

INTERAGENCY ECOLOGICAL PROGRAM 2020 ANNUAL WORKSHOP

AUGUST 25 – OCTOBER 13, 2020



Interagency Ecological Program

COOPERATIVE ECOLOGICAL
INVESTIGATIONS SINCE 1970

2020 Workshop Planning Committee Chairpersons

Steven Culberson, IEP

Lynn Takata, DSC

2020 Workshop Planning Committee Members

Christina Burdi, CDFW

Eva Bush, DSC

Emily Campbell, CDFW

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Stephanie Durkacz, USFWS

Cliff Feldheim, DWR

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Rosemary Hartman, DWR

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Shruti Khanna, CDFW

Sarah Lesmeister, DWR

Brian Mahardja, USFWS

Adam Nanninga, USFWS

Nick Rasmussen, DWR

Brian Schreier, DWR

Trishelle Tempel, CDFW

Laureen Thompson, 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.

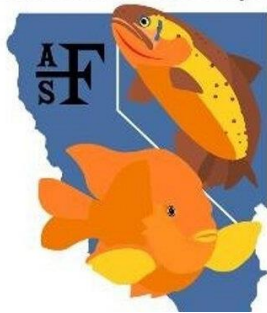
The IEP addresses high priority management and policy science needs to meet the purposes and fulfill responsibilities under State and Federal regulatory requirements. The IEP relies upon multidisciplinary teams of agency, academic, non-governmental agencies, and other scientists to accomplish its mission.

Interagency Ecological Program Science, Synthesis, Service

The IEP Management Team and the IEP Workshop Planning Committee once again 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 2020 Workshop possible.

Thank you, Cal-Neva AFS!

California-Nevada Chapter



TUESDAY, AUGUST 25

SESSION I – USING SCIENCE TO INFORM MANAGEMENT: How to Evaluate Progress

Moderator: Brian Schreier, DWR

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|---------------|--|
| 1:30pm-1:35pm | Introduction |
| 1:35pm-1:55pm | An Update on the Flow Alteration Project Work Team, the 2017 Report and Beyond
Larry Brown, USGS |
| 1:55pm-2:15pm | North Delta Flow Action 2019: Flows, Food and Fish
Brittany Davis, DWR & Mallory Bedwell, DWR |
| 2:15pm-2:20pm | BREAK |
| 2:20pm-2:40pm | Suisun Marsh Salinity Control Gate Management Action: Results and Paths Forward
Michael Koohafkan, DWR |
| 2:40pm-3:00pm | Into the Wild: Can Cultured Delta Smelt Survive?
Nicole Kwan, DWR |
| 3:00pm-3:05pm | BREAK |
| 3:05pm-3:25pm | Management of Delta Smelt Entrainment May be Necessary, but is it Sufficient?
Will Smith, USFWS |
| 3:25pm-3:30pm | Wrap up |

THURSDAY, AUGUST 27

SESSION II – PATTERNS IN FISH ASSEMBLAGES IN THE UPPER ESTUARY

Moderators:

Trishelle Tempel, CDFW & Brian Mahardja, USFWS

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|---------------|---|
| 1:30pm-1:35pm | Introduction |
| 1:35pm-1:55pm | Food Web of Liberty Island and the Larger Cache Slough Complex
Brian Mahardja, USFWS |
| 1:55pm-2:15pm | Spatio-Temporal Community Patterns for Early Life Stages of Fishes in the Upper San Francisco Estuary
Gonzalo Castillo, USFWS |
| 2:15pm-2:35pm | Relationships of Normalized Biomass Spectra of State and Federal Fish Salvage Data to Export and Outflow
Kyle Griffiths, CDFW |
| 2:35pm-2:40pm | Break |
| 2:40pm-3:00pm | Species Assembly Shifts in Fisheries as Harbingers of Ecosystem Change
John Durand, UC Davis |
| 3:00pm-3:20pm | In-Seine: Littoral Fish Community Assemblages in the Yolo Bypass
JT Robinson, DWR |
| 3:20pm-3:30pm | Wrap up |

