

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



Delta Independent Science Board

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Background

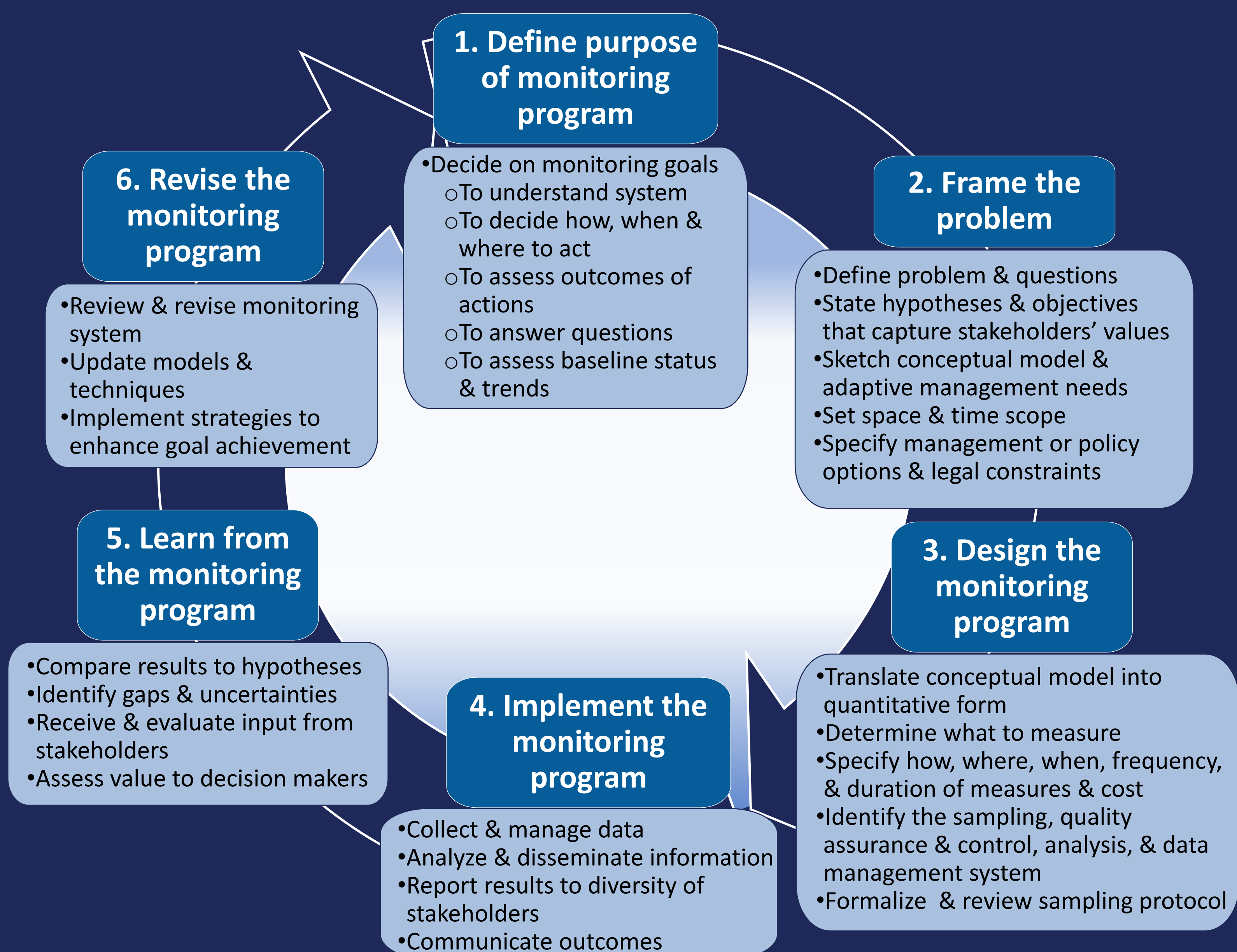
Monitoring is vital to understanding ecosystem status, functioning, and responses to management actions and changes in environmental drivers. As part of its legislative mandate, The Delta Independent Science Board (ISB) reviewed the suite of monitoring programs (i.e., the Monitoring Enterprise), which are often mandated by statute and regulation, in the Delta. The 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.

Methods

This is the largest review yet undertaken by the Delta ISB and employed a two prong 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.

Adopt an Adaptive Management Framework for Monitoring

The Delta ISB advises that every monitoring program develop a monitoring plan or road map using an adaptive management framework to better define and address management needs and promote a rigorous setting of purpose, expectations, review, and communication.



