

October 21-22, 2019
Scottish Rite Center, 1547 Lakeside Drive, Oakland, CA

14th Biennial *State of the San Francisco Estuary Conference*

Plenary Program MONDAY, OCTOBER 21, 2019 – Grand Auditorium (4th Floor)

- 9:00 AM **Ohlone Welcome and Land Acknowledgement**
Kanyon Sayers-Roods (Hahashkani), Costanoan Ohlone and Chumash
- 9:05 AM **Welcome**
Libby Schaaf, Mayor of Oakland
- 9:10 AM **Opening Remarks**
Mark Gold, Deputy Secretary for Ocean and Coastal Policy and Director of the Ocean Protection Council, California Natural Resources Agency
- 9:25 AM **Climate Change and the Future of California's Water**
Geeta Persad, Senior Climate Scientist, Western States Office, Union of Concerned Scientists
- 9:45 AM **Toward Social-Ecological Resilience: The State of the Estuary Report 2019**
Letitia Grenier, Resilient Landscapes Program Director, San Francisco Estuary Institute
Gabby Trejo, Executive Director, Sacramento Area Congregations Together
Jacqueline Zipkin, General Manager, East Bay Dischargers Authority
Will Dominie, Policy Manager of Housing and Equitable Development, Bay Area Regional Health Inequities Initiative
- 10:20 AM *Jean Auer Award*
- 10:40 AM *Break* – Blue Room (3rd Floor)

11:00 AM **Building Trust: Striving Toward Equitable and Inclusive Outcomes**

Moderator: *Nahal Ghoghaie Ipakchi, Director, EcoEquity*

Panelists:

LaDonna Williams, Programs Director, All Positives Possible

Violet Saena, Resilient Communities Program Manager, Acterra

Beth Rose Middleton, Associate Professor, UC Davis

Yana Garcia, Assistant Secretary for Environmental Justice and Tribal Affairs, CalEPA

Josue Medellin-Azuara, Associate Professor, UC Merced

12:15 PM *Lunch* – Grand Ballroom (1st Floor)

Drone Demonstration

Pete Kauhanen, SFEI

Participants can pick up their lunch and cross the street to participate in a 20-minute lunchtime demonstration of an unoccupied aerial vehicle (UAV) flight on the shoreline of Lake Merritt (approximate start time is 12:35 PM).

**Equity and the State of the Estuary
Conference: A Roundtable Discussion
– Gold Room (4th Floor)**

An open conversation about integrating social equity into the planning of this conference—please grab your lunch and join the chat (approximate start time is 12:35 PM).

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Grand Auditorium—4TH Floor *Habitats & Living Resources*

From Regional to Local: Integrated Monitoring for Healthy Wetlands

- 1:35 PM** Introduction
Heidi Nutters, SFEP
- 1:40 PM** A Regional Vision for Coordinated Monitoring: The Wetland Regional Monitoring Program
Luisa Valiela, U.S. EPA and Xavier Fernandez, SF Bay Water Board
- 2:00 PM** Connecting the Dots on Regional Sediment Management: Coordinating Sediment Monitoring in the Watersheds, the Bay, and the Wetlands
Jeremy Lowe, SFEI and Brenda Goeden, BCDC
- 2:20 PM** South Bay Salt Pond Restoration Project: Science and Adaptive Management in Action
Rachel Tertes, USFWS
- 2:40 PM** Integrating our Past and Future Monitoring in the South Bay Salt Pond Restoration Project
Dave Helsing, SBSP Restoration Project
- 3:00 PM** Panel Discussion

3:20 PM *Break-Blue Room (3RD Floor)*

Monitoring with New or Emerging Technologies

- 3:40 PM** Introduction
Tony Hale, SFEI
- 3:45 PM** Using Satellite Imagery to Detect Turbidity Levels in Relation to Freshwater Flows
Christine Lee, NASA
- 4:05 PM** New Applications of Remote Sensing for Mapping Vegetation
Iryna Dronova, UC Berkeley
- 4:25 PM** Use of High-Resolution In-Situ and Remote Sensing for Water Quality and Mercury Monitoring
Mark Marvin-DiPasquale, USGS
- 4:45 PM** Panel Discussion

Banquet Room—3RD Floor *Climate Resilience*

Forward-Looking Science in the San Francisco Estuary

- 1:35 PM** This panel will discuss how the science enterprise across the estuary can best support strategic and forward-looking management and stakeholder needs in the face of a rapidly changing environment.
- Moderator:** *Yumiko Henneberry, Delta Science Program-Delta Stewardship Council*
- Panelists:**
Steve Brandt, Delta Independent Science Board
Liz Whiteman, Ocean Science Trust
Jessie Lacy, USGS
Mike Choikowski, Pacific Region, USGS
Steve Goldbeck, BCDC

