Independent Science Board

CALFED Bay-Delta Program
650 Capitol Mall, 5th Floor
Sacramento, CA 95814
Phone: (916) 445-5511
Fax: (916) 445-7297
www.science.calwater.ca.gov

January 22, 2008

To: Lester Snow, Director
Department of Water Resources

John McCamman, Interim Director
Department of Fish and Game

Mark. B. Horton, Director
Department of Public Health

Michael Finnegan,
Acting Regional Director
Bureau of Reclamation

Maria Rea, Area Supervisor
National Marine Fisheries Service

Dorothy Rice, Executive Director
State Water Resources Control Board

Steve Thompson, Manager
U.S. Fish and Wildlife Service

Stephen Johnson, Administrator
U.S. Environmental Protection Agency

From: Jeff Mount, Chair
CALFED Independent Science Board

RE: Providing Adequate Resources for Development of Performance Measures

For several years, the CALFED Bay-Delta Program (CALFED) has been involved in developing performance measures to assess the progress and outcomes of CALFED projects. To support this effort, the CALFED Science Program in conjunction with CALFED Agency Staff has developed a framework and approach for identifying, compiling, analyzing and reporting on administrative, output and outcome performance measures. Most recently, this effort has been divided into two phases. Phase I which ended in October 2007, resulted in the Phase I Report (http://www.science.calwater.ca.gov/) which identifies initial CALFED outcome performance measures. The Phase II will collect the data and report on a subset of those initial performance measures.

The CALFED Independent Science Board (ISB) is charged with reviewing performance measures developed by the CALFED programs. To assist in that process, the ISB has identified liaisons to the four CALFED programs: Water Quality, Water Supply Reliability, Levee System Integrity, and Ecosystem Restoration. In October 2007, liaisons met with performance measures program representatives to discuss Phase I progress and the challenges ahead for Phase 2.

The CALFED Performance and Tracking Program made significant progress on compiling and reporting on budget and expenditure aspects of performance

measures. Despite this effort, we remain concerned that development of outcome performance measures has not been given very high priority. The implementing agencies, which are responsible for performance measure development, have provided inadequate resources for the task. We cannot underscore enough the need for qualified staff, especially as the team moves forward with Phase 2. Significant resources are needed for the data collection, analysis and reporting needed to relate CALFED implementation projects to outcomes.

In 2006, the ISB wrote a letter (Attachment 1) to the California Bay-Delta Authority regarding performance measures. This letter emphasized the important role of performance measures and noted that "it is critical that the implementing agencies give this process [of development of performance measures] high priority."

The ISB again urges that additional resources be put toward the development of performance measures. At present, there is less than the one full-time equivalent (FTE) per program area dedicated to the CALFED performance measures effort. We strongly recommend a substantial increase in resources to support performance measure development. Without this level of commitment, the progress on performance measures will continue to fall short of expectations.

In addition, we outline specific comments and issues (Attachment 2) for each of the subgroups as reflected in the Phase I Report. These issues largely arise from lack of resources to adequately move forward with CALFED performance measures.

cc. Mike Chrisman, Resources Agency Secretary
Joe Grindstaff, Director CALFED
Mike Healey, Lead Scientist CALFED

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September 12, 2006

California Bay-Delta Authority
650 Capitol Mall, 5th Floor
Sacramento, CA 95814

Dear California Bay-Delta Authority Members:

Performance Measures for the CALFED Bay-Delta Program

At the August meeting of the CALFED Independent Science Board (ISB) we were updated on progress toward setting performance measures for CALFED program elements. As outlined in the Governor's 10-Year Action Plan for the program, the development of performance measures is a specific responsibility of the implementing agencies. Working with the agencies, CALFED Science Program staff have developed a framework and phased process for selecting and implementing performance measures, including review and approval by the ISB. Some progress has been made in the area of water quality; however, the ISB is concerned about the lack of progress in selecting these measures for the rest of the program.

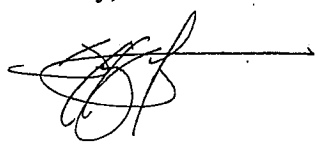
It is the view of the ISB that performance measures are crucial to the CALFED mission because they are necessary to judge or document progress toward CALFED goals in a consistent and scientifically rigorous way. In addition, performance measures are needed to support decisions to modify, abandon, or expand projects. Finally, performance measures are essential for adaptive management, a fundamental tenet of the CALFED Program. Failure to develop performance measures has been criticized repeatedly by the legislature and in program reviews by KPMG and the Little Hoover Commission.

Time is of the essence because many significant decisions must be made over the next two years and suitable performance measures are critical to those decisions. The CALFED Science Program staff and the ISB will work with the implementing agencies to develop a suitable set of performance measures, and it is critical that the implementing agencies give this process high priority.

