

NOV 2024

# Delta Independent Science Board Update

Dr. Inge Werner, Chair

Dr. Bob Naiman, Member



**Delta  
Independent  
Science Board**

DELTA STEWARDSHIP COUNCIL



# Who We Are?



Dr. Inge Werner  
Ecotoxicology



Dr. Lisa Wainger  
Economics



Dr. Diane McKnight  
Biogeochemistry



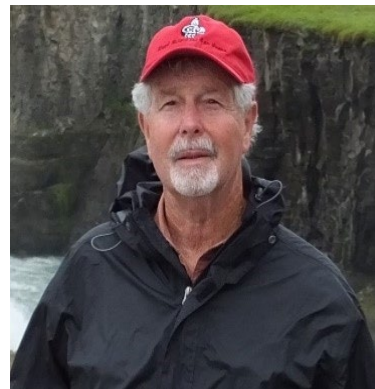
Dr. Virginia Dale  
Landscape Ecology



Dr. Tom Holzer  
Geology



Dr. Tanya Heikkila  
Governance



Dr. Bob Naiman  
River Ecology



Dr. Jayantha Obeysekera  
Engineering



Dr. Anna Michalak  
Engineering



Dr. Kenny Rose  
Fisheries





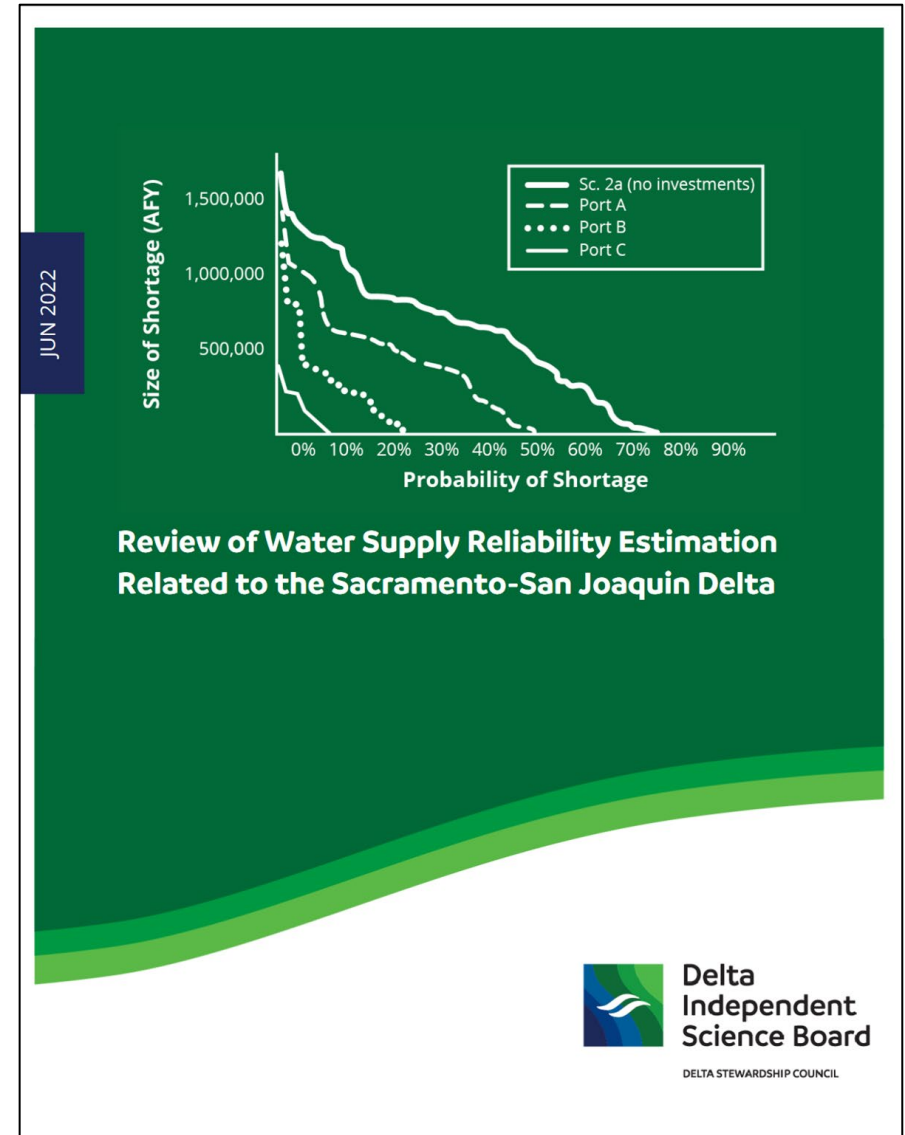
## What We Do?

