

# Funding Issues: USGS Proposal

USGS CALFED SCIENCE SUPPORT INITIATIVE

Executive Summary

(Draft 10.1,

12/11/97)

Background and Justification

The San Francisco Bay-Delta estuary and the Sacramento and San Joaquin River basins are important habitats for hundreds of fish and wildlife species, and the delta is the hub of California's water distribution system, which partially supplies drinking water to over 22 million people and irrigation water to over four million acres of farmland. People have profoundly altered the Bay-Delta ecosystem during the last 150 years, resulting in a precipitous decline in abundance of some fish and wildlife species during the last two decades. CALFED is a multifaceted program created by agreement among state and federal governments and stakeholders to develop long-term solutions to the problems of the delta. Rehabilitation of the Bay-Delta ecosystem will involve many actions to create and restore wetlands, riparian habitat, fish populations, and key ecosystem components and processes.

Congress asked the Secretary of the Interior to collaborate with CALFED agencies to establish performance measures, indicators of ecosystem health, and associated monitoring protocols to determine if the goals of the California Bay-Delta Ecosystem Restoration Program are achieved. In spite of the long history of studies about the Bay-Delta ecosystem, significant uncertainties remain about specific causes of declines of key species and the effectiveness of the proposed rehabilitation efforts to reverse these declines. In California Proposition 204 (November 1996), voters approved \$995 M in bonds for CALFED programs, of which more than half goes to restoration activities. Federal authorization of almost \$500 M and the appropriation of \$85 M in FY98 were committed to the same

purpose. About \$20 M are currently spent on aquatic and biological monitoring by the Interagency Ecological Program, San Francisco Estuary Institute, Sacramento River Watershed Program, the Comprehensive!

Assessment and Monitoring Program of the Central Valley Project, USGS monitoring activities and others. However, significant gaps in ecosystem monitoring are clearly recognized by CALFED such as conceptual and numerical modeling, base-line mapping of the system, intensive and extensive monitoring of many contaminants linked to flows, integrated biological assessments, and assessments of cumulative effects of multiple stressors to the system.

#### Recommended Approach

In compliance with Federal authorizations, the USGS proposes a \$4.725 million program for Fiscal Year 1998 (\$1.325 million for monitoring development and \$3.4 million to begin field verification). This "USGS-CALFED Science Support Initiative" is designed to strengthen the role of science in CALFED Bay-Delta rehabilitation efforts. As a non-regulatory agency with established scientific capabilities in hydrology, biology, geology, and mapping, the USGS can support rehabilitation monitoring as identified in the "Draft Concept for the CALFED Bay-Delta Program Comprehensive Monitoring, Assessment, and Research Plan" (October 15, 1997). This initiative is proposed as a partnership with the Interagency Ecological Program, CALFED agencies, and other ongoing science support activities. Intensive activities in the Bay-Delta itself will be complemented by more extensive activities in the associated watersheds and San Francisco Bay.

#### Actions

1. Cooperate with the CALFED "Indicators Group" to Refine the Conceptual Framework for Monitoring. Integrate involvement of USGS scientists in the CALFED "Indicators Group" to help evaluate and refine the existing conceptual framework for the Bay-Delta river and estuary system in support of the development of a CALFED monitoring and assessment program.
2. Design and Support Monitoring and Inventory Programs. Assist CALFED in the design, coordination, and conduct of natural resource monitoring and inventories, including the development of

performance measures. Establish intensive monitoring and research study sites with an ecological focus to better isolate and characterize management outcomes.

3. Focus Research in Support of Monitoring. The USGS will collaborate with the Interagency Ecological Program and others to develop a focused research program to meet the needs of the CALFED program for evaluating the rehabilitation actions and for adaptive management.

4. Initiate a Routine Integrated Data Evaluation and Reporting Process. Provide accurate ecosystem evaluations based upon action-specific and general ecosystem monitoring programs that track indicators of ecosystem health. Establish an integrated database of USGS project data including an architecture to support access to data and their effective application to project goals. Produce an initial "report card" of indicators within two years, and design a more comprehensive integrated assessment of the Bay-Delta ecosystem.

#### Implementation

This Science Support Initiative will facilitate the development of an improved integrated monitoring program and will produce a comprehensive plan to guide monitoring and other science support activities in the future. We recommend that CALFED immediately establish a high-level Science Support Team to provide scientific support and an adaptive management linkage between scientists and the CALFED Policy Team (e.g., coordinating technical work groups, assisting the science information needs process, facilitating the ongoing proposal and peer-review processes). We further recommend that the USGS allocate 10.5 FTEs in staff positions, some positions possibly co-located with CALFED, in support of the USGS-CALFED Science Support Initiative.