INTERAGENCY ECOLOGICAL PROGRAM
2010 ANNUAL WORKSHOP

MAY 25 - 26, 2010
CALIFORNIA STATE UNIVERSITY SACRAMENTO
SACRAMENTO, CA

Interagency
Ecological Program

COOPERATIVE ECOLOGICAL
INVESTIGATIONS SINCE 1970

WORKSHOP AT A GLANCE

All oral presentations will be in Hinde Auditorium or the Forest Suite. Where indicated, a live feed of the presentations in Hinde Auditorium can also be viewed in the Lobby Suite. Lunches will be served in the University Ballroom or the Redwood Room. The poster reception and social will be at the Alumni Center.

TUESDAY, MAY 25

8:30 – 8:40	Introductory Remarks
8:40 – 9:45	Session I – 40 Years of IEP: Highlights from Now and Then
9:45 – 10:00	Break
10:00 –12:00	Session II – Looking Forward: Putting IEP into Perspective
12:00 –1:00	Lunch
1:00 – 2:20	Session IIIa – Turbidity and Fish Migration
	Session IIIb – Water Quality and the Delta Food Web
2:20 – 2:40	Break
2:40 – 3:00	Poster Introductions
3:00 – 5:00	Session IV – Renewed Techniques to Investigate Contaminants
5:15 – 7:30	Poster Session and Social

WEDNESDAY, MAY 26

8:30 – 10:00	Session Va – News from the Other Smelt: Longfin Smelt
	Session Vb – News from the Bottom: Clams and Mussels
10:00 –10:20	Break
10:20 –12:00	Session VIa – Monitoring and Modeling Bay Delta Ecology
	Session VIb – Fish Monitoring and Protection
12:00 – 1:00	Lunch
1:00 – 2:20	Session VII – The Secret Life of Bass
2:20 – 2:40	Break
2:40 – 4:20	Session VIII – North Delta: Life on the Edge

GENERAL INFORMATION

Overview: The Interagency Ecological Program (IEP) for the San Francisco Estuary / Sacramento-San Joaquin Delta consists of nine member agencies, three State (Department of Water Resources, Department of Fish and Game, and State Water Resources Control Board) and six Federal (Fish and Wildlife Service, Bureau of Reclamation, Geological Survey, Army Corps of Engineers, NOAA Fisheries, and Environmental Protection Agency). The IEP also partners with the San Francisco Estuary Institute, the Delta Science Program, and many academic and private scientists. The mission of the IEP is to provide information on the factors that affect ecological resources in the Sacramento - San Joaquin Estuary that allows for more efficient management of the estuary. More information about the IEP can be found at http://www.water.ca.gov/iep/ .

The annual IEP Workshop serves as a focal point for IEP activities. The program for this year's Workshop is diverse, with many oral and poster presentations offering a full spectrum of current IEP activities. This year's Workshop will focus on the IEP's past, present, and future and on connecting fish, physics, and contaminants.

Chair, IEP Agency Coordinators: Chuck Armor (DFG)
IEP Lead Scientist: Anke Mueller-Solger (DSC)
IEP Program Manager: Kelly Souza (DFG)

2010 Workshop Program Committee: Randy Baxter (DFG), Fred Feyrer (USBR), John Netto (USFWS), Anke Mueller-Solger (Delta Stewardship Council) and Kelly Souza (DFG).

TUESDAY, MAY 25

WELCOME TO THE WORKSHOP

8:30 – 8:40 Chuck Armor (DFG)
Location: Hinde Auditorium and Lobby Suite (live feed for overflow)

SESSION I - 40 YEARS OF IEP: HIGHLIGHTS FROM NOW AND THEN

Moderator: Chuck Armor (DFG)
Location: Hinde Auditorium and Lobby Suite (live feed for overflow)

8:40-9:00	Program Highlights	Kelly Souza (DFG)
9:00-9:20	Science Highlights	Anke Mueller-Solger (DSC)
9:20-9:45	Celebrating 40 Years of Science Excellence: Highlights from the Past	Ken Lentz (USBR retired)

Break 9:45 – 10:00

SESSION II – LOOKING FORWARD: PUTTING IEP INTO PERSPECTIVE

Moderator: Anke Mueller-Solger (Delta Stewardship Council)
Location: Hinde Auditorium and Lobby Suite (live feed for overflow)

