

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

9:00 AM Indigenous Land Acknowledgement

Kanyon Sayers-Roods, Costanoan Ohlone

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

Dawit Zeleke, Associate Director of Land Programs, The Nature Conservancy

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*

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*

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 unmanned aerial vehicle (UAV) flight on the shoreline of Lake Merritt (approximate start time is 12:35 PM).



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
- 2:05 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
- 2:30 PM** South Bay Salt Pond Restoration Project: Science and Adaptive Management in Action
Rachel Tertes, USFWS
- 2:55 PM** Integrating our Past and Future Monitoring in the South Bay Salt Pond Restoration Project
Dave Halsing, SBSP Restoration Project
- 3:20 PM** *Break*

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
- 4:10 PM** New Applications of Remote Sensing for Mapping Vegetation
Iryna Dronova, UC Berkeley
- 4:35 PM** Use of High-Resolution In-Situ and Remote Sensing for Water Quality and Mercury Monitoring
Mark Marvin-DiPasquale, USGS

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*

Policy Updates to Support a Healthy, Resilient Estuary

- Moderator:** *John Callaway, Delta Science Program-Delta Stewardship Council/USF*
- 3:40 PM** BCDC Bay Plan Amendments and Special Plans
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 Hutzal, 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

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*

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

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
- 2:05 PM** Parks as Resilient Infrastructure in the Wild West: A Houston Example
Amy Morris, Land and Water Connections Consulting
- 2:30 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
- 2:55 PM** An Ecological Framework for Urban Infrastructure Planning to Improve Human Health
Brent Bucknum, Hyphae Design Lab

3:20 PM *Break*

Humanizing Homelessness: A Path Toward Cleaner Creeks

- 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
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

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 Sacramento-San Joaquin Delta Named a National Heritage Area

Oscar Villegas, Chair, Delta Protection Commission and Supervisor, Yolo County

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

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:

Cargill
Port of San Francisco
San Francisco Public Utilities Commission

Co-Sponsors:

California Department of Fish and Wildlife
California Department of Water Resources
Central Contra Costa Sanitary District
Citizens Committee to Complete the Refuge

Contra Costa County Flood Control & Water Conservation District
East Bay Municipal Utility District
East Bay Regional Park District
Friends of the San Francisco Estuary
H.T. Harvey & Associates
Oakland City Attorney Barbara J. Parker
Sacramento Regional County Sanitation District
San Francisco Bay Conservation and Development Commission
San Francisco Estuary Institute
San Francisco Bay NERR
Sonoma County Water Agency
Sonoma Land Trust
Stantec
U.S. Environmental Protection Agency
Valley Water
Wildlife Conservation Board
WRA, Inc.
Zone 7 Water Agency

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** Seabirds from the Bay to the Gulf: 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*
- From Tidal Wetlands to the Uplands: Fish and Wildlife as Indicators
- 3:25 PM** Introduction
Steve Culbertson, IEP
- 3:30 PM** A Fish-Eye View of Habitat Quality in San Francisco's Brackish 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

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
Reid Fisher, Cal Engineering
- 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*

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
Yana Garcia, CalEPA
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

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*

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

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 Spheres of Well-Being
Chris Garvin, Biome Impact LLC
- 2:40 PM** Promoting Equitable Access to the Largest Urban National Park
Michael Bolland, Presidio Trust
- 3:05 PM** *Break*

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
Moira 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, Poet/Cognitive Scientist
- 4:20 PM** Panel Discussion