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2022-2026 Science Action Agenda (SAA)

Rachael Klopfenstein
Aaron Angel
Delta Science Program

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Why do we need a Science Action Agenda?

Key challenges:

- complexity of the Delta
- rapidly changing system
- limited resources
- multiple interest groups and science needs

The SAA provides a roadmap for science to inform decision-making in the Delta.

Photo credit: Hans W. Paerl, UNC-Institute of Marine Sciences

What is the Science Action Agenda?

It's a four- to five-year science agenda for the Delta that:

- is collaboratively developed,
- identifies major gaps in knowledge,
- builds science infrastructure, and
- prioritizes and aligns science actions to inform management.

The 2017-2021 SAA guided >$35 million dollars in science investments

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BUREAU OF RECLAMATION

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

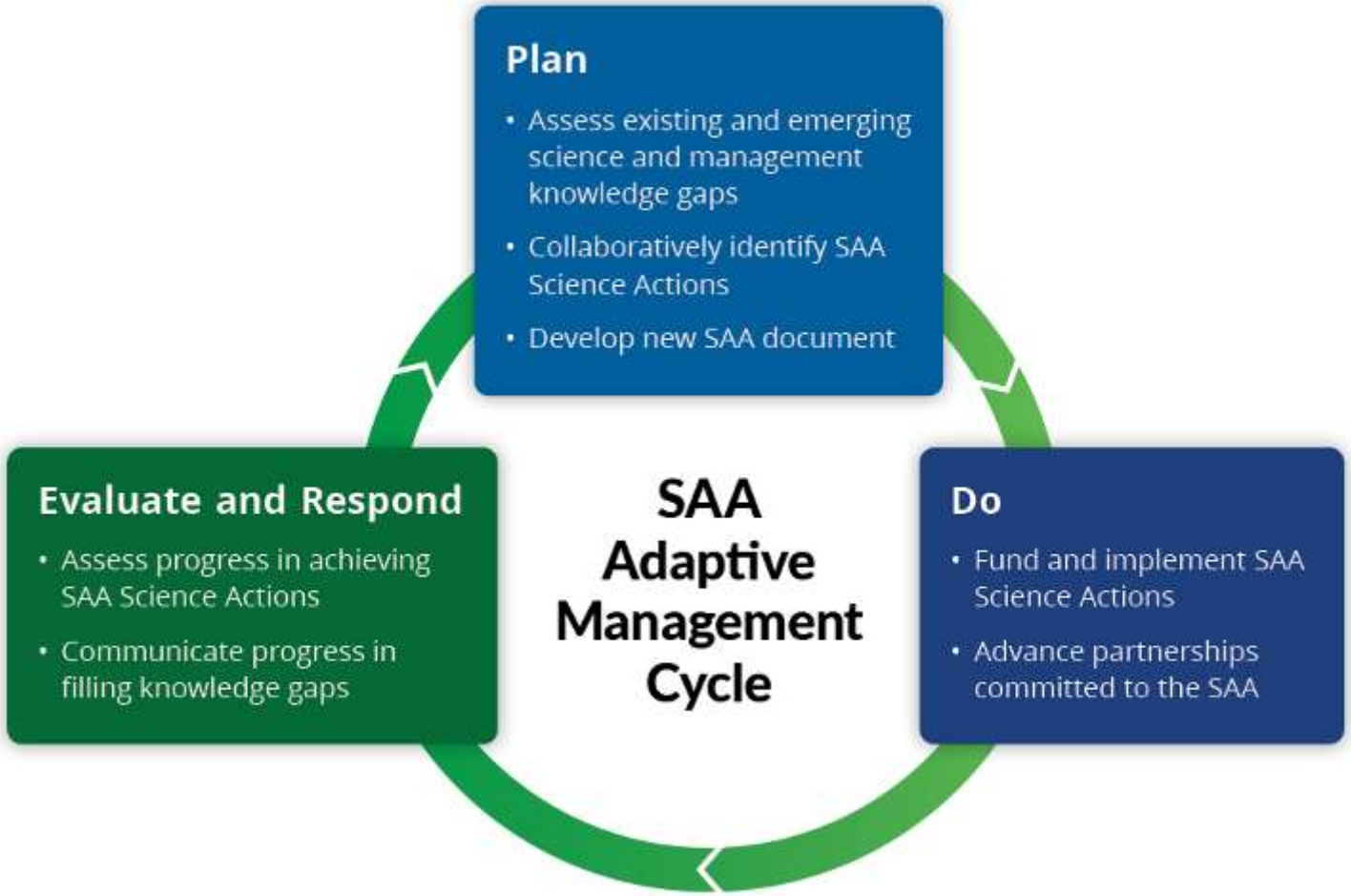
SWC STATE WATER CONTRACTORS

What is a Science Action?