10:00-11:30	Directors Panel Discussion: Agency Directors share their perspective about the future of IEP and what role the IEP will play in the emerging and changing landscape	●Pablo Arroyave, Deputy Regional Director, Mid-Pacific Region, USBR ●Howard Brown, Acting Supervisor, NMFS Central Office, NMFS ●Michael Dietl, Chief, Sacramento District, USACE ●Kevin Hunting, Deputy Director, DFG ●Phil Isenberg, Chair, Delta Stewardship Council ●Jerry Johns, Deputy Director, DWR ●Ren Lohoefener, Regional Director, Pacific Region, USFWS ●Eric Reichard, Director, California Water Science Center, USGS ●Dorothy Rice, Executive Director, SWRCB ●Karen Schwinn, Associate Director, USEPA
11:30-12:00	Questions and Answers	All

Lunch 12:00 – 1:00 Served in the University Ballroom I

SESSION IIIA– TURBIDITY AND FISH MIGRATION

Moderator: Dave Schoelhamer (USGS)
Location: Hinde Auditorium and Lobby Suite (live feed for overflow)

1:00-1:20	Turbidity Patterns Along a Longitudinal Transect	Francine Mejia (DWR)
1:20-1:40	Muddy Waters: A Discussion of Recent Turbidity Measurements in the Delta	Jon Burau (USGS)
1:40-2:00	Should I Stay or Should I Go? Tides, Turbidity and Triggers for Delta Smelt Migration	William Bennett (UCD)
2:00-2:20	Larval Delta Smelt Behavior in Response to Physical Stimuli	D.E. Saini (UCD)

SESSION IIIB– WATER QUALITY AND THE DELTA FOOD WEB

Moderator: Dan Riordan (DWR)
Location: Forest Suite, 2nd floor

1:00-1:20	Dietary Effects of *Microcystis aeruginosa* on Threadfin Shad	S.C. Acuña (UCD)
1:20-1:40	Low Turbidity and High Water Quality Correlated with *Microcystis* in the South Delta	Mark Brunell (UOP)
1:40-2:00	Nutrient –Driven Food Web Alterations in the San Francisco Bay Estuary	Pat Glibert (University of Maryland)
2:00-2:20	Differences in Sensitivity of *Eurytemora affinis* and *Pseudodiaptomus forbesi* to Bifenthrin, Chlorpyrifos and Permethrin	Sarah Lesmeister (UCD)

Break 2:20 – 2:40

POSTER INTRODUCTIONS – 2:40 – 3:00

Moderator: Fred Feyrer (USBR)
Location: Hinde Auditorium and Lobby Suite (live feed for overflow)

SESSION IV– RENEWED TECHNIQUES TO INVESTIGATE CONTAMINANTS

Moderator: Stephanie Fong (CVRWQCB)
Location: Hinde Auditorium and Lobby Suite (live feed for overflow)

3:00-3:20	Results of the POD Contaminants Synthesis	Michael Johnson (UCD)
3:20-3:40	Current-Use Pesticides and the Sacramento-San Joaquin Delta	Kathryn Kuivila (USGS)
3:40-4:00	Urban Runoff as a Source of Pyrethroid Pesticides and Resulting Water Column Toxicity	Donald Weston (UCB)
4:00-4:20	A Risk-Based Approach to Evaluate the Potential Impact of Synthetic Pyrethroid Insecticides on Aquatic Organisms of the San Francisco Bay Delta	Daniel Schlenk (UCR)
4:20-4:40	Refining Tools to Distinguish Pyrethroid Toxicity from Other Contaminants: a TIE Approach Utilizing Transcriptomics	Richard Connon (UCD)
4:40-5:00	Integrating Conservation Ecology and Toxicology*	Nat Scholtz (NOAA)

******SUBJECT TO AVAILABILITY*

POSTER SESSION AND SOCIAL AT THE ALUMNI CENTER 5:15 – 7:30

WEDNESDAY, MAY 26

SESSION VA– NEWS FROM THE OTHER SMELT: LONGFIN SMELT

Moderator: Randy Baxter (DFG)
Location: Hinde Auditorium

8:30-8:40	Welcome and Introduction to the Session	Randy Baxter (DFG)
8:40-9:00	The Protected (?), the Bad and the Ugly: Evaluating Entrainment Risk of Larval Longfin Smelt Using a Coupled Hydrodynamic-Particle Tracking Model	Randy Baxter (DFG)
9:00-9:20	Population Genetics of Longfin Smelt	Joshua Israel (USBR)
9:20-9:40	Influence of Saltwater on Longfin Smelt Embryo and Early Life-Stage Development in Culture	Galen Tigan (UCD)
9:40-10:00	The Use of Otolith Strontium Isotopes (87Sr/86Sr) to Identify Nursery Habitat for a Threatened Estuarine Fish	Jim Hobbs (UCD)

