



# Collaborative Science and Adaptive Management Program

Special Committee on Bay-Delta

Item 3a

April 23, 2019

# Origins of CSAMP

- Outgrowth of BiOp Litigation
- Initiated in April 2013
- In 2015, all parties agreed to continue the Program after final judgements were issued by the Ninth Circuit
- In 2018, CSAMP was expanded to include additional NGOs, upstream and in-Delta PWAs

Litigation



Collaboration



# CSAMP Purpose

*“Work with a sense of urgency to collaboratively evaluate current hypotheses and management actions associated with protection and restoration of species of concern, current and future federal and state regulatory authorizations for the SWP and CVP, and other local and state management actions, to improve performance from both biological and water supply perspectives.”*

- Provide forum for communicating among agencies, NGOs and public water agencies
- Act as catalyst to address contentious and urgent management relevant science issues
- Compile and disseminate information for decision makers

# CSAMP Participants

## Federal Agencies

- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- U.S. Bureau of Reclamation

## State Agencies

- CA Department of Water Resources
- CA Department of Fish and Wildlife
- State Water Resources Control Board

## NGOs

- The Bay Institute
- Pacific Coast Federation of Fishermen's Associations
- Golden Gate Salmon Assoc. and Water4Fish
- Natural Resources Defense Council
- The Nature Conservancy
- Defenders of Wildlife

## Public Water Agencies

- Glenn-Colusa Irrigation District
- San Luis Delta Mendota Water Authority
- Kern County Water Agency
- Metropolitan Water District
- Contra Costa Water District
- Coalition for a Sustainable Delta
- Friant Water Authority

