

Building an Effective Delta Science Enterprise: Long-Term Science Needs Assessment Workshop



DELTA STEWARDSHIP COUNCIL

STRATEGIC SCIENCE NEEDS ASSESSMENT ORIGINS

- Delta ISB letter to DPIIC suggests Strategic Science Needs Assessment, Feb. 2019
 - DPIIC include SNA as priority action in Delta Science Funding and Governance Initiative white paper
- Discussion paper and scientific panels to explore pre-emptive science needs in the context of rapid Environmental Changes (Memo to DPIIC April 2020)

PLANNING TEAM

Amanda Bohl, Delta Stewardship Council

Stephen Brandt, Delta ISB

John Callaway, Delta Lead Scientist

Michael Chotkowski, U.S. Geological Survey

Henry DeBey, Delta Science Program

Larry Goldzband, San Francisco Bay

Conservation and Development Commission

Tracy Grimes, Delta Science Program

Josh Israel, U.S. Bureau of Reclamation

Rachael Klopfenstein, Delta Science Program

Mark Lubell, U.C. Davis

Jay Lund, Delta ISB

Dick Norgaard, Delta ISB

Cheryl Patel, Delta Science Program

Lynda Smith, Metropolitan Water District

Brittany Young, Delta Stewardship Council

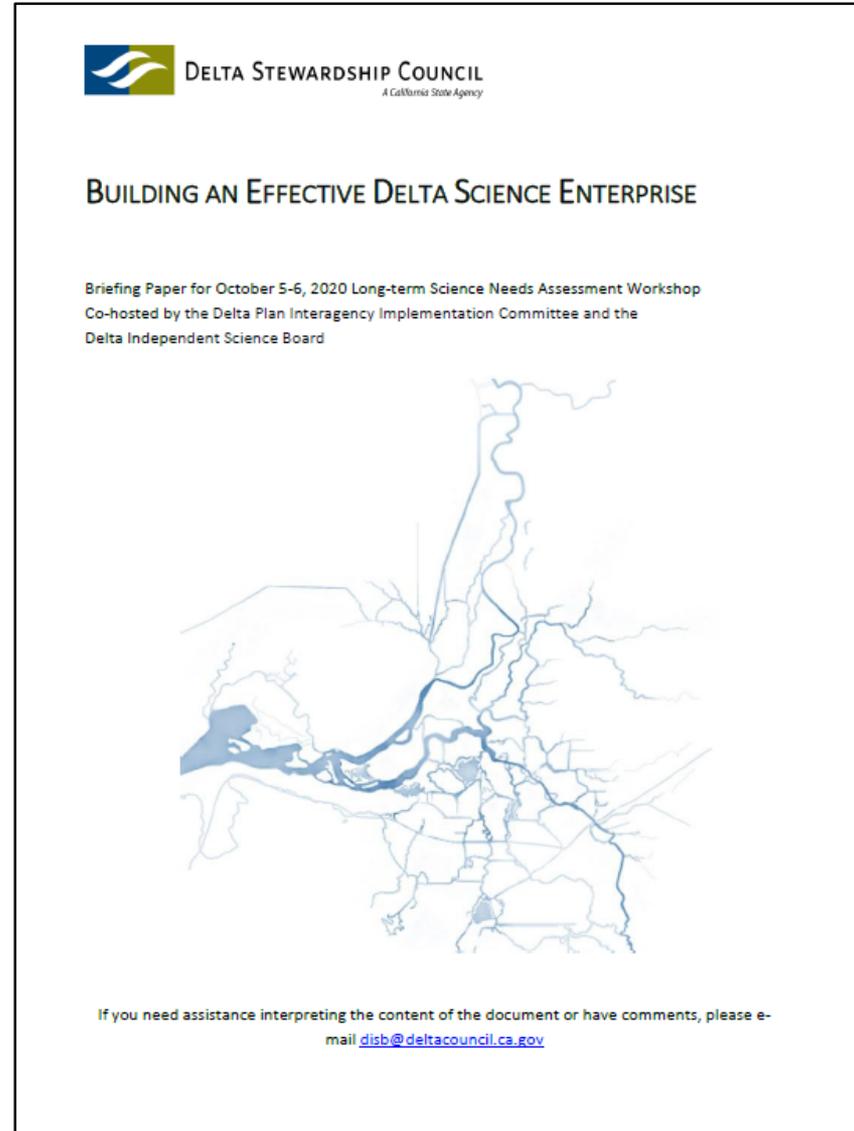
Edmund Yu, Delta Science Program

SCIENCE NEEDS ASSESSMENT WORKSHOP

- Co-hosted by the Delta Plan Interagency Implementation Committee and the Delta Independent Science Board
- Advance Briefing Paper completed
- Originally scheduled for April 27-28
- Rescheduled for October 5 -6
- Now holding 4 pre-workshop discussions to begin to address the 4 main questions posed for the workshop.

