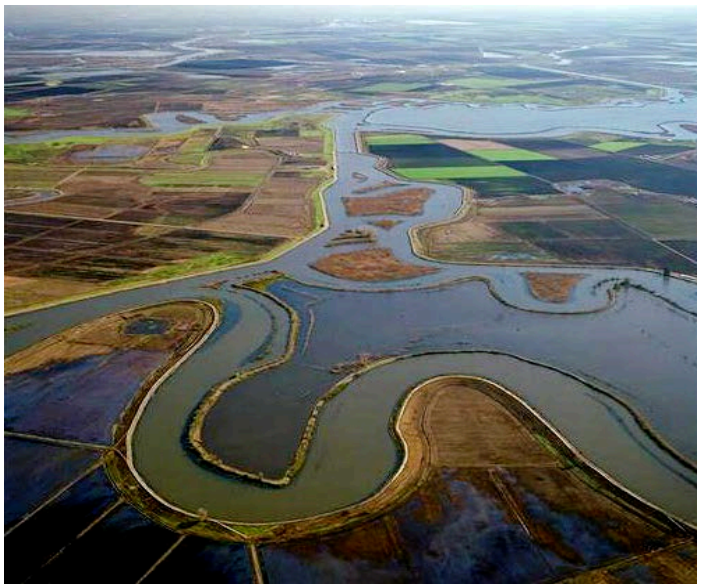
On the Road to the
Delta Science Plan



Vision

One Delta, One Science – An open Delta science community that works together to build a shared state of knowledge with the capacity to adapt and inform current and future water and environmental decisions in the Delta.

Goal

Build an inclusive framework for conducting science in an open and transparent manner that supports the many programs addressing Delta issues.

Problem Statement

Currently, science efforts in the Delta are performed by multiple entities focused on addressing specific issues without an overarching plan for coordinating research, monitoring, data management and analysis, and information sharing among them. A comprehensive science plan that integrates and organizes these components is needed to build a world-class science enterprise with sufficient and reliable funding that facilitates synthesis across programs to address an incredibly complex and dynamic system.

Solution

The 2012 Proposed Final Draft Delta Plan calls for the Delta Science Program to work with others to develop a Delta Science Plan by December 31, 2013. The Delta Science Plan will be a shared plan that organizes and integrates ongoing scientific research, monitoring, analysis, and data management for the Delta Science community. The collaborative development and implementation of the Delta Science Plan will build an open community of scientists crossing institutional and geographical boundaries dedicated to addressing the challenges of achieving the coequal goals.

Objectives

The Proposed Final Draft Delta Plan states that the Delta Science Plan should address:

- ▶A collaborative institutional and organizational structure for conducting science in the Delta
- ▶Data management, synthesis, scientific exchange and communication strategies to support adaptive management and improve the accessibility of information
- ▶Strategies for addressing uncertainty and conflicting scientific information
- ▶The prioritization of research and balancing of the short-term immediate science needs with science that enhances comprehensive understanding of the Delta system over the long term
- ▶Identification of existing and future needs for refining and developing numerical and simulation models along with enhancing existing Delta conceptual models (e.g., the Interagency Ecological Program Pelagic Organism Decline and the Delta Regional Ecosystem Restoration Implementation Plan models)
- ▶Recommendations on an integrated approach for monitoring that incorporates existing and future monitoring efforts

Get Involved!

For more information about the Delta Science Plan, the Delta Science Program and to get involved in building the Delta science community visit: http://deltacouncil.ca.gov/science-program

Delta Science Program
Delta Stewardship Council

Guiding Principles for the Delta Science Plan

Independence. Science in the Delta must be viewed, in reality and perception, as independent. It should be objective, inclusive and transparent. It should be dedicated solely to discovery and communication of scientific information to inform the adaptive management of ecosystem restoration and water management.

Culture of excellence. All aspects of Delta science should support a culture of critical thinking, creativity, innovative ideas, and interdisciplinary team collaboration. Such a culture of science excellence naturally attracts talented investigators and technicians from diverse fields including ecology, geomorphology, water quality, hydrodynamics and the social sciences.

Advance the state of knowledge. Delta science should be judged on the basis of contributions to the knowledge base as indicated by quality, important, and relevant contributions to the peer-reviewed science literature.

Policy relevant. While upholding independence and science excellence, Delta science should maintain a clear focus on science relevant to supporting the coequal goals of water supply reliability and ecosystem restoration now and in the future.

Adhere to criteria for best available science. Delta science should be consistent with the Delta Plan criteria for best available science (adapted from criteria developed by the National Research Council): relevance, inclusiveness, objectivity, transparency and openness, timeliness, and peer review.

Interdisciplinary. Delta science initiatives should exemplify interdisciplinary collaboration addressing the web of physical drivers, process linkages, and geomorphic, chemical, and biological functions in the Delta. Effective science investigations should reflect similar web-of-science disciplines that collaborate for synergistic learning across traditional lines of expertise.

Targeted Research and Monitoring. Delta science includes traditional research, status and trends monitoring and process investigations of implemented management actions. All approaches apply the scientific method, including posing specific hypotheses, designing experiments, data acquisition and management, data analysis and synthesis. Conclusions from these investigations inform adaptive management decisions.

Bridging science and policy through communication. Delta science is committed to communication of policy and management relevant science by actively and effectively communicating scientific understanding supporting progress toward meeting the coequal goals.

Delta Science Plan Elements Under Exploration

- An open and inclusive Bay-Delta Science Community
- New paradigms for:
  - Conducting science around grand challenges
  - Using the latest technological innovations for data management (building interoperability) and communicating science
- Emphasis on synthesis that is both currently relevant and anticipatory

About the Delta Science Program

In 2000, the CALFED Science Program, now the Delta Science Program (DSP), was established to be the 'honest broker' of science in the Bay-Delta system, to facilitate independent peer review of science supporting management actions and to create forums for building consensus and reducing uncertainties inherent to managing the complex Bay-Delta system. The Delta Reform Act of 2009 established the DSP as the replacement for, and successor to, the broadly-supported CALFED Science Program. The Act gave the DSP an explicit mission to provide the best possible unbiased scientific information to inform water and environmental decision making in the Delta. This mission is carried out through supporting, synthesizing, facilitating and communicating unbiased and authoritative scientific knowledge directly relevant to Bay-Delta actions. Maintaining the independent role of the Delta Science Program is fundamental and widely recognized[1] as critically important for ensuring that all Bay-Delta water and environmental policy is founded on the highest caliber science.

[1] National Research Council Report: Sustainable Water and Environmental Management in the California Bay-Delta (2012)