### The Delta Reform Act (2009):

- ❑ Provide oversight of the scientific research, monitoring & assessment programs that support adaptive management in the Delta
- ❑ Provide independent advice on the Delta Plan

# Current Process

- ❑ Review Delta science by themes. Thematic reviews presented to the Council:
  - ❑ Food-webs Review (2024)
  - ❑ Water Supply Reliability Estimation (2022)
  - ❑ Monitoring Enterprise (2022)
  - ❑ Non-native Species (2021)
  - ❑ Interagency Ecological Program (2019)
  - ❑ Water Quality (2018)
  - ❑ Delta as an Evolving Place (2017)
  - ❑ Levees (2016)
  - ❑ Adaptive Management (2016)
  - ❑ Fish & Flows (2015)
  - ❑ Restoration (2013)
  
- ❑ Review agency documents





# Recent Delta ISB Products



715 P Street, 15-300  
Sacramento, CA 95814  
916.445.5511  
DELTA.COUNCIL.CA.GOV

#### CHAIR

Inge Werner, Ph.D.

#### CHAIR-ELECT

Diane McKnight, Ph.D.

#### PAST CHAIR

Lisa Wainger, Ph.D.

#### MEMBERS

Virginia Dale, Ph.D.  
Thomas Holtzer, Ph.D.  
Tanya Heikila, Ph.D.  
Anna Michalak, Ph.D.  
Robert Naiman, Ph.D.  
Jayantha Obeyesekere, Ph.D.  
Kenneth Rose, Ph.D.

## MEMORANDUM

**Date:** September 20, 2024

**To:** California Department of Water Resources  
Sent via email: [deltaconveyance@water.ca.gov](mailto:deltaconveyance@water.ca.gov)

