

Enhancing the Vision for Managing California's Environmental Information

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EXECUTIVE SUMMARY

The Environmental Data Summit, convened under the auspices of the Delta Stewardship Council's Delta Science Program in June 2014, witnessed remarkable participation from experts across California, the nation, and even the world. Summit attendees from the public, private, federal, and non-profit sectors shared their views regarding the urgent needs and proposed solutions for California's data-sharing and data-integration challenges, especially pertaining to the subject of environmental resource management in the era of "big data." After all, this is a time when our data sources are growing in number, size, and complexity. Yet our ability to manage and analyze such data in service of effective decision-making lags far behind our demonstrated needs.

In its review of the sustainability of water and environmental management in the California Bay-Delta, the National Research Council (NRC) found that "only a synthetic, integrated, analytical approach to understanding the effects of suites of environmental factors (stressors) on the ecosystem and its components is likely to provide important insights that can lead to enhancement of the Delta and its species" (National Research Council 2012). The present "silos of data" have resulted in separate and compartmentalized science, impeding our ability to make informed decisions. While resolving data integration challenges will not, by itself, produce better science or better natural resource outcomes, progress in this area will provide a strong foundation for decision-making. Various mandates ranging from the California Water Action Plan to the President's executive order demanding federal open data policies demonstrate the consensus on the merits of modern data sharing at the scale and function needed to meet today's challenges.

This white paper emerges from the Summit as an instrument to help identify such opportunities to enhance California's cross-jurisdictional data management. As a resource to policymakers, agency leadership, data managers, and others, this paper articulates some key challenges as well as proven solutions that, with careful and thoughtful coordination, can be implemented to overcome those obstacles.

Primarily featured are tools that complement the State's current investments in technology, recognizing that success depends upon broad and motivated participation from all levels of the public agency domain.
Executive Summary

This document describes examples, practices, and recommendations that focus on California's Delta as an opportune example likely to yield meaningful initial results in the face of pressing challenges. Once proven in the Delta, however, this paper's recommended innovations would conceivably be applied statewide in subsequent phases. For the purposes of this executive summary, here we highlight some of the findings and recommendations found within the white paper. This subset should provide insight into some of the white paper's primary assertions. The full list of findings and recommendations follows this executive summary.

FINDINGS

- The State's data-governance policies are lacking in definition and current application. A new governance framework—a process to facilitate rights and accountability for information-related processes—should be established that facilitates broader decisions and standards regarding the State's data management.
- “Transparency” is a fundamental attribute of public data, but its definition has changed over time with advances in technology. The public stakeholders and peer agencies alike now seek data on demand.
- Clear and careful documentation of data quality and data formats through metadata (background information about the data) avoids misunderstandings and misapplication of information—increasing the effectiveness of management decisions, reducing disputes, and obviating some basis of litigation. Clear standards also help to promote compatibility among datasets for purposes of aggregation and analysis.
- Coordinated and collaborative data management must be conducted using business models that foster sustained, incremental investment and partnership with nongovernmental partners.

RECOMMENDATIONS

- Data governance oversight: applying data standards, documenting data, and seeking strategic alliance with national and global initiatives
- Develop a system where all environmental data can be accessed from a single sourcepoint (data federation strategy) with a specific, time-bound roadmap. This effort must complement the work of the data standards implementation.
- Develop a business case and adopt a funding strategy in service of a sustainable business model.

Full text: [884_EnhancingVisionForManagingCA_EnvInfo.pdf](#)