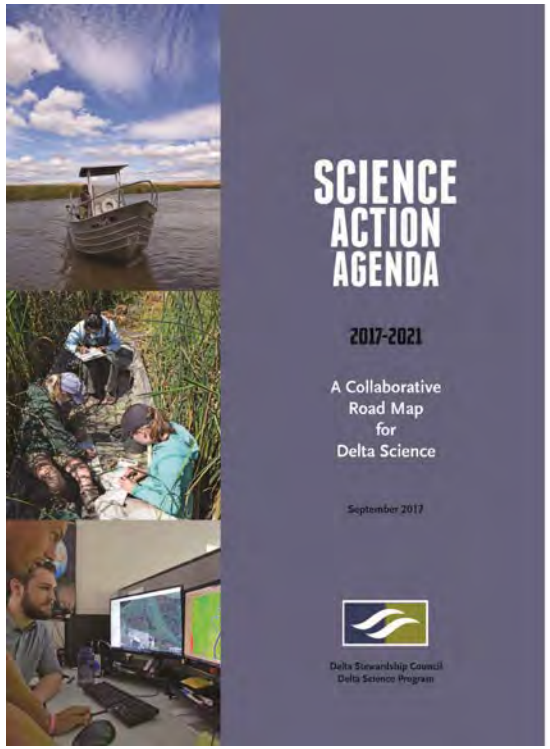
2022-2026 Science Action Agenda

2020 Briefing

Delta Tributaries Mercury Council (DTMC)

9/15/2020

Policy and Funding Implications of the SAA



- Identifies science topics for proposal solicitations and collaborative science initiatives
- Informs funding decisions
- Identifies actions that will provide knowledge to update the State of Bay-Delta Science

- NEW for 2022-2026 SAA: starting with a broad list of management questions to ensure science actions inform policy and management

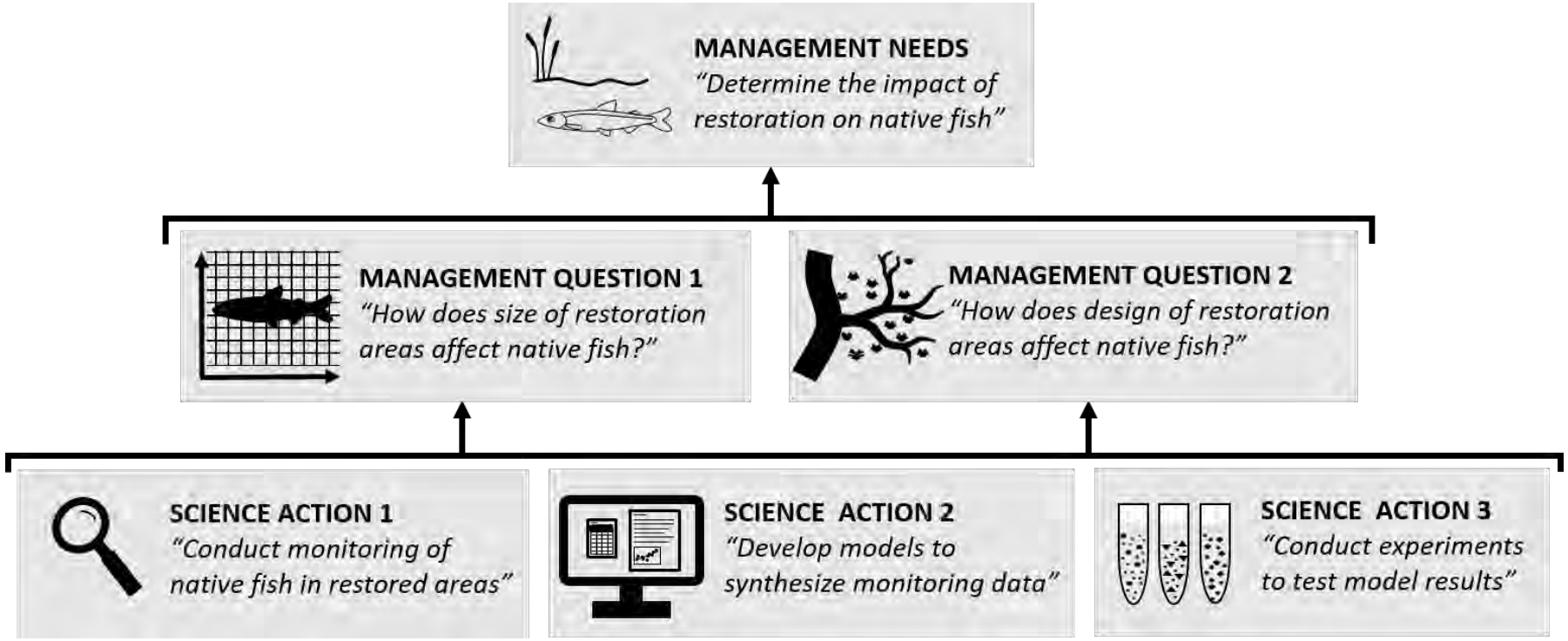
Relevant definitions

Management needs: information necessary to: (1) achieve policy or regulatory objectives, (2) assess the effects of a past or future management action, and or (3) inform a decision between multiple scenarios.

