

Dec 2021

# Science Action Agenda 2022-2026



Delta  
Science  
Program

DELTA STEWARDSHIP COUNCIL

# What is the SAA?

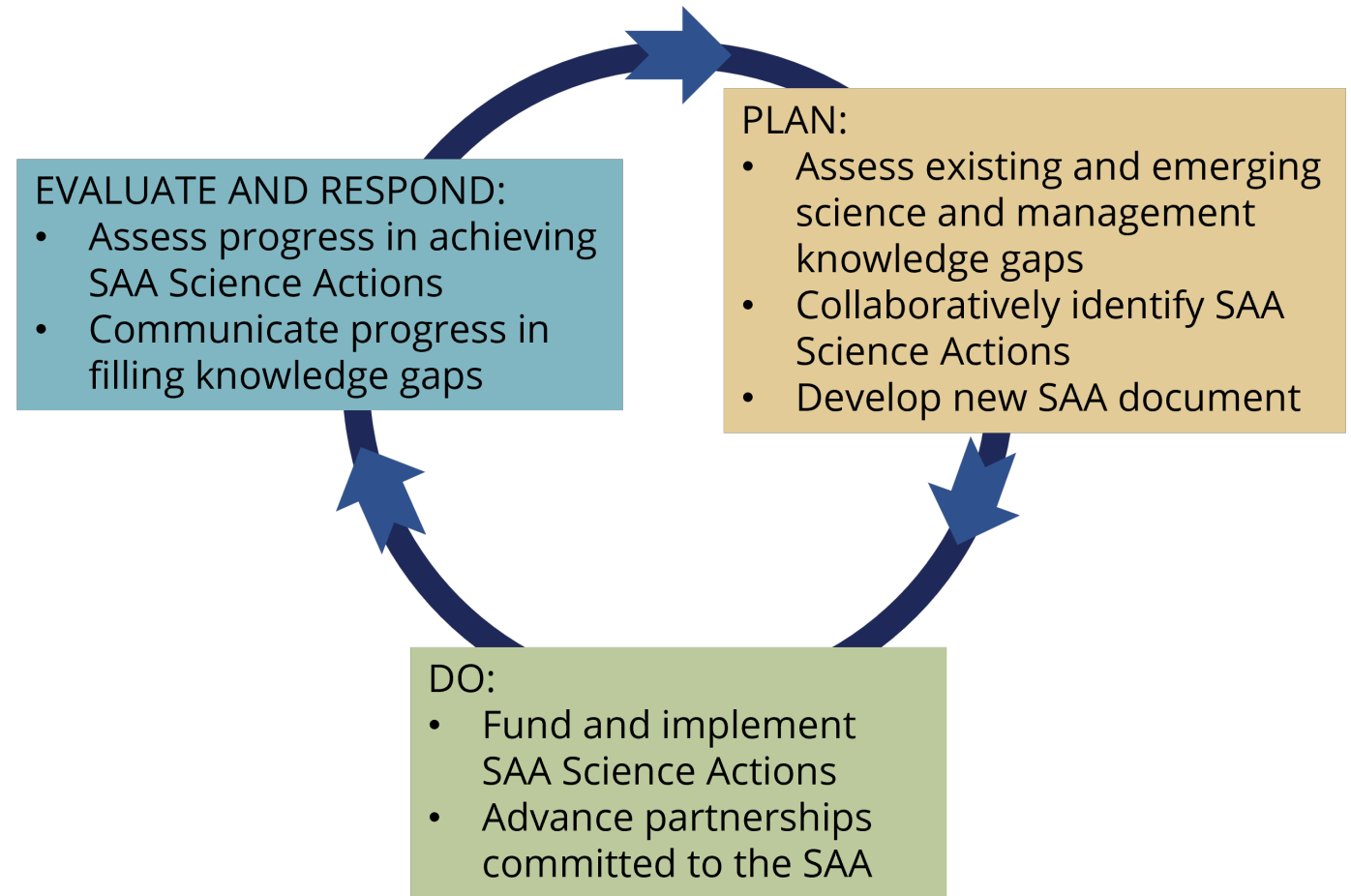
- Prioritizes Delta-wide science actions
- Promotes transparency and collaboration
- Guides millions of dollars in science investments
  - >\$35M (2017-2021)



