2022-2026 SCIENCE ACTION AGENDA:

A Vision for Integrating Delta Science

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Delta Science Program

DELTA STEWARDSHIP COUNCIL

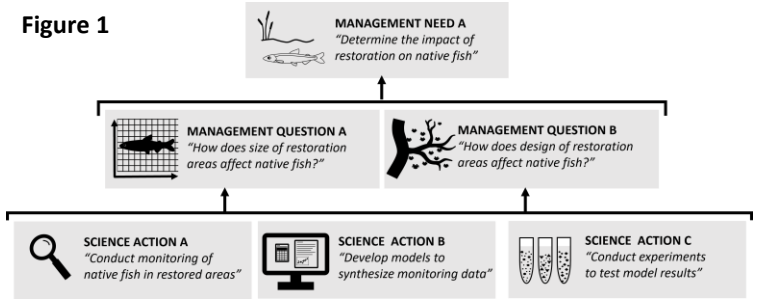
Background

The **Science Action Agenda (SAA) is a four- to five-year focused science agenda for the Delta that prioritizes and aligns science actions to inform management decisions, identifies major gaps in knowledge, and promotes collaborative science**. The SAA is primarily implemented as the focus areas for competitive and non-competitive research and for fellowship solicitations. The 2022-2026 SAA is organized around six broad Management Needs and their associated **top 25 Science Actions** (in no priority order), which collectively articulate major priorities for advancing science-based management in the Delta (Figure 1). All **Management Needs**, relevant **Management Questions**, and **Science Actions** were co-produced with input from the Delta science and management community.

Development of the 2022-2026 SAA

The Delta Science Program facilitated a multiple-phase, two-year process to develop the 2022-2026 SAA**. The update process embraced co-production with the Delta science and management community, including members of federal, State, and local agencies, academic institutions, non-profit organizations, and more**. A draft of the SAA was circulated for public review between November 2021 and January 2022. The Delta Science Program considered all comments before finalizing the SAA.

Figure 1



Next Steps

The final 2022-2026 SAA will be released in April 2022. For more information, please visit the SAA webpage or email SAA@deltacouncil.ca.gov.

Co-production of the 2022-2026 SAA

The 2022-2026 SAA was co-produced with input and engagement from scientists, managers, and stakeholders, including:

- **25** online survey responses broadly informed the 2022-2026 SAA development process
- **30** collaborative groups engaged in the process of identifying Management Questions
- **1,279** Management Questions were proposed by stakeholders
- **85** workshop participants helped distill Management Questions to a top 65 list
- **30+** reviewers commented on the 2017-2021 SAA Progress Summary, in addition to 10+ external partners who contributed to the initial draft document
- **Four** written comments were submitted on the draft Management Needs
- **50+** Science Action workshop participants drafted 178 Science Actions
- **45** individuals responded to the survey on the proposed top 25 Science Actions
- **14** written comments submitted on the draft SAA

Stick people art by Annika Keeley

"Looking ahead to the next four years, as climate-related extremes (e.g., droughts, floods) become increasingly frequent in California, the greatest management challenges require deep understanding of interlinked processes driving the Delta, such that a full spectrum of tradeoffs of management actions can be assessed and multi-agency solutions can be put into place. Thus, the 2022-2026 SAA is built upon a vision of integration."– Dr. Laurel Larsen, Delta Lead Scientist

Management Needs	Example Science Action from the SAA, and total number of Science Actions
1: Improve coordination and integration of large-scale experiments, data collection, and evaluation across regions and institutions	1C: Identify and implement large-scale experiments that can address uncertainties in the outcomes of management actions for water supply, ecosystem function, and socioeconomic conditions in the Delta; 3 total
2: Enhance monitoring and model interoperability, integration, and forecasting	2B: Develop a framework for monitoring, modeling, and information dissemination in support of operational forecasting and near real-time visualization of the extent, toxicity, and health impacts of Harmful Algal Blooms (HABs); 4 total
3: Expand multi-benefit approaches to managing the Delta as a social-ecological system	3B: Conduct studies to inform restoration and approaches to protecting human communities that are resilient to interannual hydrologic variation and climate change impacts; 5 total
4: Build and integrate knowledge on social process and behavior of Delta communities and residents to support effective and equitable management	4A: Use multi-method approaches (e.g., surveys, interviews, oral histories, and/or observations) to develop an understanding of how human communities' values, and uses of cultural, recreational, agricultural, and natural resources vary across geography, demographics, and time, 3 total
5: Acquire new knowledge and synthesize existing knowledge of interacting stressors to support species recovery	5A: Identify and test innovative methods for effective control or management of invasive aquatic vegetation in tidal portions of the Delta under current and projected climate conditions, 5 total
6: Assess and anticipate impacts of climate change and extreme events to support successful adaptation strategies	6B: Evaluate individual and cumulative impacts and tradeoffs of drought management actions on ecological and human communities over multiple timescales, 5 total