

Agenda Item: 4.C
Meeting Date: May 24, 2006

BAY-DELTA PUBLIC ADVISORY COMMITTEE

RECONSTITUTED INDEPENDENT SCIENCE BOARD

Summary: The previous Independent Science Board last met in May 2005 and is no longer under contract. The Lead Scientist is nominating a new Independent Science Board for approval by the California Bay-Delta Authority in June.

Recommended Action: This is an information item only.

Background

As reported in the Lead Scientist Report at the September 2005 Authority meeting, the current CALFED Science Boards [CALFED-wide Independent Science Board (ISB), the Ecosystem Restoration Program Science Board (ERPSB); Water Management Science Board (WMSB)] and their activities have been on hiatus since the contract supporting their efforts expired in May 2005. This hiatus has provided an opportunity to examine the organization and structure of the CALFED science boards and determine whether they might be improved to better meet the current needs of the CALFED Program and implementing agencies.

Working with Science Program staff, CALFED Program managers and lead agency staff, the Lead Scientist developed an approach that would streamline the current board structure, while maintaining the technical oversight and scientific integrity required to support CALFED management needs. The recommended approach, reported at the Authority's October 2005 meeting, envisioned a smaller, more targeted ISB, made up of only 10 -12 members, along with advisors, technical review panels and workshops to address specific technical and scientific review needs for the Program.

As reported at the November 2005 Authority meeting, the Lead Scientist proposed to defer implementation of this new approach until a new Lead Scientist was in place, which was expected to occur by summer 2006. Since it is now uncertain when a new Lead Scientist will be in position, and because the term of the current Lead Scientist will expire June 30, 2006, he now recommends moving forward with reconstituting a smaller, more targeted ISB.

The California Bay-Delta Authority Act states: The Lead Scientist shall nominate, and the Authority shall establish, a board of independent scientists, to be known as the Independent Science Board, that shall advise and make recommendations to the Authority and the Bay-Delta Public Advisory Committee, as appropriate, on the science relative to the implementation of all program elements (Water Code sec. 79470(a)).

The ISB is designed to be a standing board of distinguished experts (scientists and engineers) made up of individuals with a range of multi-disciplinary expertise balanced among those with local experience and those with external relevant expertise. These experts will help the Authority establish a balanced view of the science issues that underlie important policy decisions. The Independent Science Board will not pass direct judgment on the success or failure of the Authority's programs, but provide insights that can make the science underlying those programs, the application of that science, and the technical aspects of those programs, the best they can be. This includes overseeing the goal of explicitly characterizing the status of knowledge and identifying assumptions and uncertainties. The ISB, as a whole, will include the necessary expertise to cover the breadth of CALFED Program issues.

The new ISB will follow the charge as attached for the ISB by the Authority August 2003 (Attachment 1). Primary near-term ISB activities will include evaluating the science agenda for the CALFED Program as a whole, assuring science is used in all programs, helping to select the Lead Scientist, and beginning work on proposed National Research Council (NRC) reviews.

In June 2006, the Authority will be asked to approve two resolutions: one to disband the previous ISB and another to establish a new ISB as nominated by the Lead Scientist. The Lead Scientist will provide a recommended list of new ISB members who will have experience in water management, water quality, riparian restoration, fish biology, modeling, environmental planning, and environmental economics. ISB meetings will be open to the public and updates on its activities will be provided at BDPAC meetings.

List of Attachments

Attachment 1 – Charge to the Independent Science Board

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**Charge to the Executive Science Board
of the CALFED Bay-Delta Authority
as approved by the Authority on
August 14, 2003**

An Independent Science Board is called for in the CALFED ROD (August 2000) to ensure the application of world-class science to the California Bay-Delta system. Similarly, the Act requires an Independent Science Board to provide this function.

The Independent Science Board would be a standing board of distinguished experts (scientists and engineers) who would directly advise the Authority and BDPAC, as appropriate, on the application of science and the effectiveness of science practices across the Bay-Delta Program. The Independent Science Board would not be asked to pass direct judgment on the success or failure of Bay-Delta programs, but to provide insights that can make the science underlying those programs, the application of that science, and the technical aspects of those programs the best they can be. This includes overseeing the goal of explicitly characterizing the status of knowledge and identifying assumptions and uncertainties. Independent Science Board members would be paid. Many of the members of the Independent Science Board will also be members of existing standing boards and technical panels. The Board as a whole should thus include the necessary expertise to cover the breadth of California Bay-Delta issues. It is expected that the Independent Science Board will grow beyond the initial appointees to address the necessary expertise, but will be no larger than 25 members total.

The specific charge of the Independent Science Board is outlined as follows:

1. Understand the technical underpinnings of the Bay-Delta Program. Work with the Lead Scientist and the Science Program to effectively incorporate science into large scale water management and restoration programs. As a group, the Independent Board should have and sustain an up-to-date understanding of the Authority's proposed actions and the state of the science applicable to those actions.
2. Evaluate and provide insights on progress toward addressing underlying premises of the Bay-Delta Program. Implicit in the CALFED ROD are basic premises about balanced progress toward achieving the four goals of the program. Can outcomes of ecosystem restoration balance outcomes of modifications of water diversion? Should ecosystem restoration proceed across the Delta or avoid areas influenced by stressors such as the diversion pumps? How does the program balance the benefits of bioavailable carbon genesis in restoration projects with the adverse consequences of DOC for drinking water? An important mission

of the Board is to explicitly identify the fundamental premises and help the program track progress toward addressing the technical aspects of these.