5 Best Practices for Monitoring Programs

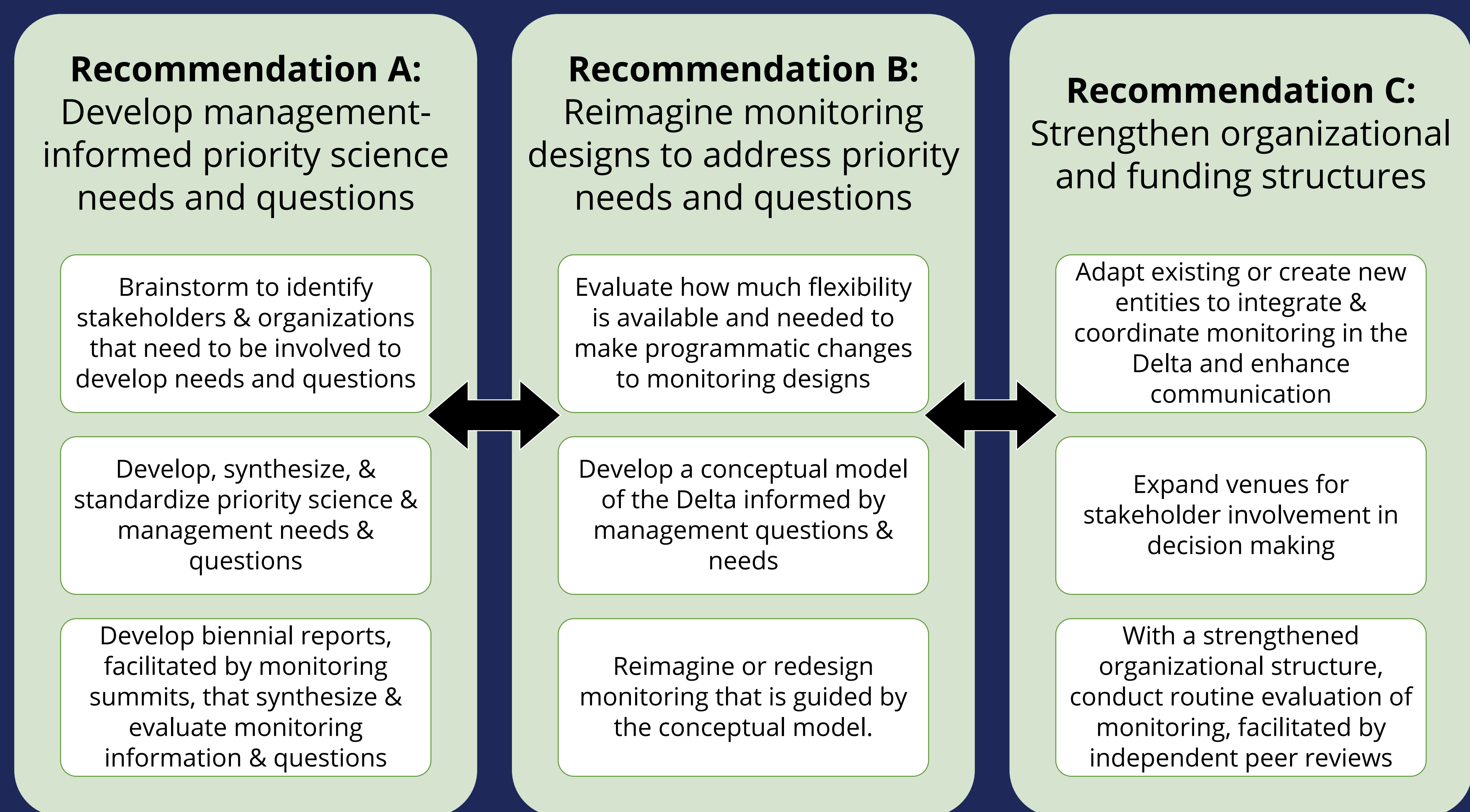
The Delta ISB identified five best practices that should be formally adopted into individual monitoring programs to help address challenges and issues with monitoring assessed in the review.

- 1. Be tied to the goals, objectives, and specific questions of interest to managers and decision makers, decision makers, scientists, and stakeholders.**
- 2. Monitoring should be informed by stakeholder engagement and participation, when appropriate.**
- 3. Have flexible plans that adapt by incorporating new information, techniques, and technologies become available.**
- 4. Include adequate data management, quality control, analysis, and synthesis, and should strive to improve statistical validity.**
- 5. Ensure data are accessible and shared with the public and other agencies.**

Three "Big Move" Recommendations

The Delta ISB recommends three "big moves" to better link monitoring to management and to begin to addressing gaps and opportunities to improve efficiencies identified in this report.

Implementation Informed by the 6-step Monitoring Framework



Implementation Informed by the 5 Best Practices

Link to report



The inventory for this review was developed by ESSA Technologies Ltd., cbec ECO engineering, and PAX Environmental Inc under the direction of the Delta ISB. The Delta Stewardship Council, Delta Science Program funded the work and provided staff assistance. Poster development was led by Jennica Moffat during her California Sea Grant State Fellowship under the direction of the Delta ISB.