3:20 PM *Break-Blue Room (3RD Floor)*

Policy Updates to Support a Healthy, Resilient Estuary

- Moderator:** *John Callaway, Delta Science Program-Delta Stewardship Council/USF*
- 3:40 PM** Advancing Policies for a Rising Bay: BCDC's Long-Range Planning Efforts
Shannon Fiala, BCDC
- 3:50 PM** Water Board Policy Update on Wetlands and Climate Change
Christina Toms, SF Bay Water Board
- 4:00 PM** The BRRIT: Coordinated Permitting for San Francisco Bay Restoration Projects
Amy Hutzel, State Coastal Conservancy
- 4:10 PM** Using Best Available Science to Update the Ecosystem Chapter of the Delta Plan
Ron Melcer, Delta Stewardship Council
- 4:20 PM** Panel Discussion

Red Room—4TH Floor *Water Quality*

Contaminants of Emerging Concern in the Estuary

- 1:35 PM** Introduction
Kelly Moran, TDC Environmental
- 1:40 PM** Elevating the Status of Emerging Contaminants in San Francisco Bay
Melissa Foley, SFEI
- 2:05 PM** California's Safer Consumer Products Program Overview and Efforts to Protect Aquatic Health
Anne-Cooper Doherty, DTSC
- 2:30 PM** Pesticides in Surface Water: Sources, Pathways, and Fate
Jennifer Teerlink, DPR
- 2:55 PM** Microplastics Everywhere: Understanding Microplastics in the Bay and Recommended Actions
Diana Lin, SFEI
- 3:20 PM** *Break-Blue Room (3RD Floor)*

Nutrients in the Estuary

- 3:40 PM** Introduction
Eric Dunlavey, City of San Jose
- 3:45 PM** Bay-Delta Nutrient Science Update
Dave Senn, SFEI
- 4:10 PM** Wastewater Treatment Plant Upgrades and Nature-Based Solutions for Reducing Nutrient Loads from Wastewater
Holly Kennedy, HDR and Ian Wren, SF Baykeeper
- 4:35 PM** Potential Effects of the Sacramento Regional Wastewater Treatment Plant Upgrade
Tamara Kraus, USGS

Gold Room—4TH Floor *Human Dimensions*

The Next Wave in Conservation: Community-Based and Design Approaches

- 1:35 PM** Introduction
Allison Brooks, Bay Area Regional Collaborative
- 1:40 PM** Designing the Colma Creek Project
Richard Mullane, Hassel Studio
- 2:00 PM** Parks as Resilient Infrastructure in the Wild West: A Houston Example
Amy Morris, Land and Water Connections Consulting
- 2:20 PM** Nature as Infrastructure in the SF Bay Area: A Brief History of the Long Path to Conservation for Coyote Valley
Amanda Brown-Stevens, Greenbelt Alliance
- 2:40 PM** An Ecological Framework for Urban Infrastructure Planning to Improve Human Health
Brent Bucknum, Hyphae Design Lab
- 3:00 PM** Panel Discussion

3:20 PM *Break-Blue Room (3RD Floor)*

Humanizing Homelessness for Healthier Creeks and Communities

- 3:40 PM** Throughout the estuary, practitioners are working across traditional divides to take a human-centered approach to the challenges created by unsheltered and vulnerable communities along creeks, resulting in benefits to people, water quality, and habitat. Panelists will discuss successes, challenges, and ways they have formed innovative partnerships to foster collaborative solutions to the regional crisis of homelessness.
- Moderator:** *Mike Antos, Stantec*
- Panelists:**
Chris Brokate, Clean River Alliance
Julia Lang, Downtown Streets Team
Cori Ring-Martinez, Environmental Justice Coalition for Water
Talia Rubin, City of Oakland

Green is the New Gray: Nature-Based Infrastructure

9:00 AM **Introduction**

Thomas Mumley, Assistant Executive Officer, San Francisco Bay Regional Water Quality Control Board

9:05 AM **To Resiliency and Beyond: Multi-Benefit Highway 37**

Ashley Nguyen, Director of Design and Project Delivery, Metropolitan Transportation Commission

9:25 AM **Green Infrastructure Implementation Challenges and Opportunities: Navigating Constraints and Issues of Scale**

Keith Lichten, Division Chief, San Francisco Bay Regional Water Quality Control Board

