

Sustainable Water and Environmental Management in the California Bay-Delta

Statement of Task (Approved November 10, 2009)

At the request of Congress and the Departments of the Interior and Commerce, a committee of independent experts will be formed to review the scientific basis of actions that have been and could be taken to simultaneously achieve both an environmentally sustainable Bay-Delta and a reliable water supply. In order to balance the need to inform near-term decisions with the need for an integrated view of water and environmental management challenges over the longer-term, the committee will undertake two main projects over a term of two years resulting in two reports, subject to available funding throughout that period.

First, within four months of receipt of funding or authorization to begin work, anticipated to be March 15, 2010, the committee will issue a report focusing on scientific questions, assumptions, and conclusions underlying water-management alternatives in the U.S. Fish and Wildlife Service's (FWS) Biological Opinion on Coordinated Operations of the Central Valley Project and State Water Project (Dec. 15, 2008) and the National Marine Fisheries Service's (NMFS) Biological Opinion on the Long-Term Central Valley Project and State Water Project Operations Criteria and Plan (June 4, 2009). This review will consider the following questions:

- Are there any “reasonable and prudent alternatives” (RPAs), including but not limited to alternatives considered but not adopted by FWS (e.g., potential entrainment index and the delta smelt behavioral model) and NMFS (e.g., bubble-curtain technology and engineering solutions to reduce diversion of emigrating juvenile salmonids to the interior and southern Delta instead of towards the sea), that, based on the best available scientific data and analysis, (1) would have lesser impacts to other water uses as compared to those adopted in the biological opinions, and (2) would provide equal or greater protection for the relevant fish species and their designated critical habitat given the uncertainties involved?
- Are there provisions in the FWS and NMFS biological opinions to resolve potential incompatibilities between the opinions with regard to actions that would benefit one listed species while causing negative impacts on another, including, but not limited to, prescriptions that: (1) provide spring flows in the Delta in dry years primarily to meet water quality and outflow objectives pursuant to Water Board Decision-1641 and conserve upstream storage for summertime cold water pool management for anadromous fish species; and (2) provide fall flows during wet years in the Delta to benefit Delta smelt, while also conserving carryover storage to benefit next year's winter-run cohort of salmon in the event that the next year is dry?
- To the extent that time permits, the committee would consider the effects of other stressors (e.g., pesticides, ammonia discharges, invasive species) on federally listed and other at-risk species in the Bay-Delta. Details of this task are the first item discussed as part of the committee's second report, below, and to the degree that they cannot be addressed in the first report they will be addressed in the second.

Second, within 24 months of receipt of funding, the committee will issue a second report on how to most effectively incorporate science and adaptive management concepts into holistic programs for management and restoration of the Bay-Delta. This advice, to the extent possible, should be coordinated in a way that best informs the Bay Delta Conservation Plan development process. The review will include tasks such as the following:

- Identify the factors that may be contributing to the decline of federally listed species, and as appropriate, other significant at-risk species in the Delta. To the extent practicable, rank the factors contributing to the decline of salmon, steelhead, delta smelt, and green sturgeon in order of their likely impact on the survival and recovery of the species, for the purpose of informing future conservation actions. This task would specifically seek to identify the effects of stressors other than those considered in the biological opinions and their RPAs (e.g., pesticides, ammonia discharges, invasive species) on federally listed and other at-risk species in the Delta, and their effects on baseline conditions. The committee would consider the extent to which addressing stressors other than water exports might result in lesser restrictions on water supply. The committee's review should include existing scientific information, such as that in the NMFS Southwest Fisheries Science Center's paper on decline of Central Valley fall-run Chinook salmon, and products developed through the Pelagic Organism Decline studies (including the National Center for Ecosystem Analysis and Synthesis reviews and analyses that are presently under way).
- Identify future water-supply and delivery options that reflect proper consideration of climate change and compatibility with objectives of maintaining a sustainable Bay-Delta ecosystem. To the extent that water flows through the Delta system contribute to ecosystem structure and functioning, explore flow options that would contribute to sustaining and restoring desired, attainable ecosystem attributes, while providing for urban, industrial, and agricultural uses of tributary, mainstem, and Delta waters, including for drinking water.
- Identify gaps in available scientific information and uncertainties that constrain an ability to identify the factors described above. This part of the activity should take into account the Draft Central Valley Salmon and Steelhead recovery plans (NOAA 2009b), particularly the scientific basis for identification of threats to the species, proposed recovery standards, and the actions identified to achieve recovery.
- Advise, based on scientific information and experience elsewhere, what degree of restoration of the Delta system is likely to be attainable, given adequate resources. Identify metrics that can be used by resource managers to measure progress toward restoration goals.

The specific details of the tasks to be addressed in this second report will likely be refined after consultation among the departments of the Interior and Commerce, Congress, and the National Research Council, considering stakeholder input, and with the goal of building on, rather than duplicating, efforts already being adequately undertaken by others, and will be subject to available funding.