TUESDAY, SEPTEMBER

SESSION III– INVASIVE AQUATIC VEGETATION MANAGEMENT

Moderators: Shruti Khanna, CDFW & Nick Rasmussen, DWR

- 1:30pm-1:35pm Introduction
- 1:35pm-1:55pm *Egeria densa* (Brazilian waterweed)
Patches as “Blue Carbon” Sinks in the Delta
Judith Drexler, USGS
- 1:55pm-2:15pm Findings from the Delta Smelt Resiliency
Strategy Aquatic Weed Control Action
Nick Rasmussen, DWR
- 2:15pm-2:20pm BREAK
- 2:20pm-2:40pm Landscape-scale Multi-year Efficacy
Analysis for Herbicide Treatment of Weeds
in the Delta
Shruti Khanna, CDFW
- 2:40pm-3:00pm Biological Control of Weeds: An Update
from the USDA’s Invasive Species
Research Laboratory
Paul Pratt, USDA
- 3:00pm-3:05pm BREAK
- 3:05pm-3:25pm Finding a Path Forward for Adaptive
Management of Invasive Aquatic Vegetation
Control in the Delta
Dylan Chapple, DSC
- 3:25pm-3:30pm Wrap up

TUESDAY, SEPTEMBER

SESSION IV– OLD HOMES AND NEW: Occupancy & Fish Habitats

Moderator: Morgan Gilbert, USFWS

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|---------------|--|
| 1:30pm-1:35pm | Introduction |
| 1:35pm-1:55pm | Enhanced Delta Smelt Monitoring (EDSM) and Chinook Salmon
Lara Mitchell, USFWS |
| 1:55pm-2:15pm | Developing a Sampling Design for Estimating Occupancy of Near-shore Fishes Using Electrofishing Techniques
Noble Hendrix, USGS |
| 2:15pm-2:20pm | BREAK |
| 2:20pm-2:40pm | Modeling Juvenile Chinook Salmon Response to Trophic Subsidies from Rice Field Drain Water in the Sacramento River, CA
Corey Phillis, Metropolitan Water District of Southern California |
| 2:40pm-3:00pm | Growth, Diet Composition and Mismatched Run Assignment in the Yolo Bypass During Recent Hydrologic Extremes (2012-2018)
Pascale Goertler, DSC |
| 3:00pm-3:05pm | Wrap Up |

THURSDAY, SEPTEMBER 17

SESSION V – STRENGTHENING SYNTHESIS AT IEP

Moderator: Rosemary Hartman, DWR

- 1:30pm-1:35pm Introduction
- 1:35pm-1:55pm Is the SFE Monitoring Program Really Unique? A Close Look at Monitoring and Synthesis Across Six National Estuaries
Louise Conrad, DSP & Rosemary Hartman, DWR
- 1:55pm-2:15pm Exploring SFE Data: Examples of How to Integrate Large and Disparate Datasets
Sam Bashevkin, DSC; Cat Pien, DWR; Dylan Stompe, UC Davis
- 2:15pm-2:20pm BREAK
- 2:20pm-2:40pm Open Science Tools: What we Learned at NCEAS.
David Bosworth, DWR & Maggie Christman, DSC
- 2:40pm-3:00pm Question & Answer

TUESDAY, SEPTEMBER 22

SESSION VI – ENVIRONMENTAL STRESSORS

Moderator: Richard Connon, UC Davis

- 1:30pm-1:35pm Introduction
- 1:35pm-1:55pm Effects of Temperature and Salinity on Longfin Smelt Yolk-Sac Larvae
Yuzo Yanagitsuru, UC Davis
- 1:55pm-2:15pm Environmentally Relevant Pesticide Concentrations Impact Behavior of Delta Smelt Yolk-sac Larvae
Paige Mundy, UC Davis
- 2:15pm-2:35pm Pathogens in the Delta: Fate and Consequences on Chinook Salmon Health
Florian Mauduit, UC Davis
- 2:35pm-2:40pm BREAK
- 2:40pm-3:00pm The Morphometric, Biochemical, Histological, and Immunohistochemical Responses of Delta Smelt (*Hypomesus transpacificus*) to Fasting: A Time Series Experiment
Bruce Hammock, UC Davis
- 3:00pm-3:20pm Evaluation of Delta Smelt Health with Respect to Regional Delta Contaminant Levels
Marie Stillway, UC Davis
- 3:20pm-3:30pm Wrap up

