



# Stress Relief

## Prescriptions for a Healthier Delta Ecosystem

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### SUMMARY

**A** century and a half of human uses of the Sacramento–San Joaquin Delta and its greater watershed have transformed the aquatic ecosystem, sharply reducing native fish populations. Efforts to reverse these declines have been largely unsuccessful, and the rising costs of regulation have fueled social conflicts. These conflicts have often played out in the courtroom, where scientific uncertainty has been used to undermine the legitimacy of Delta science.

The state is at a critical juncture on Delta policy. Implementation of the first “Delta Plan”—the foundational plan for meeting the “co-equal goals” of ecosystem health and water supply reliability called for in the Delta Reform Act of 2009—is to begin in 2013. Decisions are also expected on the Bay Delta Conservation Plan (BDCP), which is intended to improve conditions for native species while facilitating continued water exports from the Delta under the federal and state Endangered Species Acts. These and related efforts offer significant promise. But California still faces an uphill battle to incorporate science effectively in decisionmaking and make judicious management choices within a highly fragmented and adversarial institutional structure, involving dozens of federal, state, and local entities.

This report summarizes the results of a wide-ranging study examining steps California can take to improve the health of the Delta ecosystem through science-based, integrated management of the many sources of ecosystem stress. Our key findings:

1. “Reconciliation ecology” offers a realistic approach to managing the Delta’s highly altered ecosystem and meeting the co-equal goals. Reconciliation seeks to improve ecosystem

processes to support desirable species while acknowledging that humans will continue to rely on the region's land and water resources. This approach would restore natural processes wherever possible (particularly favorable flows and habitat) and use infrastructure and technology (such as hatcheries) to support native species. Because some parts of the Delta are unlikely to support native species, area specialization is essential. Both the Delta Plan and BDCP contain elements of a reconciliation approach.

2. The reconciliation process needs to be guided by science and broadly supported by Californians. We surveyed the scientific community and engaged policymakers and stakeholders to gauge their current views. Scientists favor reconciliation strategies: strong majorities emphasized flow and habitat actions in and upstream of the Delta that would restore more natural processes. Stakeholders and policymakers generally agree with scientists on high-priority solutions. However, stakeholders were more likely to prioritize actions in areas unrelated to their own uses of the Delta and shy away from actions that would be costly for them.
3. A modest but powerful set of changes to existing institutional structures can help achieve better environmental outcomes while containing costs, which are likely to exceed several hundred million dollars annually:

**Consistent planning.** Comprehensive reviews of the numerous related planning efforts to determine their compatibility with the state's overall Delta Plan.

**Integrated and accountable management.** Proactive use of the new Delta Plan Inter-agency Implementation Committee to coordinate implementation of work plans, hold agencies accountable, and integrate adaptive management.

**More comprehensive and integrated regulation.** Regulatory coverage of more stressors, reduced duplication, and expedited environmental permitting (currently a costly obstacle to ecosystem reconciliation).

**Common pool science.** Creation of a Delta science joint powers authority involving regulators and regulated parties that would foster shared understanding, build knowledge, and inform adaptive management efforts.

With this game plan for a more environmentally effective, fiscally responsible approach, policymakers can make a stronger case to stakeholders and the broader public for the necessary financial support.

Please visit the report's publication page to find related resources:  
[www.ppic.org/main/publication.asp?i=1051](http://www.ppic.org/main/publication.asp?i=1051)