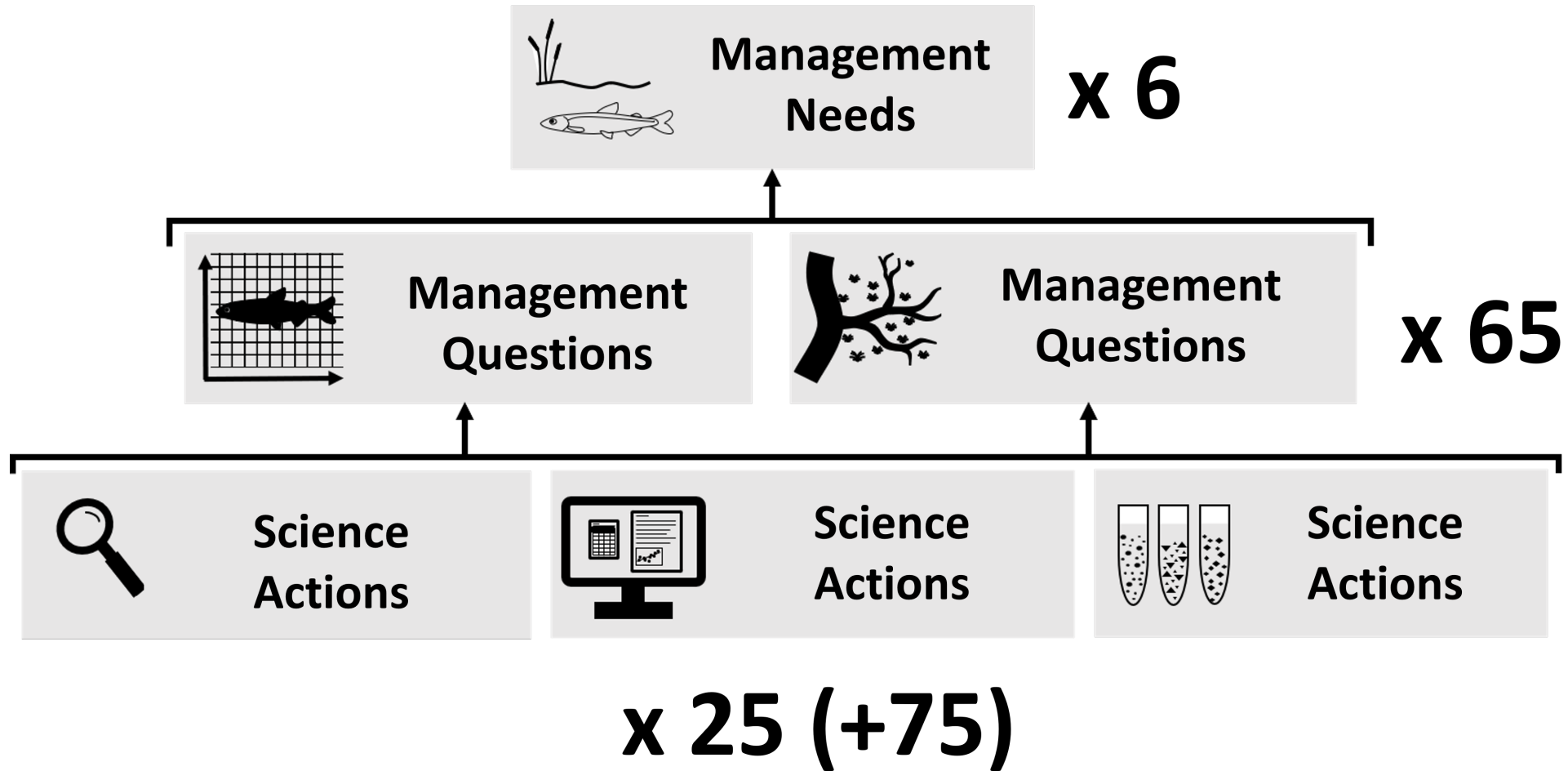
# New for 2022-2026

- Structure
  - Management Questions
- Co-production
  - Surveys
  - Workshops
- Progress tracking