Scientific activities undertaken to **generate information** or **create tools** that **advance** the utility of **knowledge to address the physical, natural, and social-economic challenges** of the Delta. Examples include research, monitoring, modeling, data management, synthesis, adaptive management experiments, and new methods.

New for 2022-2026

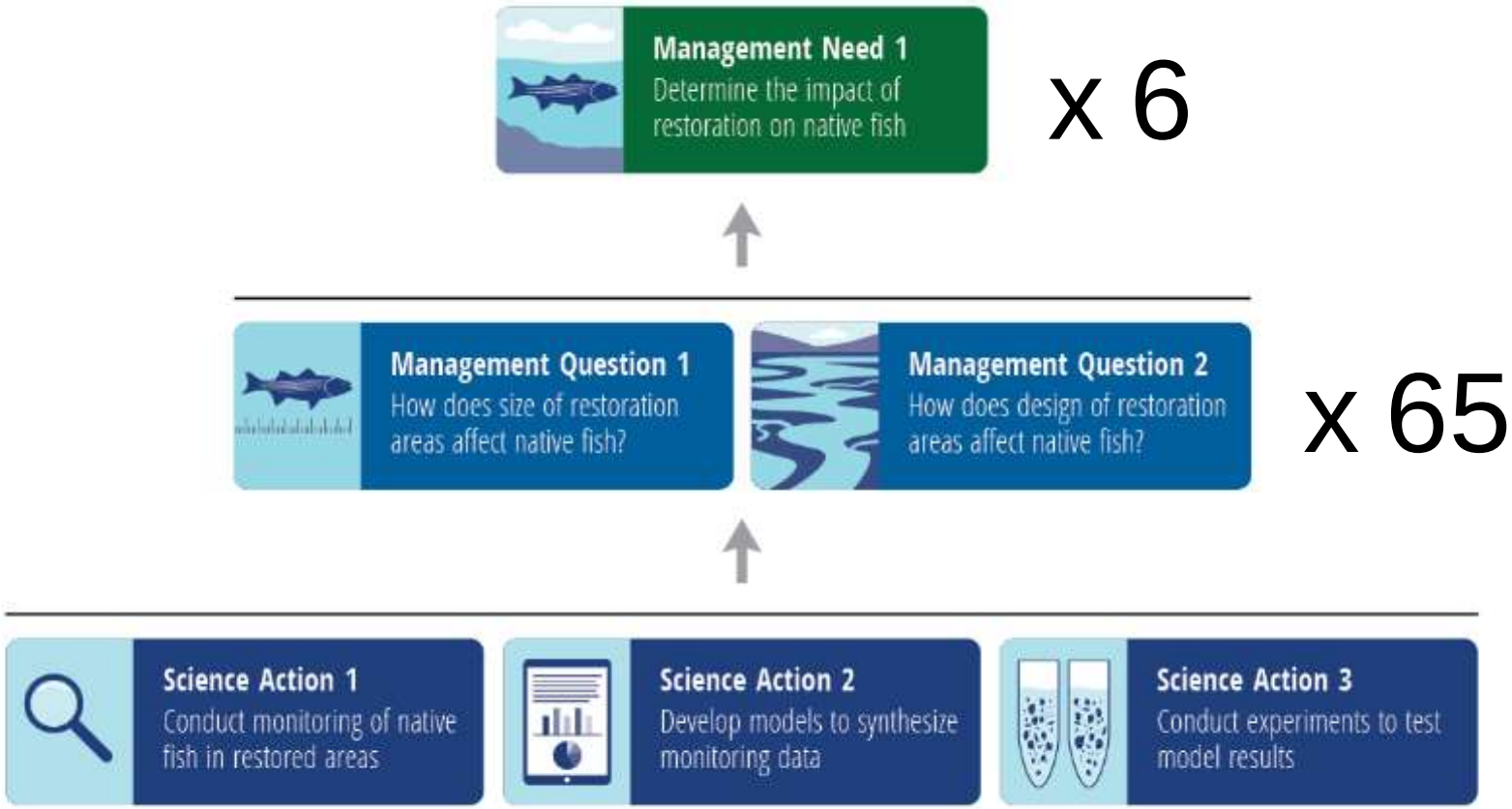
- Structure
  - Management Questions
- Co-production
  - Workshops, surveys
- Progress tracking
- Theme of “integration”