We are sure you appreciate the need for – and the significance of – a scientifically based program evaluation. The ISB looks forward to working with your staff to expedite development and implementation of performance

measures. Please feel free to contact Ron Ott or Lauren Hastings of the CALFED Science Program staff if there are any questions.

Sincerely,



Jeffrey Mount, Chair
CALFED Independent Science Board

cc: Joe Grindstaff, CALFED Bay-Delta Program
Ron Ott, CALFED Science Program
CALFED Implementing Agencies

Attachment 2: Specific Comments on Phase I Report Performance Measures

Integration Across Programs

Although the different programs are using a common descriptive model for development of performance measures, there is little, if any, evidence of cross-cutting, integrative efforts among the programs. For example, water quality performance measures are important to that specific program but also are critical components within the Ecosystem Restoration program. Environmental water may also be a critical element of the Water Supply and Ecosystem Restoration programs, and yet, performance measures that would be important to both programs appear to have little relationship with each other. All programs should be striving to assure that performance measures within one program recognize the linkages to others.

Water Quality

While there was exemplary progress on performance measures for water quality reported last year, there has been little further progress and more important, there remain significant omissions in the Phase 1 Report. Two were judged important by the ISB representatives: (1) The PM for total organic carbon focused only on the possible human health effects caused by disinfection byproducts after treatment with chlorine. The positive effect of total organic carbon on some aquatic species including fish was not included. In general, performance measures for water quality related to ecosystems were not emphasized enough except for mercury. (2) The report listed entirely too few performance measures, omitting such potentially important water quality parameters as pesticides, emerging contaminants coming from municipal waste waters such as endocrine disruptors, pharmaceuticals and personal care products, as well as other elements such as selenium that have known effects on aquatic species and perhaps on humans. The reason for limiting the PM's to a few was ascribed primarily to the lack of human resources available from the appropriate agencies. The result unfortunately is a document that will be of limited help to those who will be evaluating options for the Delta in the future.

Water Supply Reliability

Progress has been made on performance measures based on water deliveries to the main water contractors of the State Water Project (SWP) and the Central Valley Project (CVP). Proposed performance measures concepts have been put forth that indicate the reliability of these deliveries using probabilistic models based on numbers of incidences when Delta Standards and Requirements have not been met, and the acre-feet of unexpected reductions in SWP and CVP deliveries. In addition, there are performance measure approaches proposed to use the degree of noncompliance with various environmental regulations as a measure of performance. However, the details of these measures remain vague and undeveloped at this time. Furthermore, there has been no attempt to relate the number of incidences to the environmental effects, or the acre-feet of reduced SWP and CVP deliveries to related economic or other consequences. Also it would appear useful to consider having additional environmental flowrate information internal to the Delta for use in developing ecological and water quality models. The CALFED ISB member liaisons remain keenly interested in interacting with the implementing agencies staffs to further refine and finalize the water supply reliability performance measures.

Levee System Integrity

Progress in the Levee System Integrity program has been limited, principally due to a lack of staff resources. The Levee System Integrity team continues to use Kilo-Inch-Miles (KIMs) as a measure of the net work to achieve the PL 84-99 levee standard, where "inch" refers to the amount each given section of levee must be raised to achieve the standard. During earlier discussions with DWR's team, ISB liaisons expressed concern about the utility of this approach and recommended alternatives be explored. In the most recent meetings, liaison members

suggested enriching KIM by also including the height of the levees so it would become Kilo-Height-Inch-Miles (KHIMs). The DWR Team was open to this suggestion since the same LiDAR data being used to calculate the KIMs also contains the data needed to calculate KHIMs. Furthermore, KHIMs will more accurately predict the net work necessary to achieve the PL 84-99 levee standard. The ISB liaisons also suggested breaking risk into two components: 1) Consequential Risk of the failure of the levees protecting each island, which would include the value of the infrastructure therein, location, and the accommodation space; and 2) Probability Risk of failure of the levees protecting each island, which might include the KHIMs, the aspect of the levees to the major open water and wind directions, locations related to flood flows and tidal surges, seismic hazard location, average levee height, the internal integrity of the levees, etc. The CALFED ISB member liaisons remain keenly interested in interacting with the implementing agencies staffs to further refine and finalize the levee system integrity performance measures.

Ecosystem Restoration

Progress has been made on development of performance measures based on individual species for which there are some available data. Little attention has been given to developing measures that reflect ecosystem function or that integrate system components. The anticipated use of DRERIP models to drive development of performance measures has delayed some forward action on performance measures as the Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) conceptual models apparently are still in the development and review stage. Agency personnel have been able to spend little time on development of performance measures because other issues have been given higher priority. If significant progress is to be made in developing performance measures, additional human resources need to be provided.