**From:** Delta Independent Science Board

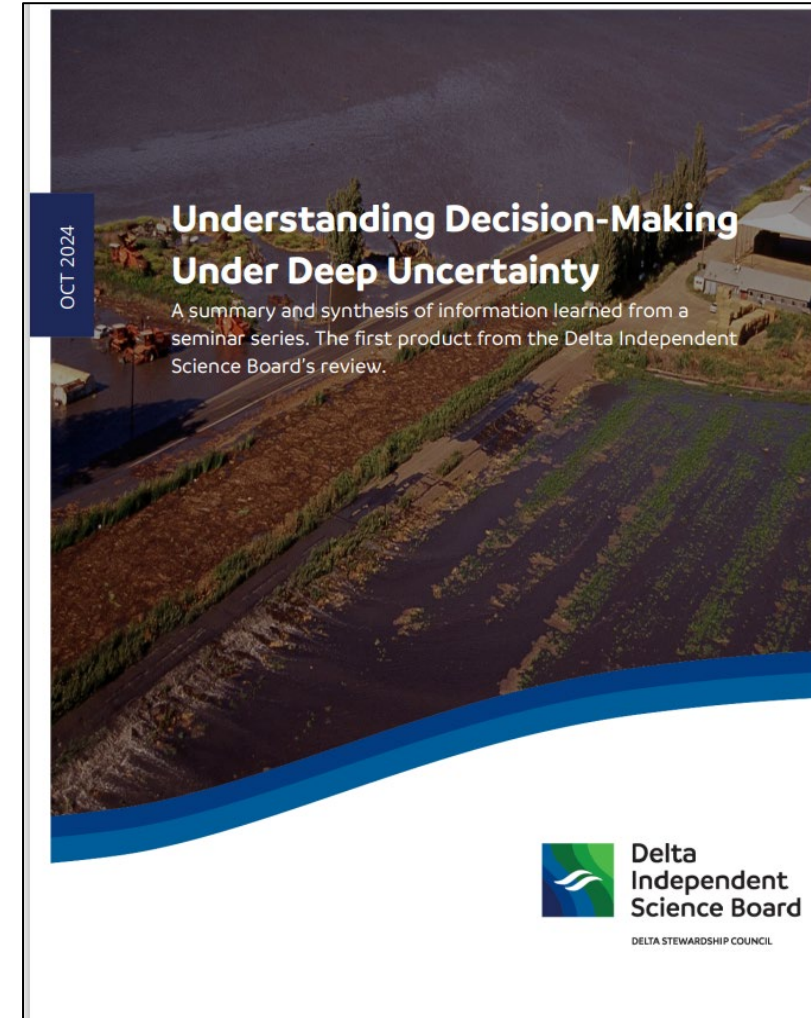
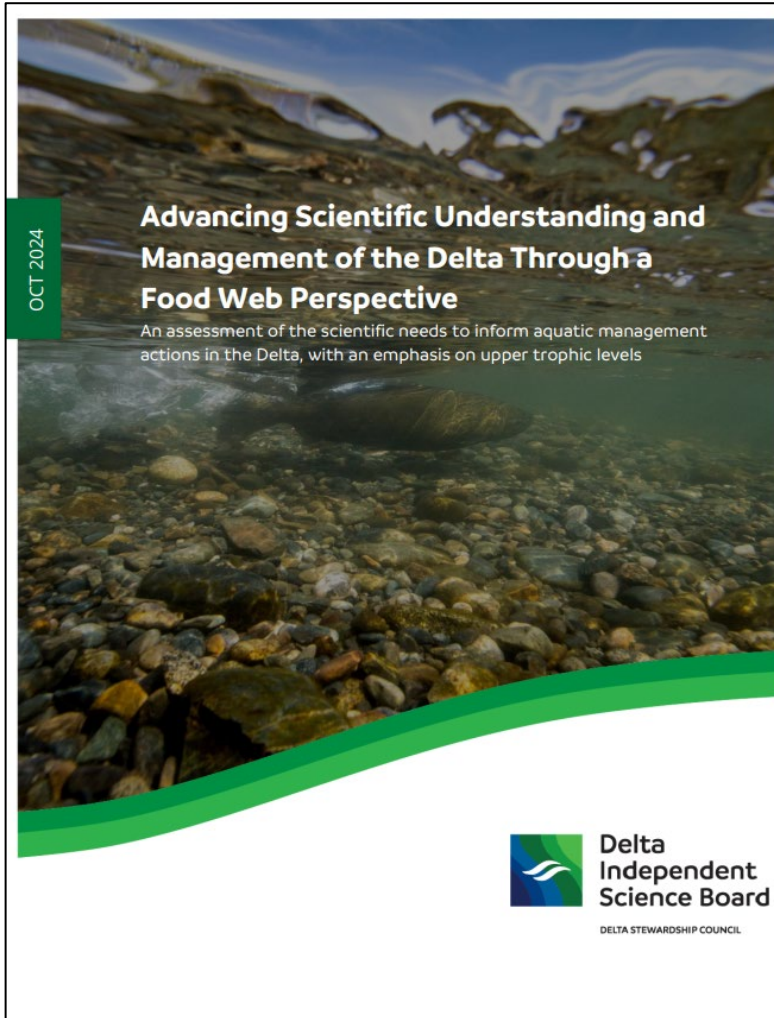
**Subject: Comments on the Final Environmental Impact Report for the Delta Conveyance Project**

As part of its legislative mandate to provide scientific oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta, the Delta Independent Science Board (Delta ISB) provided a review of the draft Environmental Impact Report (EIR) for the Delta Conveyance Project to the California Department of Water Resources (DWR) in December 2022. In December 2023, DWR released its final EIR and certified it. The Delta ISB reviewed the final EIR and would like to bring forward some concerns to help inform DWR on its analysis as the project goes through other regulatory processes.

### Priority concerns

Although some minor changes were made in response to our comments, the responses generally did not lead to meaningful changes to the EIR for the Delta Conveyance Project and the Delta ISB stands by many of its original concerns of the draft EIR. We detail some substantive concerns in the second section of this letter, "Major themes of Delta ISB concerns." In this section, we take issue with three recurring responses, as detailed below.

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Upcoming: Contaminant Monitoring Review & Emerging Climate Research Symposium

# Emerging Climate Science Symposium

- ❑ Symposium being planned in early 2025
- ❑ Draft prospectus went out for public comments
- ❑ Goals of the symposium:
  - Explore the he current climate projections for California’s Sacramento-San Joaquin Delta and related uncertainties;
  - Understand how organizations in the region are incorporating climate change into their decision making.