# Organization

*Agency Directors, Regional Directors and General Managers*



*Senior Scientists & High-Level Managers*



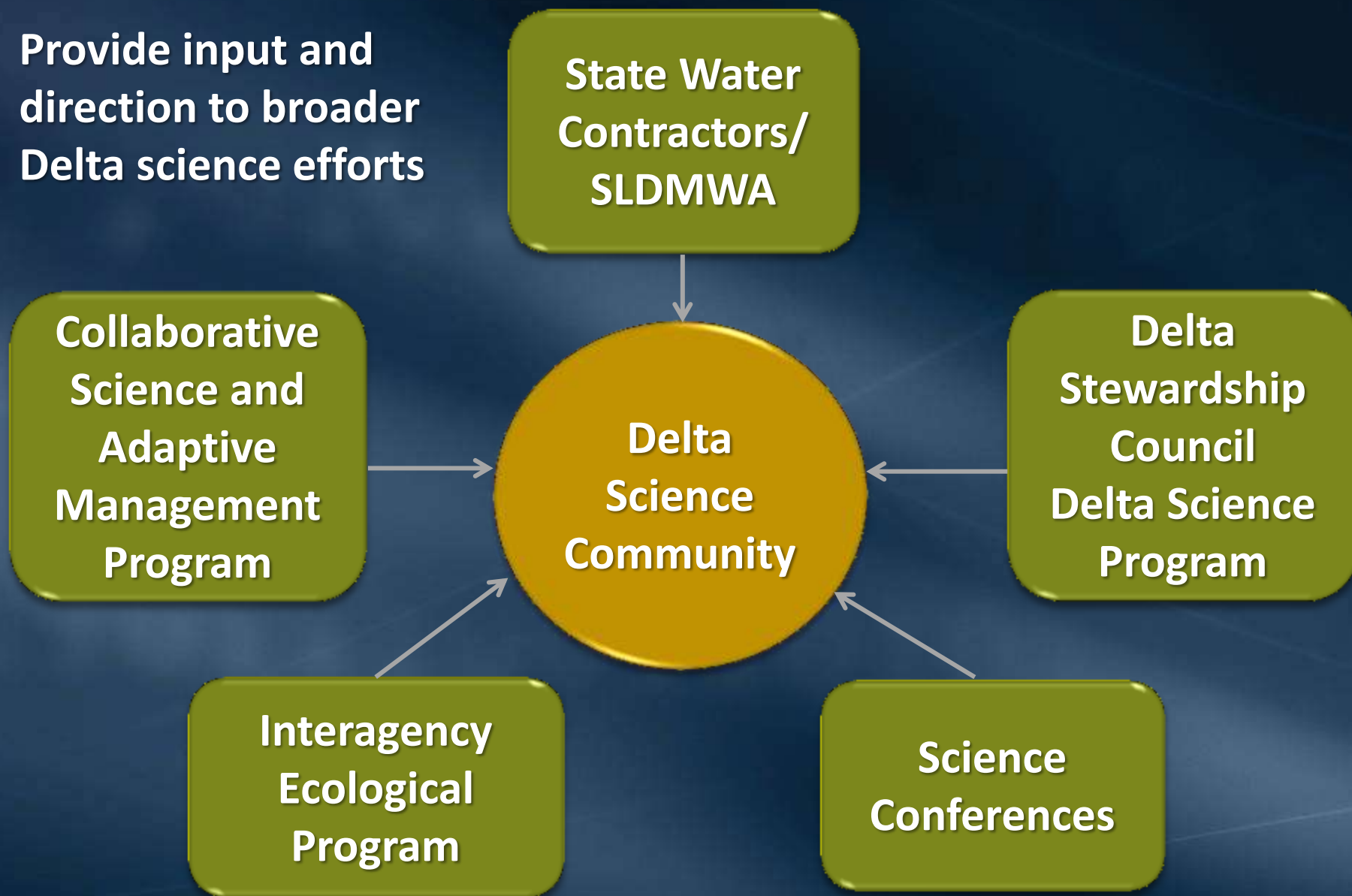


# Metropolitan Involvement in CSAMP

- Metropolitan staff are involved in all levels
  - CSAMP Policy Group: Jeff Kightlinger  
Stephen Arakawa (Alternate)
  - Collaborative Adaptive Management Team (CAMT):  
Bay-Delta Initiatives (BDI) staff participate and coordinate with SWC representatives
  - Technical Teams: BDI staff participate to develop studies, review study results and work products and develop policy level briefings
    - Delta Smelt Scoping Team
    - Salmon Subcommittee

# Participating in Bay-Delta Science Community

Provide input and direction to broader Delta science efforts



# CSAMP – Value to Metropolitan

- CSAMP – key collaborative science forum
  - Building block to collaborative science processes in other forums
    - SWRCB/Voluntary Agreements
    - Biological Opinions
    - Delta Water Conveyance
- Proactive and collaborative science informs management decisions that protect:
  - Ecosystem/listed species
  - Water supply reliability
- Science investigations that address Metropolitan's science objectives



# CAMT Science Efforts

## Targeted Research & Synthesis to Address Management Questions

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• Salmon behavior, migration &amp; survival in Delta</li><li>• OMR &amp; Delta smelt entrainment</li></ul> | <ul style="list-style-type: none"><li>• Analysis of Delta smelt survey data</li><li>• Fall outflow management for Delta smelt</li></ul> |
|--|---|

## Decision Support Science

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Structured Decision-making for Delta smelt actions</li><li>• Delta smelt Science Plan</li></ul> | <ul style="list-style-type: none"><li>• Winter-run Salmon Life Cycle Model workshops</li></ul> |
|---|--|

## Adaptive Management Actions

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Delta Smelt Resiliency Strategy actions<ul style="list-style-type: none"><li>• Suisun Marsh Salinity Control Gates operation</li><li>• Flow augmentation -- Fall outflow studies</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Sacramento Valley Salmon Resiliency Strategy actions</li><li>• Near-term actions for Salmon recovery</li></ul> |
|--|--|

