seasonal Movement Patterns and Migratory Behavior in the Sacramento-San Joaquin Delta  
**Marc Beccio, CDFW**
- 11:10am-11:25am Weakened Salmon Portfolio: *Does the Delta Play a Role?*  
**Anna Sturrock, UC Berkeley**

- 11:25am-11:40am Flow Variation Improves Reach-Specific Movement and Survival Rates of Outmigrating Hatchery-Origin Sacramento River Winter-Run Chinook Salmon  
**Jason Hassrick, ICF**
- 11:40am-11:55am Water Flow and Temperature Considerations for Multi-species/Run Management on the Sacramento River  
**Miles Daniels, NOAA**
- 11:55am-12:10pm Discussion
- 12:10pm-1:40pm **LUNCH: Area Restaurants/PWT CHAIRS LUNCHEON**

## **SESSION XII – DELTA POTPOURRI**

Moderator: Denise Barnard, USFWS

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- 1:40pm-2:00pm Drivers of Pelagic Productivity in the San Francisco Estuary  
**Bruce Hammock, UC Davis**
- 2:00pm-2:20pm Determining the Influence of Discharge and Prey Availability on Native Cypriniform Species in the San Francisco Bay Delta  
**Cory Graham, USFWS**
- 2:20pm-2:40pm Physics to Fish: *Dynamic Habitat Features Drive Fine Scale Distribution of Pre-Spawn Longfin Smelt*  
**Fred Feyrer, USGS**
- 2:40pm-3:00pm Wayward WAGs: *Wakasagi Life-History in the San Francisco Estuary*  
**Brittany Davis, DWR**

3:00pm-3:20pm Enhanced Delta Smelt Occupancy Modeling  
**Lara Mitchell, USFWS**

3:20pm-3:40pm **BREAK**

## **SESSION XIII – NON-TRADITIONAL SAMPLING**

Moderator: Bryan Barney, UC Davis

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3:40pm-3:55pm Suisun Marsh Waterfowl and Managed Wetland Research Program  
**Cliff Feldheim, DWR**

3:55pm-4:10pm Composition of Larval Fish Diets:  
*Comparing High-Throughput DNA Sequencing with Morphological Methods*  
**Michelle Jungbluth, San Francisco State University**

4:10-4:25pm Improving eDNA Sampling: *Lowering Cost, Processing Time, and Simplifying Data Analysis*  
**Thiago Sanches, UC Davis**

4:25pm-4:40pm The Aquatic Habitat Sampling Platform: *a Non-traditional Look at Traditional Estuary Questions*  
**Joseph Merz, Cramer Fish Sciences**

4:40pm-4:55pm How Fast??? Novel Methods for Measuring Biogeochemical Rates in the Delta  
**Jeffrey Hansen, USGS**

## **Community Statement**

*The Interagency Ecological Program celebrates equity, diversity, and inclusiveness. We embrace these pillars of excellence as crucial to healthy people and healthy communities. We welcome collaborative scientists of all affiliations and ask that you contribute within a spirit of supportive collegiality.*