DRAFT (DO NOT CITE)

## Emerging Climate Research Symposium: Considerations for the Delta Region

Delta Independent Science Board

Draft Prospectus

October 22, 2024

[disb@deltacouncil.ca.gov](mailto:disb@deltacouncil.ca.gov)

### Motivation:

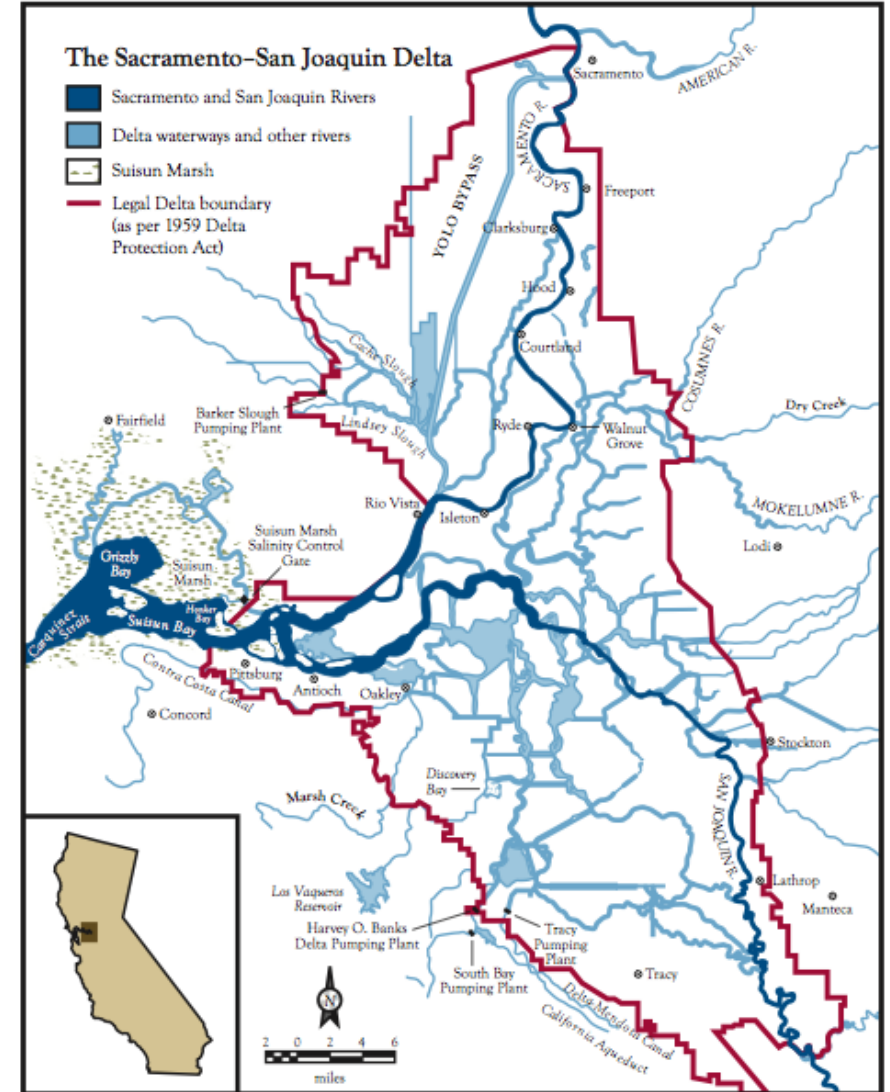
As global climate change intensifies, heavily altered and engineered landscapes around the world are beginning to face increasing stressors and shocks that threaten their stability and functionality. Coastal areas are predicted to be particularly affected by climate change impacts of sea level rise and storm surges, intense rainfall, flooding, and severe storms (EPA, 2024). California, a state that already experiences significant hydrometeorological variability, could be faced with increasing risks of mega-floods due to atmospheric rivers, decreased snow fraction, extreme droughts, and warmer ocean temperatures (Huang & Swain, 2022, Shi et al., 2021).