## Science Action Agenda (SAA) Adaptive Management Cycle



# 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

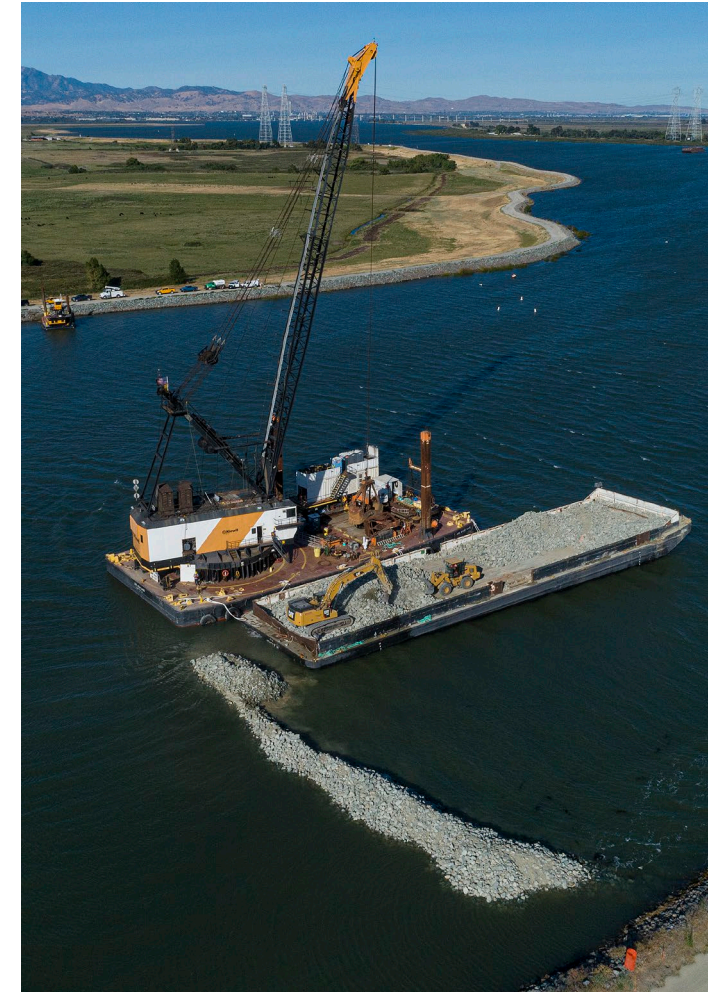
# Science Actions

## Key themes:

- Forecasting and monitoring
- Contaminants
- Social-ecological system
- Invasive species
- Climate change

## Example:

*Drought: “Evaluate individual and cumulative impacts and tradeoffs of drought management actions on ecological and human communities over multiple timescales.”*



# SAA Draft – Review Period

- Targeted outreach/presentations
  - Collaborative groups
  - Workshop participants
  - Delta Independent Science Board
  - Science Advisory Committee
- Deadline January 21, 2022
- Final SAA available by Spring 2022





**THANK YOU**



# Acknowledgements

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- Eva Bush
- Emily Ryznar
- Tricia Lee
- Byron Riggins

Delta Science Program leadership:

- Laurel Larsen
- Louise Conrad
- Jessica Rudnick
- Lauren Hastings

Delta Science Program/Council staff

Many more!!

**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%)
<b>Grand Total</b>	<b>87</b>	<b>54</b>	<b>34</b>

# Progress Tracking

Taking stock of the progress made on addressing the 25 Science Actions in the 2017-2021 SAA to inform the development of the 2022-2026 SAA.

June 2021

## Science Action Agenda Progress Summary

Reporting Progress on the 2017-2021  
Science Action Agenda



DELTA STEWARDSHIP COUNCIL

# How to measure progress

The key steps to developing the Summary:

- **Compile relevant activities** (e.g., projects, funded research) addressing at least one Science Action;
- **Assign a progress status** to each Science Action; consider the relevance and status of the contributing activities
- **Solicit and receive input** from the Delta science community

Among the 25 2017-2021 Science Actions, nine saw early progress, seven saw moderate progress, and nine saw significant progress.

Activity during 2017-2021 SAA	<i>Example: Social Science Task Force</i>
<b>Action Area</b> (five high level action areas in 2017-2021 SAA)	1: <i>Invest in assessing the human dimensions of natural resource management decisions</i>
<b>Science Action</b> (25 science actions in 2017-2021 SAA)	1C: <i>Initiate a research program on the Delta as an evolving place that integrates the physical and natural sciences with the social sciences</i>
<b>Type of activity</b> (individual project, study, program, etc. that helps to inform/address a science action)	<ul style="list-style-type: none"> <li>- <i>Funded research</i></li> <li>- <i>Monitoring</i></li> <li>- <i>Modeling</i></li> <li>- <i>Programs</i></li> <li>- <b><i>Projects ✓</i></b></li> <li>- <i>Reviews</i></li> <li>- <b><i>Publications ✓</i></b></li> <li>- <b><i>Outreach/Comms ✓</i></b></li> </ul>
<b>Part of science action being addressed</b>	<i>Expert recommendations on how to integrate SS into the Delta; informs 1C with guidance for initiating a research program</i>
<b>Activity status</b>	Completed (score 5 out of 5)

## Example: incorporating 2017-2021 SAA remaining gaps

2017-2021 SAA Science Action	Progress Status	Existing Gaps	Draft 2022-2026 SAA Science Action
A1A. Implement studies to <b>understand social-economic adaptations to climate change</b> (e.g., human behavioral response in the agriculture sector to changes in water prices)	<b>Early</b> - 1-2 activities; and/or progress on the action is in early stages, or results from activities are leading to incremental gains in knowledge regarding the Science Action	<b>Few studies</b> overall have informed adaptations to climate change, particularly regarding <b>human behavior</b>	Identify how <b>human communities</b> connected to the Delta watershed are <b>adapting to climate change</b> , what <b>opportunities and tradeoffs</b> exist for climate adaptation approaches, and how <b>behaviors</b> vary with adaptive capacity

## Example Science Actions

*Species*: “Identify environmental thresholds relevant to managed fish species and location-specific survival probabilities to develop strategies that will support species recovery.”

*HABs*: “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 HABs.”

*Human communities*: “Collaboratively develop a long-term data collection and monitoring strategy for human communities in the Delta, with the goal of tracking and modeling metrics of resilience, equity, and well-being over time.”