

Review of the Monitoring Enterprise in the Sacramento-San Joaquin Delta

Summary Sheet



**Delta
Independent
Science Board**

DELTA STEWARDSHIP COUNCIL

Background:

Monitoring entails measuring something to grasp what is happening. It is a systematic process of collecting, analyzing, and using information with specific objectives and outcomes in mind. Monitoring is vital to understanding ecosystem status, functioning, and responses to management actions and changes in environmental drivers. As part of its legislative mandate, the Delta Independent Science Board (Delta ISB) reviewed the monitoring enterprise, i.e., the suite of Sacramento-San Joaquin Delta monitoring programs which are often mandated by statute and regulation. The Delta ISB assessed if information collected from monitoring meets the needs of management agencies and provides the information needed to respond to the Delta's many changing challenges and problems; if coordination, efficiencies, and data quality and accessibility can be improved; and how monitoring data can better support implementation of adaptive management.

Approach:

This is the largest review yet undertaken by the Delta ISB and employed a two-part approach: (i) a comprehensive inventory of the physical, chemical, biological, geological, and socio-economic drivers of monitoring activities (157 monitoring activities total) across the Delta and summarization of how these activities are addressing the needs of decision makers, and (ii) literature review, a monitoring workshop, a survey, scientific seminars and panels, interviews with experienced scientists and managers involved in Delta monitoring, and public comments.

Findings:

- Although most monitoring activities in the inventory were found to be influenced or required by a management driver, there was a general lack of clarity around the problems that monitoring and adaptive management are intended to address.
- Questionnaire results indicate that there was a common perception of a monitoring-management disconnect. The disconnect between management needs and monitoring data collection is not unique to the Delta and could be improved through better planning, coordination, and communication.
- There is a need for better coordination and integration of monitoring efforts across different geographic areas and ecosystem components.
- Data accessibility has improved but needs to continue to improve, especially timeliness of data sharing.

A Way Forward: Adopting Adaptive Management, Best Practices, and Recommendations:

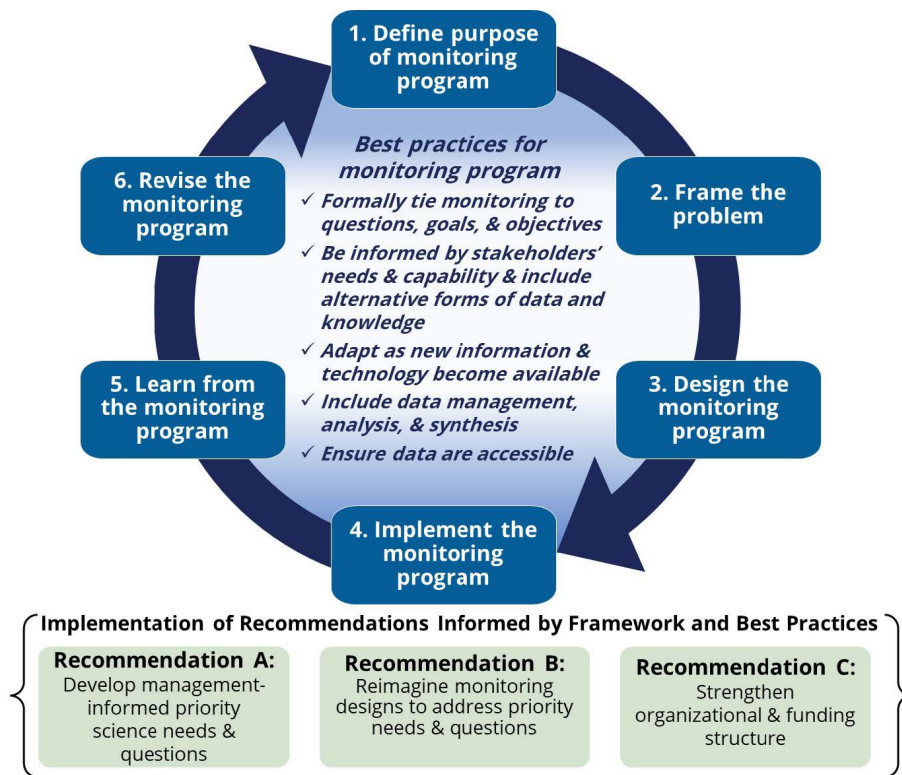
Monitoring is fundamental to understanding and managing the Delta ecosystem and it is clearly important to optimize the monitoring effort to gain the most information possible. This review has raised a number of questions regarding the monitoring enterprise in the Delta. What can be done to fill gaps and improve the level of coordination, efficiencies, data quality, data accessibility, and communication across this complex system?

[For all monitoring programs.](#) The Delta ISB advises that every monitoring program develop a monitoring plan or road map using its recommended Adaptive Management Framework for a well-designed monitoring program to better define and address management needs and promote a rigorous setting of purpose, expectations, review, and communication.

(See steps 1-6 on the Adaptive Management Framework below)

Individual monitoring programs should be underlain by five best practices to help address some of the challenges and issues with monitoring identified in the review. Each practice should be a part of each step in in the Adaptive Management Framework for monitoring.

(See five checkmarks inside the Adaptive Management Framework below)



Adaptive Management Framework for a Well-Designed Monitoring Program, Best Practices, and Recommendations

For the monitoring enterprise as a whole. The Delta ISB recommends three overarching recommendations (“big moves”) to better link monitoring to management. Consideration of the best practices or the development of the monitoring plan using the Adaptive Management Framework by an individual monitoring activity or program would help address some of our findings related to the disconnect between monitoring and management, communication, and data quality and accessibility. However, more transformative changes may be needed to help ensure monitoring is responsive to needs of management at the enterprise level, as there are not agreed-upon adaptive management questions that monitoring should inform.

(See three green recommendation boxes above)

Learn More:

The [full report](https://deltacouncil.ca.gov/pdf/isb/products/2022-03-22-isb-monitoring-enterprise-review.pdf) can be found at <https://deltacouncil.ca.gov/pdf/isb/products/2022-03-22-isb-monitoring-enterprise-review.pdf>. If you have any questions, please email disb@deltacouncil.ca.gov.