As part of its legislative mandate to provide scientific oversight of adaptive management, the Delta Independent Science Board (Delta ISB) seeks to stay informed on pressing and important topics affecting the Delta system. There is a timely need for Delta ISB members, the scientific community, and public at large to better understand the rapidly evolving science of ongoing and anticipated climate change impacts to the Sacramento-San Joaquin Delta region in order to consider the range of possible climate futures in decision making. To help achieve this, the Delta ISB will host a symposium exploring recent climate science research as it relates to the Delta region and its relevance to planning for the near and distant future. This symposium builds on the Delta ISB’s decision-making under deep uncertainty (DMDU) review, which explores the scientific tools and concepts that can increase the capacity to anticipate and adapt to growing uncertainty of future conditions in the Delta.

# Upcoming Review: Contaminant Monitoring and Ecological Risk Assessment in the Delta

Chemical contaminants enter Delta waters from diverse sources that include urban and agricultural runoff, treated industrial and municipal wastewater, atmospheric deposition, and chemicals applied directly to surface waters for invasive plant and pest control.

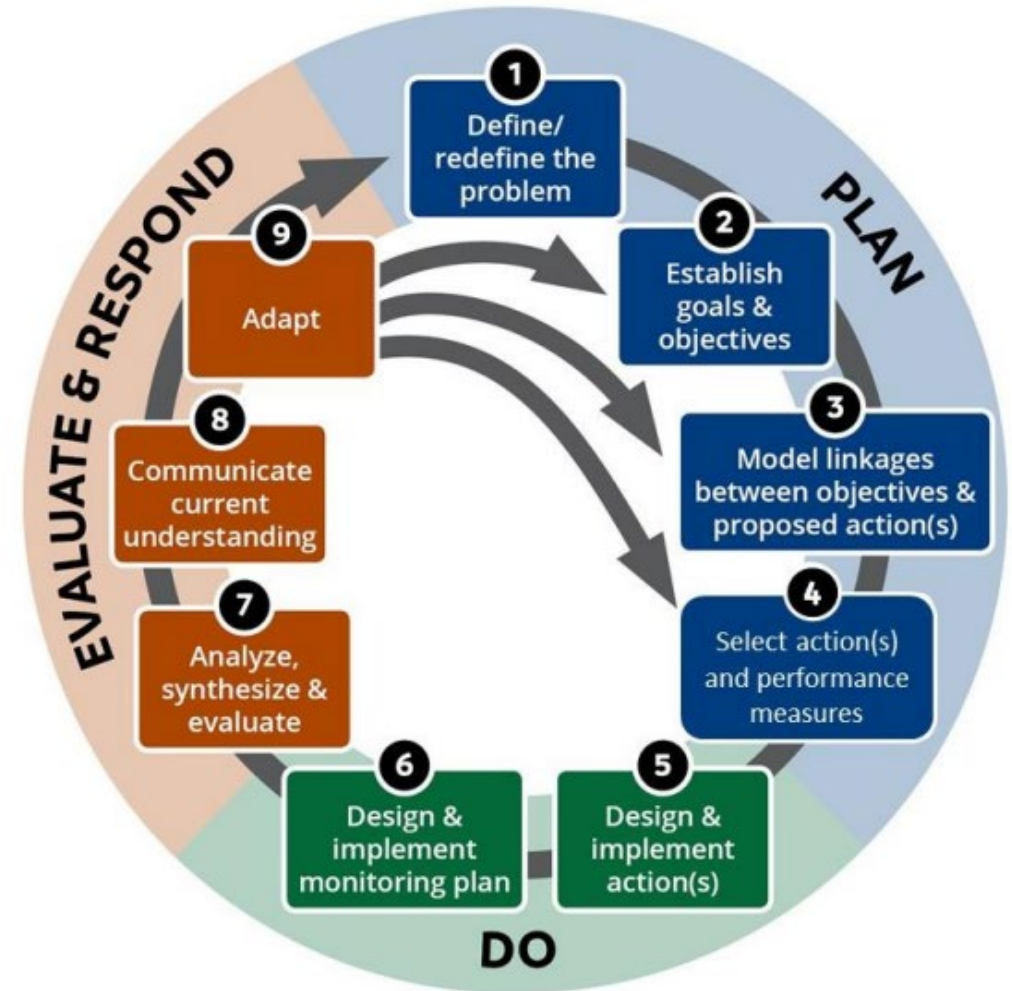
They include metals, pesticides, pharmaceuticals, industrial chemicals, tire particles, microplastic, flame retardants and others.