SESSION VB – NEWS FROM THE BOTTOM: CLAMS AND MUSSELS

Moderator: Karen Gehrts (DWR)
Location: Forest Suite, 2nd floor

8:30-8:40	Welcome and Introduction to the Session	Karen Gehrts (DWR)
8:40-9:00	Metabolic Responses to Environmental Salinity in the Invasive Clam *Corbula amurensis*	Jonathon Stillman (SFSU-RTC)
9:00-9:20	Studies of the Zebra Mussel in an Invaded CVP Reservoir and Applications to DWR's Mussel Management Program	Tanya Veldhuizen (DWR)
9:20-9:40	The Other Freshwater Mussels: Native Freshwater Species in California	Jeanette Howard (TNC)
9:40-10:00	Asian clam (*Corbicula fluminea*) invasion in Lake Tahoe: The Ecology and Management of an Invasive Bivalve in an Oligotrophic Lake	Marion Wittmann (UCD)

Break 10:00 - 10:20

SESSION VIA – MONITORING AND MODELING IN THE BAY-DELTA

Moderator: Larry Brown (USGS)
Location: Hinde Auditorium

10:20-10:40	An Update on the UC Santa Barbara Workgroups	Larry Brown (USGS)
10:40-11:00	Biological Communities in the San Francisco Bay Respond to Ocean Climate Patterns	Kathy Hieb (DFG)
11:00-11:20	An Ecosystem Model for Testing Potential Causes of the San Francisco Estuary Pelagic Organism Decline	Howard Townsend (NOAA)
11:20-11:40	Delta Smelt Entrainment Estimated by 3D Particle Tracking with Vertical Migration Behavior	Ed Gross (Bay Modeling, Inc.)
11:40-12:00	Usefulness of Stable Isotopic Techniques for Environmental Monitoring Programs	Carol Kendall (USGS)

SESSION VIB – FISH MONITORING AND PROTECTION

Moderator: John Netto (USFWS)
Location: Forest Suite, 2nd floor

10:20-10:40	Behind the Science: The Underwater Story of the Midwater Trawl	Dave Contreras and Jennifer Messineo (DFG)
10:40-11:00	Developing Underwater Video Technology for Sampling Pelagic Delta Fishes	Donald Portz (USBR)
11:00-11:20	Initial Evaluation of Entrainment Losses for Delta Smelt in the State Water Project	Gonzalo Castillo (FWS)
11:20-11:40	Can Delta Smelt Survive the CHTR Phase of the Fish Salvage Facilities?	Jerry Morinaka (DFG)
11:40-12:00	Long Term and Recent Trends of Fishes and Invertebrates in Suisun Marsh	Teejay O'Rear (UCD)

Lunch 12:00 – 1:00 Served in the Redwood Room

SESSION VII –THE SECRET LIFE OF BASS

Moderator: Marty Gingras (DFG)
Location: Hinde Auditorium

1:00–1:20	Striped Bass Harvest and Survival Rate Estimates: A Forty-Year Summary and Methodology Review	Jason DuBois (DFG)
1:20-1:40	Bioenergetic Modeling of Striped Bass in the San Francisco Estuary	Erik Loboschefsky (UCD)
1:40-2:00	Rising Abundance of Largemouth Bass in the Littoral Zone of the Sacramento-San Joaquin Delta: The Role of *Egeria densa*	Louise Conrad (UCD)
2:00-2:20	Fine-Scale Movement of Largemouth Bass and Potential for Open-Water Predation	Anna Stephenson (UCD)

Break 2:20 – 2:40

SESSION VIII –NORTH DELTA: LIFE ON THE EDGE

Moderator: Ted Sommer (DWR)
Location: Hinde Auditorium

2:40–3:00	Historical Ecology of the Delta: Habitat Characteristics of a Fluvial-Tidal Landscape	Allison Whipple (SFEI)
3:00-3:20	Sedimentation Processes and Turbidities Favoring Endangered Fish in the Northern Sacramento-San Joaquin River Delta	Tara Morgan King (USGS)
3:20-3:40	Effects of a Restored Freshwater Tidal Wetland Complex on Pelagic Habitat for Imperiled Native Fish	Gina Benigno (DWR)
3:40-4:00	Presence and Relative Abundance of Delta Smelt in the Sacramento Deep Water Shipping Channel	Julio Adib-Samii (DFG)
4:00-4:20	Results from Mandated Fish Community and Dredge Entrainment Monitoring in the Sacramento Navigation Channel	Jordan Gold (Mari-Gold Environmental Consulting)

POSTER PRESENTATIONS

Description and Potential Benefits of the Delta Corridors Plan
Russ Brown (ICF International)

California Water Plan Update 2009 – Integrated Water Management
California Water Plan Update Project Team (Multi-agency Partnership)

Application of Novel Molecular Biomarkers to Determine Sublethal Contaminant Exposure and Effects in Delta Smelt
Richard Connon, Linda Deanovic and Inge Werner (UCD)