WORKSHOP GOALS

- 1) Identify key science efforts that will provide answers and insights for likely management questions in the long-term
- 2) Discuss how to organize the science enterprise to address these complex and changing problems



 DELTA STEWARDSHIP COUNCIL
A California State Agency

BUILDING AN EFFECTIVE DELTA SCIENCE ENTERPRISE

Briefing Paper for October 5-6, 2020 Long-term Science Needs Assessment Workshop
Co-hosted by the Delta Plan Interagency Implementation Committee and the
Delta Independent Science Board



If you need assistance interpreting the content of the document or have comments, please e-mail disb@deltacouncil.ca.gov

DISCUSSION SERIES TOPICS

- What do we know about projected climate change impacts for the Delta? **April 28**
- What questions will that raise for Management Decisions? What do managers need to know? **June 3**
- What science needs to be done to give management answers? **July 28**
- What changes are needed for Science governance, funding and integration to do the needed science? **September 9**

APRIL 28TH DISCUSSION SEMINAR

- Key mechanisms for Delta climate change impacts
 - Increased air and water temperature
 - Precipitation and runoff changes
 - Sea-level rise
- We have a time frame issue – uncertainty increases over time
- Other factors (land use, invasive species, contaminants, etc.) are important to consider
 - Human and social responses
- Forecasted impacts we know: Water quality, habitat and species, and human impacts

Participant Input

- **Resource Management**
 - External water demand
 - Storm inputs to water management systems
 - Effects on agricultural and subsequent effects on water demand
 - Changes to hydrodynamic / flow net technologies
 - Relative importance of extreme events vs. other changes
- **Biological**
 - Onset and duration of seasonal warming
 - Effects on listed species and how to manage given their inability to tolerate high temperatures
 - Tipping points associated with extreme long-term drought
 - Invasive species
- **Human Response**
 - Ecosystem based management (as opposed to single species)
 - Modeling of events and trends
 - Population and Land use change
 - Preparing impact evaluations of new chemicals (i.e., new pesticides)

JUNE 3RD DISCUSSION SEMINAR

- Panelist responses:
 - We need community buy-in and support
 - Strong science to guide prioritization of funds
 - Collaboratively develop overarching set of management questions to guide Delta science
 - Address uncertainties to unlock necessary research questions
 - Focus more research and resources on flow to create scientifically rigorous strategy for Delta conservation



Jennifer Pierre



Paul Souza



Campbell Ingram

Participant Input

- **Synthesis**
 - Synthesis of existing information from decades of monitoring; this could then be coordinated with modeling
 - Effects of implementation projects: did they achieve the goals and objectives?
- **Forecasting**
 - Iterative short-term forecasting
 - Quantitative forecasting and prediction tools
 - Synergistic effects of changes
- **Prioritization**
 - Better understanding of the trade-offs and risks of different decisions, both for the supply and the ecosystem
 - How do we effectively prioritize and invest in Delta ecosystem function?
- **Other**
 - Integration of the social science perspective
 - Experiments derived from management questions with monitoring designed to answer those questions

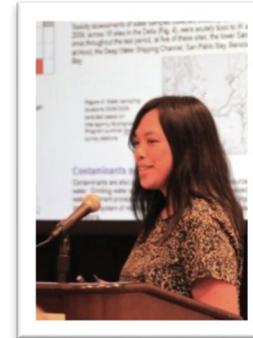
JULY 28TH DISCUSSION SEMINAR

Panelists (Delta scientists)



Louise Conrad

Delta Science
Program



Stephanie Fong

Interagency
Ecological Program



Mike Chotkowski

US Geological
Survey

1. What science is needed to support future decisions?
2. How is your science program preparing for future changes? What would you do differently?
3. Do you have strategic research goals or products that you're working on to meet managers' strategic needs?

UPCOMING ACTIVITY

- Discussion Seminars
 - July 28
 - September 9
- Science Needs Assessment Workshop
 - October
 - Virtual
 - Breakout sessions integrate and expand on discussions
- Stakeholder Engagement
- Feed recommendations to Science Action Agenda
- Final Report - January 2021

October 2020						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31