# Why we care?

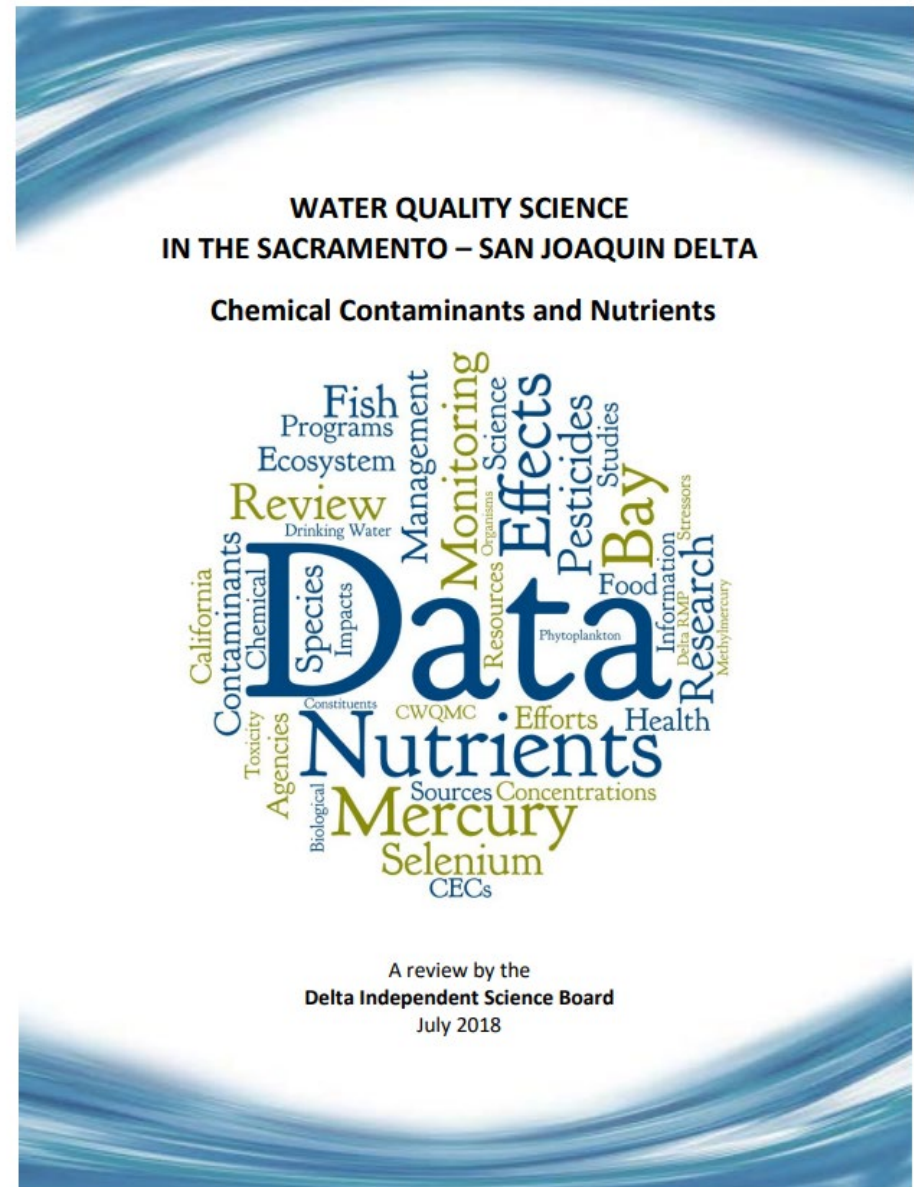
- Numerous contaminants have been shown to pose an ecological risk in aquatic environments, in particular some pharmaceuticals, metals and pesticides.
- However, the sheer number of chemicals and potentially affected species continue to present challenges for monitoring and risk assessment.
- It is therefore important to use the most innovative methods, and adaptively manage contaminant monitoring and risk assessment programs.





# Potential Goal

- ❑ To assess if current monitoring and assessment is capable of detecting threats of contaminants to the ecological health of the Delta
- ❑ The main focus of this review will be on surface waters and risk assessment for aquatic species
- ❑ Builds off the 2018 review



# Potential Approach

- ❑ Collect information on existing monitoring and assessment programs for contaminants and toxicity in the Delta
- ❑ Review target chemicals and methods used
- ❑ Identify potential gaps relevant for the Delta
- ❑ Provide recommendations