Does Ammonia Exceed Toxicity Thresholds in the Upper San Francisco Estuary?
A Comparison of Ambient Data and Toxicity Thresholds from 1974-2010
Diane Engle and Gorman Lau (Larry Walker Associates)

Genetic Structure of Delta Smelt in the San Francisco Estuary
Kathleen M. Fisch (UCD and UCSD), Ronald S. Burton (UCSD) and Bernie P. May (UCD)

Acute and Chronic Toxicity of Ammonia on *Pseudodiaptomus forbesi*
Ida Flores (UCD), Ching Teh (UCD), Michelle Kawaguchi (UCD), Sarah Lesmeister (UCD), Chris Foe (CRWQCB), and Swee Teh (UCD)

A House Built on Rock: The Advanced Bathymetric Data Revolution
Scott Flory, Brody Sunderland, Amy Cohen and Shawn Mayr (DWR)

California Department of Fish and Game's Invasive Species Program
Holly Gellerman and Susan Ellis (DFG)

The Bay-Delta Fish & Wildlife Office: Envisioning a Healthy and Sustainable Bay-Delta Ecosystem
Erin Gleason and Steve Martarano (USFWS)

Testing the Efficacy of Trans-Generational Marking of an Endangered Fish with Strontium Chloride Hexahydrate & Near-Real Time Monitoring of SWP Delta Smelt Salvage for Hatchery Origin and Cohort Structure.
James A. Hobbs (UCD), Gonzalo Castillo (FWS), Joan Lindberg (UCD) and Galen Tigan (UCD)

Impact of Waste Water Effluent on the Temporal and Spatial Distributions of Nutrients and Organic Matter in the San Francisco Estuary
Carol Kendall, Megan Young, Steve Silva, Tamara Kraus (USGS), Alex Parker (SFSU) and Marianne Guerin (RMA)

Suture Assessment and Recovery of Captive Sub-adult Striped Bass Surgically Implanted with Acoustic Transmitters
Cynthia LeDoux-Bloom and Ted Sommer (DWR), Michael Johnson (UCD)

POSTER PRESENTATIONS, CONTINUED

Using flowCAM Technology to Characterize Delta Plankton
Peggy Lehman, L. Young and K. Marr (DWR)

Integrated Water Operations and Ecosystem Decision Support Modeling: The Sacramento River-Delta Ecological Flows Tool
Ryan Luster and Leo Winternitz (The Nature Conservancy)

Sensitivity Comparison of Indigenous Species to Standard Model Species of Fish and Invertebrates
Daniel Markiewicz, Linda Deanovic, Joy Khamphanh and Inge Werner (UCD)

The California Water Quality Monitoring Council
Jon Marshack, Karen Larsen, Valerie Connor (SWRCB)

Using Web Portals to Present Meaningful Information
Jon Marshack, Karen Larsen, Valerie Connor and Jeff Kapellas (SWRCB)

Population Assessment of Green Sturgeon in the Sacramento River Bank Protection Project
Brian Mulvey, Jan Hoover, Jack Kilgore and Krista Boysen (USACE)

Automatically Retrieve and Analyze CDEC's Hydrologic Data Collection Using Web-Based Get Data and GR Tools Graphing Application. Use a Map-Based Interface to Calculate Tidal Averages and More
David Osti (34 North) and John Donovan (USGS)

Fish Presence in California's Yolo Bypass Floodplain
Kevin Reece, William Harrell, Ted Sommer (DWR)

Detecting Predation of Larval Delta Smelt (*Hypomesus transpacificus*) by Mississippi Silversides (*Menidia audens*) and Other Predators Using Genetic Analysis of Gut Contents
Brian Schreier (DWR), Melinda Baerwald (UCD), Bernie May (UCD) and Gregg Schumer (Cramer Fish Sciences)

Effects of Formalin Preservation and Delayed Measurements on Length, Weight, and Condition Estimates of Longfin Smelt, Striped Bass, and Threadfin Shad
Steven Slater (DFG)

Delta RMP: Developing the Delta Regional Monitoring Program for Contaminants
Meghan Sullivan (CVRWQCB) and Thomas Jabusch (SFEI)

The Yolo Bypass Floodplain: A Decade of Discovery
Nick van Ark, Joshua Martinez, Ted Sommer and Kevin Reece (DWR)

Diel Changes in Water Chemistry and Isotopes in the San Joaquin River and Delta: Implications for Large-Scale Monitoring Studies
Megan Young, Carol Kendall, Steve Silva (USGS); Randy Dahlgren (UCD), Peggy Lehman (DWR) and Will Stringfellow (UOP)