9:45 AM **Living Shorelines: Linking Estuary Habitats and Building Capacity to Adapt to Rising Seas**

Katharyn Boyer, Professor of Biology, Estuary & Ocean Science Center—San Francisco State University, and Marilyn Latta, Project Manager, State Coastal Conservancy

10:05 AM *Outstanding Environmental Awards and Creative Environmental Award*

10:25 AM *Break*—Blue Room (3RD Floor)

Zooming Out to the Full System

10:45 AM **Welcome**

John Callaway, Lead Scientist, Delta Science Program-Delta Stewardship Council and University of San Francisco

10:50 AM **One Delta, One Estuary: Connecting California through Water**

Felicia Marcus, Former Chair, State Water Resources Control Board

11:10 AM **Viewing Estuaries from a Macroscope**

Jim Cloern, Senior Scientist Emeritus, U.S. Geological Survey

11:30 AM **Standing Too Close to the Elephant: Addressing Scales in Restoration and Fisheries Conservation**

Rachel Johnson, Research Fisheries Biologist, National Marine Fisheries Service and UC Davis

11:50 AM **The Sacramento-San Joaquin Delta National Heritage Area: California's First Heritage Area**

Erik Vink, Executive Director, Delta Protection Commission

11:55 AM **San Francisco Bay is a Hope Spot for People and Ocean Wildlife**

Karina Nielsen, Executive Director and Professor of Biology, Estuary & Ocean Science Center—San Francisco State University

12:00 PM *Lunch*—Grand Ballroom (1ST Floor)

Oakland Green Infrastructure Walking Tour

Participants can pick up their lunch and cross the street to participate in a 30-minute lunchtime walking tour (approximate start time is 12:35 PM).

Premier Sponsor:

Delta Stewardship Council

Major Co-Sponsors:

Bay Area Clean Water Agencies
State Coastal Conservancy

Anchor Co-Sponsors:

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Contra Costa County Flood Control & Water Conservation District
Delta Protection Commission
East Bay Municipal Utility District
East Bay Regional Park District
Environmental Science Associates
Estuary & Ocean Science Center
Friends of the San Francisco Estuary
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U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
Valley Water
Wildlife Conservation Board
WRA, Inc.
Zone 7 Water Agency

Grand Auditorium—4TH Floor *Habitats & Living Resources*

The Sierra Nevada to the Farallones: How Birds, Fish, and Mammals Connect the Estuary and Ocean

- 1:20 PM** Introduction
Kathy Hieb, CDFW
- 1:25 PM** From the Bay to the Gulf and Beyond: What 20 Years of Seabird Monitoring Tells Us About Food Webs
Dan Robinette, Point Blue Conservation Science
- 1:50 PM** Whales, Dolphins, and Porpoises: Harbingers of Recovery and Changing Seas
Tim M. Markowitz, UC Berkeley/TMMC/SFSU
- 2:15 PM** Vital Signs of the San Francisco Estuary Fish Community
Christina Swanson, NRDC and Jon Rosenfield, SF Baykeeper/The Bay Institute
- 2:40 PM** Identifying Habitat Needs and Management Goals for Waterfowl Wintering Across the Delta-Bay-Ocean Continuum
Susan De La Cruz, USGS
- 3:05 PM** *Break-Blue Room (3RD Floor)*

From Tidal Wetlands to the Uplands: Fish and Wildlife as Indicators

- 3:25 PM** Introduction
Steve Culberson, IEP
- 3:30 PM** A Fish-Eye View of Habitat Quality in San Francisco's Brockish Tidal Wetlands
Levi Lewis, UC Davis
- 3:55 PM** Mice in the Middle: The Special Case of Terrestrial Wildlife in the Marshes of the San Francisco Estuary
Katie Smith, UC Davis/WRA, Inc.
- 4:20 PM** Tidal Marsh Birds: Indicators of Habitat Quality of the Wetland/Upland Transition Zone
Nadav Nur, Point Blue Conservation Science

Banquet Room—3RD Floor *Climate Resilience*

Regional Science for Decision-Making in Uncertain Times

- 1:20 PM** Introduction
Julie Beagle, SFEI
- 1:25 PM** A Risk Management Approach to Delta Water Supply Vulnerability
Andrew Schwarz, Delta Stewardship Council
- 1:50 PM** Underappreciated Effects of Sea-Level Rise on Groundwater
Phil Gregory, Cal Engineering & Geology, Inc.
- 2:15 PM** Sediment Dynamics and Wave Attenuation at the Marsh Edge
Jessie Lacy, USGS
- 2:40 PM** Informing Development and Evaluation of Nature-Based Shoreline Adaptation Strategies in a Changing Climate
Maya Hayden, Point Blue Conservation Science
- 3:05 PM** *Break-Blue Room (3RD Floor)*