3. Annually evaluate the science agenda. Annually provide insights and evaluation on the implementation of a strategic, balanced, and proactive science agenda across the entire program. Evaluate technical priorities, adequacy of funding, peer review, use of outside experts, and the successes and weaknesses of the investments in gaps in scientific knowledge. Evaluate progress on the development of an authoritative body of knowledge relevant to each goal and program of the Authority. Help identify where important gaps in knowledge or the science effort might exist, with an emphasis on considering interconnections among different elements of the Program.
4. Assure balance and credibility of analyses. Provide insights in an annual report as to whether the analyses of the state of the science being applied to specific issues under the purview of the Authority are balanced and credible, including insights on how to improve such analyses in general or in the case of specific issues.
5. Approve performance measures. Evaluate and provide final approval of performance measures for the Bay-Delta Program, assuring scientific rigor and balanced interpretation of each measure and its updates.
6. Assure science is used in all programs. Compare development of science in different standing programs of the Authority and give advice on how to move science forward in all programs (including advice on selection of experts of advisory functions or standing boards; evaluation of science priorities).
7. Identify impending issues and significant interconnections. Help the Authority anticipate issues and identify areas of interconnection among programs that might otherwise be missed by more specialized boards and panels; and suggest solutions, where needed, to interconnecting issues (e.g., technically-based actions, workshops, reviews, RFPs, program collaborations, or new research).
8. Work with the National Research Council. Work with National Academy of Sciences and National Research Council board representatives to develop broad questions suitable for outside review by the National Research Council.
9. Help select the Lead Scientist. Working closely with the Director, the Independent Science Board will lead and oversee the selection process when the Lead Scientist position is vacant. This will include making a

recommendation to the Authority on the nomination of potential candidate(s).

The Independent Science Board's proposed role is one of overview rather than initiating reviews. The Independent Board cannot rescind the technical results of standing boards or technical panels or any other working group. But the Independent Science Board will review the activities of those groups for balance, rigor, and use of authoritative science. It is expected that individual standing boards will continue to act with independence with regard to their areas of assignment; although they might consult with the Independent Science Board for insights and suggestions to aid these activities. Like all technical expert bodies, the Independent Science Board will not be asked to make policy decisions, but it will provide insights on how to improve credibility, improve clarity, and advance the debate about Bay-Delta issues, as well as how to better connect science and management.

The Independent Science Board will be expected to produce a written report once every two years on the state of science across the entire Bay-Delta Program. Board members may be asked to testify on their evaluations before the Legislature or Congress. The Board will meet approximately three times per year unless experience dictates a greater or lesser meeting frequency. Membership of the Board will be constant for the first four years, and then a progressive rotation of 5 board members per year will begin. Board membership for an individual may be renewed up to two times at the request of the Lead Scientist, with concurrence from the Director and the Authority.

Definition of Independent Expert

Independent experts are defined by their academic credentials in specific areas of needed expertise. Except in specifically defined circumstances, they have little or no direct stake in the issue for which they are advisors. The experts are typically paid for their work by the Authority, unless they are Federal or State employees (whose hours may be reimbursed to their employer).

Typical activities of independent experts include the following:

1. Bringing detailed expertise to bear on scientific issues of concern. This may include characterizing the status of knowledge about critical issues; identifying key scientific issues, or helping staff prioritize issues. Other duties include organizing or participating in workshops on critical subjects, and/or identifying, proposing, prioritizing, or writing white papers or reviews. Some expert advisors have identified pending issues before they become critical or worked directly with managers, staff biologists, or operating engineers to help them take into account broader scientific practices, principles and implications.

2. Reviewing, advising, or providing technical insights for documents, proposals, or programs. Programs can include either issues that require multiple studies or proposals for an action by implementing agencies, such as changes in conveyance, threats to levees, and restoration strategies.
3. Analyzing existing data related to specific actions or programs as relevant to reviews or advising as described above.
4. Designing, conducting, or leading studies relevant to accomplishing Program goals that are not in conflict with review roles.

Qualifications of Independent Experts

Independent experts are agents for facilitating communication between the Authority and the scientific and management community. Therefore, they must have the highest level of expertise and stature so that their advice is respected by the public, scientists, agency technicians, agency staff, BDPAC, and management. The ability to sustain a balanced view of issues is just as important as stature in an independent expert. It is critical that the expert (or advisor) have a reputation for willingness to listen to opposing views, willingness to change one's mind in the face of evidence contrary to an original view, and willingness to separate one from biases associated with employment or professional associations. Thus, invitation to be an independent expert requires all or most of the following:

- Scientific stature. Evidence of stature in the broad scientific community (invited contributions to workshops, conferences or panels; evidence of scientific leadership; awards, membership, or important committee assignments in prestigious organizations).
- Advisory experience. Experience advising top managers and promoting constructive uses of environmental science, especially in arenas relevant to water management and/or ecosystem restoration.
- Technical publications. A strong record of publication in peer-reviewed scientific literature in an area of expertise relevant to the issues at hand.
- Relevant knowledge. Evidence of extensive and/or intensive working knowledge of a scientific field related to the specific issues of concern.
- People skills. Evidence of abilities to work and communicate well with people.
- Reputation for achieving balance. Evidence of ability to weigh issues in a balanced manner when in an advisory capacity.
- Interdisciplinary skills. Evidence of ability to work and think across disciplines, and/or experience in working with and advising on complex issues that integrate multiple disciplines.