

Department of Interior, Bureau of Reclamation, Bay-Delta Office comments on Delta Independent Science Board report 'Adaptive Management in the Sacramento-San Joaquin Delta: How is it used and how can it be improved?'

The report presents a review of how adaptive management (AM) is perceived by agency, Non-Governmental Organization (NGO) and others involved in resource management and ecosystem restoration in the Delta and the degree to which it is being implemented. The findings are based in part on results of a questionnaire survey and follow-up interviews with agency staff, NGO personnel and other stakeholders and on a review of the literature. The report identifies a number of impediments to applying AM in the Delta and presents several recommendations intended to help transform AM from concept to reality.

General comments

The report does a good job of defining the context and need for AM in the Delta and provides an excellent general description of the AM process. The report documents the wide-range of opinions regarding what AM is and its potential utility and applicability in the Delta and the general consensus that AM can be beneficial to the Delta. An overarching concern of respondents was the lack of adequate funding for AM.

The emphasis seems to be on the use of AM for restoration projects, which is logical given the discrete nature of such projects. They lend themselves to most of the nine-step process (define the problem: establish goals and objectives; develop models, etc.). The initial steps of this process are certainly being addressed for all the major projects in various states of planning/implementation at this time. Some include treatments that could be used to refine project design/implementation as part of the 'adapt' step in the AM process. What seems to be missing, however, is any discussion of AM of the Delta as a whole. Similarly, there is no discussion of how to incorporate AM into the operation of water supply and other infrastructure to achieve the co-equal goals.

The report focuses on the process of AM 'rather than on the specifics of the science that supports AM.' Based on the examples provided in the text and the references in Appendix A; however, one gets the sense that the 'support' is largely theoretical, i.e., there doesn't seem to be any well-documented case of successful application of AM.

Compliments for including a discussion of circumstances under which AM may not be appropriate. Also, the discussion of 'best available science' as distinguished from 'best available knowledge' is timely and might merit further consideration, for example, as part of the proposed 'adaptive management forum' mentioned on p.40.

The report's principal recommendation is to establish and fund a Delta Adaptive Management Team (AMT) composed of 'individuals who are knowledgeable and skilled in all phases of AM.' The Delta AMT would consist of selected personnel from agencies, NGOs, universities and other sources and would work full-time on team activities. These activities would include (i) determining what level of AM is required for a given project, (ii) incorporating changes in future conditions (e.g., climate change), (iii) working with programs and agencies to develop collaborations and economies of scale, (iv) evaluating the appropriateness of a given AM plan to help the Council make its consistency determinations, (v) developing case studies to document the benefits of taking into account landscape and ecosystem contexts, and (vi) assembling, synthesizing and communicating information about AM.

The extent to which an AMT would further 'a more holistic and integrated approach to science-based management in the Delta' would depend on whether such knowledgeable people exist and would be available to work full-time on team activities. Presumably, the most knowledgeable individuals (locally) would be the ones managing the restoration projects. The proposed funding mechanism (trust fund) is not realistic if federal funding is required given that federal agencies are not allowed to set up trust funds. It also may not be realistic to expect that AMT members would both work closely with programs and agencies and work independently of the agencies, particularly if the funding is coming from those agencies. And there is the concern that creating yet another team to provide advice, coordination, integration and other soft (hard to define) functions would merely add to the workload of an already overburdened workforce focused on trying to implement projects. In order to gain strong support for this recommendation, it may be necessary to explicitly address this concern.

Specific comments

Line 398: 'means' should be 'mean'

Line 952: 'risk-adverse' should be 'risk-averse'