Planners and Engineers and Regulators... Oh My! Roles in Regional Governance

3:25 PM Recent work by Dr. Mark Lubell, UC Davis, has identified governance as a critical impediment to successful regional implementation of sea level rise adaptation strategies. Numerous agencies and organizations in the Bay Area have been taking action to fill this gap and provide leadership in a variety of ways, resulting in a complex landscape. This panel will explore the roles and strategies of various organizations, and discuss how they can fit together to achieve a sound strategy for regional governance.

Moderator: John Bourgeois, ESA

Panelists:
Jessica Fain, BCDC/ART
Jessica Law, Delta Stewardship Council
Mark Lubell, UC Davis
Jim McGrath, SF Bay Water Board
Mike Mielke, Silicon Valley Leadership Group
Erika Powell, CHARG and San Mateo SLR Agency

Red Room—4TH Floor *Water Quality*

Integrating Green Stormwater Infrastructure into the Bay Area's Urban Landscape

- 1:20 PM** Introduction
Melody Tovar, City of Sunnyvale
- 1:25 PM** A 15-year Retrospective: Large-scale Green Infrastructure Changes via Private Redevelopment in the South Bay
Chris Sommers, EOA/SCVURPPP
- 1:50 PM** Getting It Done: Public Right-of-Way Green Stormwater Infrastructure
Terri Fashing, City of Oakland and Amanda Booth, City of San Pablo
- 2:15 PM** Modeling and Planning for Long-Term Green Infrastructure Implementation in San Mateo County
Matt Fabry, City/County Association of Governments of San Mateo County
- 2:40 PM** What's So Hard About Digging a 40" Hole? Perspectives on Green Infrastructure
Municipal Staff and Water Quality Regulators
- 3:05 PM** *Break-Blue Room (3RD Floor)*

Accelerating Improvement of Water Quality and Habitat on Working Lands

- 3:25 PM** Moderator
Frances Knapczyk, Napa County RCD
- 3:30 PM** Improving Water Quality and Achieving TMDL Compliance in Suisun Marsh
Stuart Siegel, SFSU/SF Bay NERR
- 3:50 PM** LandSmart Program: Helping Vineyard Managers Meet Resource Conservation Goals in the North Bay
Lucas Patzek, Napa County RCD
- 4:00 PM** Managing Grazed Rangelands for Water Quality in Alameda County
Alyson Aquino, USDA-NRCS Alameda County
- 4:10 PM** Cows, Water, and Wildlife in the North Delta
Wendy Rash, USDA-NRCS Solano County
- 4:20 PM** Panel Discussion

Gold Room—4TH Floor *Human Dimensions*

Urban Biodiversity and Human Health

- 1:20 PM** Introduction
Micaela Bazo, SFEI
- 1:25 PM** Using Science to Guide Urban Design for Biodiversity and Human Health
Erica Spotswood, SFEI
- 1:50 PM** Flora, Fauna, and Folks: Reimagining the City as a Park
Chryl Corbin, UC Berkeley
- 2:15 PM** Design and the Interconnected Scales of Well-Being
Chris Garvin, Biome Impact LLC
- 2:40 PM** Biodiversity for All at the Presidio of San Francisco
Michael Bolland, Presidio Trust
- 3:05 PM** *Break-Blue Room (3RD Floor)*

Public Learning in an Era of Climate Crisis

Through presentation of recent projects both within the Exploratorium and out in communities, the panelists will discuss and evaluate approaches that integrate informal environmental education and the humanities (arts, social science, literature) and share lessons learned, with particular focus on fostering climate change resilience strategies.

- 3:25 PM** Moderator
Maira McEnespy, SCC
- 3:30 PM** Public Education at the Exploratorium—Science, Art, and Social Connection
Susan Schwartzberg and Shawn Lani, Exploratorium
- 3:50 PM** Paired Conversations with Curators, Artists, Social/Cognitive Scientists
 - Middle Ground: Social Perspectives on Collaborative Engagement
Shawn Lani and Heike Winterheld, Exploratorium
 - The Brain and Observation: Towards a Language of Resilience
Susan Schwartzberg, Exploratorium and Pireeni Sundaralingam, Poeti/Cognitive Scientist
- 4:20 PM** Panel Discussion