Management questions: target uncertainty around a given management action or topic, tend to be specific to a single agency or a set of agencies or organizations (but do, generally, have enterprise-wide application)

Science actions: identify priority efforts to generate information or create tools that advance policy and address the physical, natural, and socio-economic challenges of the Delta–including research, modeling, synthesis, communication, adaptive management, and more.

Format of the SAA



Timeline

Time	Activity	Specifics
Spring/ Summer 2020	**Initial outreach**	✓ Compile initial list of management questions ✓ Public review/refinement of management question criteria
Summer/ Fall 2020	**Scoping of management questions**	✓ Merge list and apply screening criteria ✓ Organize management questions by theme •Hold **public workshop on September 29, 2020** to refine top management questions and publish list
Fall 2020-Winter 2021	**SAA content creation**	•Select most relevant questions for SAA •Organize management questions into management needs and publish for public review •Hold **public workshop** to identify science actions •Release draft 2022-2026 SAA for public reviews
Winter 2022	**SAA publication**	•Publish final 2022-2026 SAA

Criteria

Management Questions:

- ***Screening Criteria*** to ensure that the questions fall within the scope of the near-term needs of the Delta's science-management landscape
- ***Selection Criteria for SAA*** to identify the management questions that best align with the scope of the SAA (actions will address key uncertainties and institutional gaps, while promoting collaboration among agencies and organizations)

Science Actions:

- ***Screening Criteria*** to ensure that considered science actions best meet the needs of the SAA and management needs, based on feasibility, cross-agency priority, and uncertainty/lack of progress addressing science topic
- ***Prioritization Criteria*** to identify the science actions that are highest priority for addressing the management needs, based on scientific merit, impact, timeliness, and opportunity cost

DTMC questions

- What is the fate of mercury discharged from upper watersheds (i.e., above major dams and diversions) in the Delta, and how might that mercury be transformed to methylmercury in the reservoirs or downstream?
- How and where should watershed improvements (best management practices) for mercury source control be prioritized?
- What are the relative magnitudes of mercury in the Delta food web from the various natural (uncontrollable) and human-caused (controllable) sources in the Delta's watershed? Where would mercury source control actions create the most benefit to humans and wildlife?
- How does atmospheric mercury deposition vary spatially in the Delta watershed and how significant a load is that deposition relative to other sources to the Delta?
- What methylation controls in reservoirs can effectively reduce in-lake and downstream fish mercury levels?
- Which conditions in wetlands and their vegetation drive methylmercury production, and does that productivity change over time as restored wetlands mature?
- Where and when do algal blooms "biodilute" methylmercury in the Delta ecosystem?
- Is aquatic ecosystem productivity a key driver in mercury bioaccumulation rates, or can restoration projects that enhance ecosystem productivity be designed and managed to decrease mercury bioaccumulation rates?
- Do changes in top predator fish populations (top-down) or primary productivity (bottom-up) more strongly determine mercury levels in consumed fish?
- Are current health risks of mercury to humans and wildlife in the Delta increasing or decreasing? Are mercury levels in fish consumed by humans and wildlife in the Delta increasing or decreasing over time, and if so, what processes and factors are driving those changes?

Next Steps

- Participate in the workshop: September 29, 2020 from **8:45am-2:30pm**
- **Register by September 22:**
  - https://docs.google.com/forms/d/e/1FAIpQLSfibR8iLjN59kd23i1Thrxkb2sQs6Nh1nbK13_Hbm-HJM9JOQ/viewform?usp=sf_link
- Once you're registered, you can select which breakout group to participate in and vote on all management questions
  - 9 themes, over 1,100 questions!
    - Water Quality
    - Native Species (2 groups)
    - Habitat Management
    - Science Governance
    - Delta as an Evolving Place
    - Flood Risk and Land Use Management
    - Water Supply Management
- Stay engaged with the SAA: Science Actions to follow!

Q&A

- What do you think of the DTMC management questions?
- How would the DTMC like to engage in the SAA update?
- How many top management questions is ideal for the Delta science enterprise to tackle, among all topics/themes?
- Do you have any feedback on the previous 2017-2021 SAA?

More information

- Visit us online at scienceactionagenda.deltacouncil.ca.gov
- Contact us via email at SAA@deltacouncil.ca.gov
- Key dates will be announced via listserv and posted to the Council's website