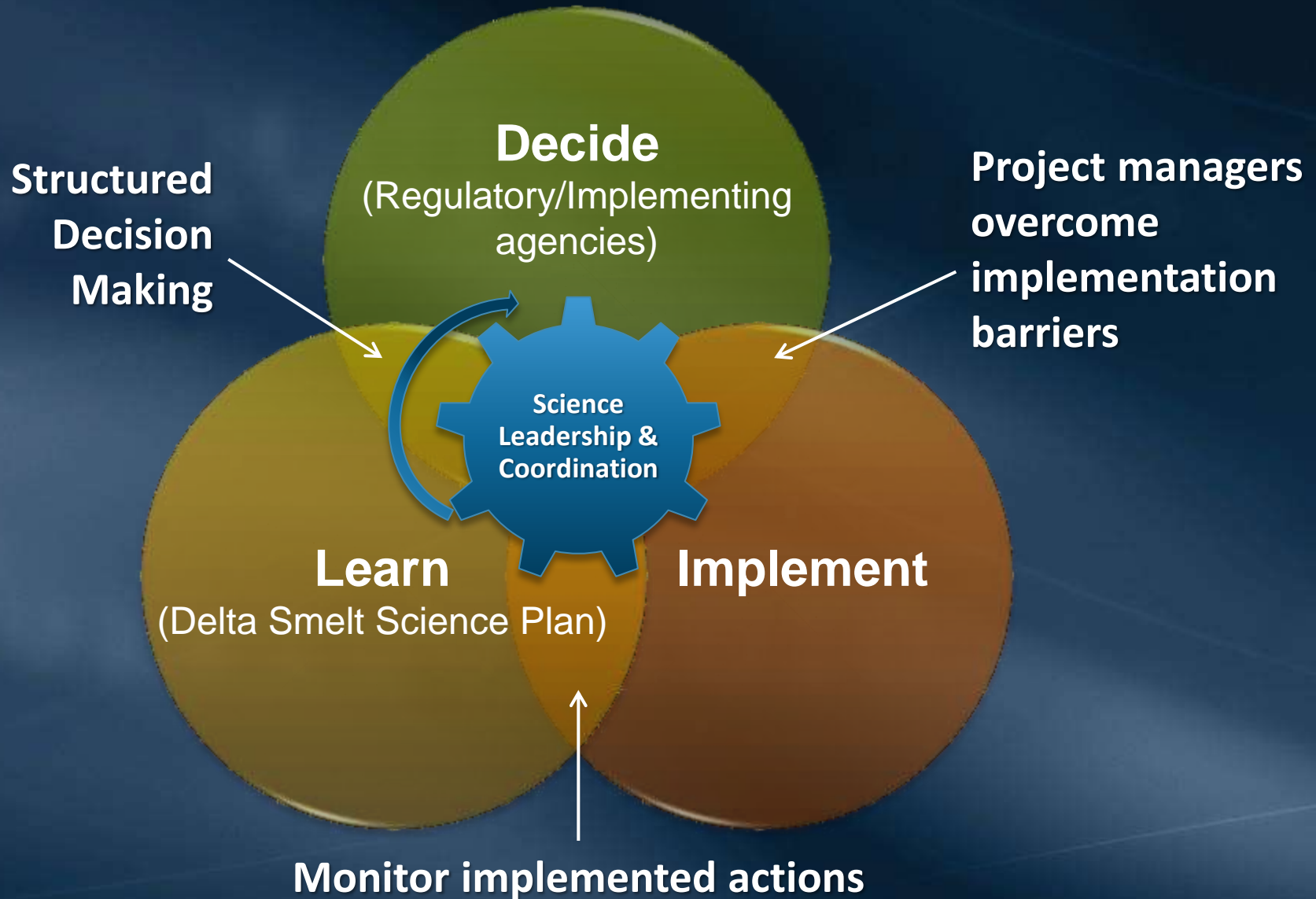
# CSAMP Priorities (2019-2020)

- Complete current CAMT investigations
- Support implementation of actions
  - Delta Smelt Resiliency Strategy
  - Sacramento Valley Salmon Resiliency Strategy
  - Near-term salmon recovery actions
- Develop an integrated Central Valley science plan for salmonids
- Advance decision support tools
  - Delta Smelt Structured Decision Making process
- Test implementation of Delta Smelt Science Plan

# Delta Smelt Resiliency Strategy Actions

- CSAMP/CAMT Role
  - Determine appropriate research approach to assess actions
  - Oversee implementation & inform subsequent actions
- Actions addressed by CAMT
  - Suisun Marsh Salinity Control Gates operation
  - North Delta Food Web
  - Roaring River & Coordinated flood/drain of managed wetlands
  - Flow alteration/Fall outflow management for Delta smelt
  - Aquatic weed control

# Decision Support Science



# Planning Science for Delta Smelt

## Reviewing and Scoping

- Consider ongoing special studies/research
- Outline potential year-specific actions
- Identify relevant ongoing monitoring
- Determine level of resources available

## Draft Action Plan

- Predict potential extent/duration of effects
- Assess monitoring needs beyond ongoing programs
- Estimate resource needs

## Finalize Annual Science Action Plan

- Develop plan
- Present to CSAMP/CAMT
- Refine and finalize
- Disseminate

- ## Execute - Ongoing
- Tracking
  - Troubleshooting

Communicating



# CAMT Science Activities - Salmon

- Develop a Coordinated Salmon Science Plan
  - Integrate with ongoing structured decision-making processes
- Sacramento Valley Salmon Resiliency Strategy
  - Focus on actions in Delta and Yolo Bypass
  - Share information on status of implementation
  - Assist with science and/or implementation issues
- Actions to achieve recovery
  - Evaluate potential benefits of near-term actions

# Next Steps

- Actively engage in CSAMP/CAMT processes:
  - Structured Decision Making Process for Delta Smelt
  - Coordinated Salmon Science Plan for the Delta
- Track Resiliency Strategy actions and provide input on monitoring and science
  - Delta Smelt Resiliency Strategy
  - Sacramento Valley Salmon Resiliency Strategy
- Update on Delta Smelt and Salmon science plan development
  - Fall 2019