THURSDAY, SEPTEMBER 24

SESSION VII – SUISUN MARSH I: One Suisun Marsh, A Wildlife Balancing Act

Moderators:

Laureen Thompson, CDFW & Cliff Feldheim, DWR

- 9:30am-9:35am Introduction
- 9:35am-9:55am The Suisun Marsh, History, Management, and Working Towards a Future of Managing for Waterfowl Hunting and Native Fish.
Cliff Feldheim, DWR
- 9:55am-10:15am The Suisun Marsh: A Critical Wintering and Nesting Area for Pacific Flyway Waterfowl
Mike Casazza, USGS
- 10:15am-10:20am BREAK
- 10:20am-10:40am Salt Marsh Harvest Mice in Suisun Bay: Population Substructure and the Role of Landscape
Mark Statham, UC Davis
- 10:40am-11:00am Growing Fish Food in Duck Ponds: Food Web Support in Suisun Marsh
Kyle Phillips, UC Davis
- 11:00am-11:05am BREAK
- 11:05am-11:25am Improving Water Quality and Achieving TMDL Compliance in Suisun Marsh
Stuart Siegel, SFSU & San Francisco Bay NERR
- 11:25am-11:30am Wrap up

TUESDAY, SEPTEMBER

SESSION VIII – SCIENCE COMMUNICATION: Messaging Beyond the Ivory Tower

Moderator: Lynn Takata, DSC

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|---------------|--|
| 1:30pm-1:35pm | Session Introduction |
| 1:35pm-1:55pm | Considerations for the Scientist
Communicator: Audiences, Messages and
Platforms
Lynn Takata, DSC |
| 1:55pm-2:15pm | Schools of Fish and Fish in Schools:
Engaging with Delta Youth about Estuarine
Science and Monitoring
Melinda Baerwald, DWR |
| 2:15pm-2:20pm | BREAK |
| 2:20pm-2:40pm | Building a Better Bridge Between Science
and Policy
Kris Jones, DWR |
| 2:40pm-3:00pm | Keeping Afloat in a Flood of Water News:
Maven’s Notebook, Social Media, and
Confessions of a Water News Junkie
Chris Austin, Maven’s Notebook |
| 3:00pm-3:30pm | Wrap Up |

THURSDAY, OCTOBER 8

SESSION IX – SUISUN MARSH 2: Aquatic-Terrestrial Linkages & Restoration

Moderator: Adam Nanninga, USFWS

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|-----------------|---|
| 9:30am-9:35am | Introduction |
| 9:35am-9:55am | Terrestrial Mesopredators in the Marsh
Sarah Peterson, USGS |
| 9:55am-10:15am | Ecosystem Resilience to Fire Disturbance
in Suisun Marsh
Scott F. Jones, USGS |
| 10:15am-10:25am | BREAK |
| 10:25am-10:45am | The Tidal Parr Studies: Pre-smolt Salmon
Distribution, Residence Time, and Growth
in Habitats West of the Delta
Brett Harvey, DWR |
| 10:45am-11:05am | Where Will All the Turtles Go? Western
Pond Turtle Movement and Habitat Use in
Suisun Marsh
Melissa K. Riley, CDFW |
| 11:05am-11:10am | Wrap up |

TUESDAY, OCTOBER 13

SESSION X – PLENARY

Moderator: Steve Culberson, IEP & DSC

- 9:30am-9:35am Introduction
- 9:35am-9:55am IEP Vision 20/20
Stephanie Fong, CDFW
- 9:55am-10:15am Monitoring Scientifically and Thinking Ecologically
Steven Culberson, IEP
- 10:15am-10:20am BREAK
- 10:20am-11:00am Climate Change in California: A Tale of Shifting Baselines, Sharpening Seasonality, and Increasing Precipitation Whiplash
Daniel Swain, Institute of the Environment & Sustainability, UCLA
- 11:00am-11:15am Wrap Up

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.