Co-production by the numbers

- **30+** collaborative groups engaged in the process
- **~150** survey responses to inform the 2022-2026 SAA development process, Management Questions, and Science Actions
- **1,200+** Management Questions and **150+** Science Actions were proposed by stakeholders
- **~140** workshop participants distilled Management Questions and identified Science Actions
- **30+** reviewers commented on the 2017-2021 SAA Progress Summary, in addition to **10+** external partners who contributed to the initial draft document
- **18** written comments were submitted on the draft Management Needs and draft 2022-2026 SAA

2022-2026 SAA Structure



Management Needs

1. Improve coordination and integration of large-scale experiments, data collection, and evaluation across scales and institutions

2. Enhance monitoring and model interoperability, integration, and forecasting

3. Expand multi-benefit approaches to managing the Delta as a social-ecological system

4. Build and integrate knowledge on social process and behavior of Delta communities and residents to support effective and equitable management

5. Acquire new knowledge and synthesize existing knowledge of interacting stressors to support species recovery

6. Assess and anticipate climate change impacts to support successful adaptation strategies

Science Actions

- ***2A. Monitoring Programs:*** *Evaluate and update monitoring programs to ensure their ability to track and inform the management of climate change impacts, emerging stressors, and changes in species distributions*

- ***5E. Chemical Contaminants****: Quantify spatial and temporal patterns and trends of chemical contaminants and evaluate ecosystem effects through monitoring, modeling, and laboratory studies*

Builds on Past SAA | New Science Action

Next steps

- Spread the word!
- Implementation
  - 2022 California Sea Grant Delta Science Fellowship
  - 2023 Proposal Solicitation Notice
  - Workshops, synthesis, and Directed Actions
  - Collaboration with new partners
  - Delta Science Tracker


Thank you!

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- Jessica Rudnick
- Lauren Hastings

Delta Science Program/Council staff

Delta Science Program

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EXTRA SLIDES

Input on the 2022-2026 SAA

- Science Funding and Governance Initiative (2020)
- Outreach and engagement (2020-2021)
- Delta ISB comments on Delta Science Plan, reviews, and Science Needs Assessment (2019-2021)

Affiliation Type	September 2020 Management Questions Workshop	July 2021 Science Actions Workshop	Draft Progress Summary Reviewers
Academia	4 (5%)	11 (20%)	10 (29%)
Federal agency	12 (14%)	10 (18%)	2 (6%)
NGO/ Consulting/ Other	7 (8%)	9 (17%)	5 (15%)
State agency	51 (59%)	16 (30%)	14 (41%)
Water/ local agency	13 (15%)	8 (15%)	3 (9%)
Grand Total	**87**	**54**	**34**

65 Top Delta Management Questions

Spring – Summer 2020

- Outreach to collaborative groups/venues
- Advisory Committee input
- Gathered 1,279 MQs from Delta scientists, managers, and stakeholders!
- Shorted list of Management Questions using publicly-vetted criteria

Fall 2020 – Winter 2021

- Conducted two surveys and hosted one workshop to distill Management Questions
- Delta Science Program staff incorporated feedback and disseminated the list of the top 65

#	Top Management Questions sorted by number of relevant themes and weighted average
1	How can large-scale experiments (e.g., pulse flows, aquatic vegetation removal) be coordinated among stakeholders and implemented to test conceptual model assumptions and hypotheses and to inform future management?
2	How can monitoring efforts be better designed, facilitated, integrated, and standardized to achieve status and trend monitoring objectives (e.g., for aquatic and terrestrial species), and to fit the scale of management actions, timing of ecosystem processes, and climate change challenges?
3	How can we achieve floodplain inundation for species recovery, improved ecological processes, and flood control while balancing needs for agriculture, recreation, and other human uses?
4	How can environmental justice principles, values of Delta communities, and traditional ecological knowledge be incorporated into the Delta science enterprise to support management activities and policy decision-making in the Delta?
5	How will projected environmental changes in the Delta impact human communities, and how can these impacts be communicated and incorporated into proactive, effective, and equitable Delta management decisions?