Delta ISB Discussion: Public Draft of the Delta Plan Ecosystem Amendment

Draft (January 6, 2020)

If you need assistance interpreting the content of this document, please contact disb@deltacouncil.ca.gov.

All links in this report have been created with meaningful text. The Uniform Resource Locator (URL) is also published to be available as a resource for those who print the document. The URL addresses that are spelled out are not active links to avoid the confusion of presenting duplicate links.

Background

An amendment to Chapter 4 of the Delta Plan (Protect, Restore, and Enhance the Delta Ecosystem) is currently under consideration by the Delta Stewardship Council (Council), to address a fundamental shift in how conservation is being planned and implemented in the Sacramento-San Joaquin Delta and Suisun Marsh (the Delta). The Council has been working to develop an approach to amend Chapter 4 of the Delta Plan, referred to as the Delta Plan Ecosystem Amendment in this document, since 2016. Pursuant to Water Code section 85308(a), the Delta Plan must be "based on the best available scientific information and the independent science advice provided by the Delta Independent Science Board."

The Council has released the preliminary draft documents for the Delta Plan Ecosystem Amendment for a 60-day public comment period from November 22, 2019, to January 21, 2020. The materials for review can be found on the Delta Plan Amendment website: http://deltacouncil.ca.gov/delta-plan/amendments.

The preliminary draft documents available in the public review are: 1) the revised narrative, which includes (at the end) new and revised policies and recommendations; 2) three regulatory appendices, each of which accompanies an applicable new or revised policy; 3) new and revised performance measures (Appendix E); and 4) six output/outcome performance measure datasheets (five new and one revised).

On January 10, 2020, the Delta Independent Science Board (Delta ISB) will continue to discuss the public draft of the Delta Plan Ecosystem Amendment at its public meeting to ensure it is based on the best available scientific information and that past comments from the Delta ISB have been adequately addressed. Prior to the release of the public draft, the Delta ISB reviewed and provided comments to the Council in 2018 on the synthesis papers used to inform the scientific basis of the revised chapter narrative, and an earlier draft of the performance measures. For past comments on the performance measures, please refer to the comment letter (dated September 27, 2019): http://deltacouncil.ca.gov/pdf/isb/products/2019-09-27-isb-delta-plan-peformance measure-comments.pdf.

On January 10, the Delta ISB will discuss the following questions:

1. Do the revised performance measures satisfactorily address the comments that the Delta ISB provided previously on the draft performance measures?

    a. The scientific basis for the targets
    b. The validity of the timescale for reaching the targets
    c. Uncertainty
    d. Some targets seemed overly ambitious and/or unrealistic
    e. Adaptive management and alternative actions were not considered sufficiently

2. Does the Delta ISB have additional comments on issues that were not raised previously?

To help inform the discussion at the public meeting, individual Delta ISB members provided comments on the draft documents. These comments are preliminary, have not been vetted by the Delta ISB, as a whole, and should not be cited. The first four set of comments were previously shared and discussed at the Delta ISB's public meeting on December 13, 2019, while the next set of comments were received after the meeting.

Feedback #1

I have no further comments on the draft Delta Plan Ecosystem Amendment, as revised. The authors have reasonably accommodated my concerns about the specificity of some of the performance measure targets. While I would have preferred more probabilistic performance measures, I understand the reluctance to do so at this point. I thank the authors for their revisions.

Feedback #2

The report is well written and interesting but still contains lofty and likely unreachable goals given the early statement in the report that the Delta ecosystem continues to decline. I then looked whether the most important aspects of our prior recommendations (about assumptions, uncertainties, bracketing ranges, using annual reporting and 5-year reviews) were addressed. On first reading, it seemed like the Council hardly addressed them. However, the Council's edits to the performance measures to our earlier comments did improve the document but really didn't go as far as we had hoped.

Feedback #3

Council staff have responded very well overall to the comments from the Delta ISB concerning the draft Delta Plan Ecosystem Amendment Performance Measures. They seriously considered our comments, made substantive and credible changes in many places to address the issues we raised, and generally explained in other places why Delta ISB concerns are not being addressed, at least at this time.

However, I do think the Council's response at a past meeting, regarding our concern about some performance measures being virtually impossible to achieve, falls short of what is needed. Setting a goal that is impossible to achieve is not inspirational in my view—it instead sets up a public expectation of failure being inevitable.

Feedback #4

The revised Delta Plan Ecosystem Amendment performance measures have incorporated feedback from the Delta ISB and the improvements address some of the concerns that were raised in our prior review. In particular, I appreciate the addition of background information that provides the basis for selection of some of the performance measures and the description of potential uncertainties. However, I still find some of the performance measures to be overly ambitious and have concerns about the feasibility of achieving some of the outcomes that are proposed. I understand the premise for setting ambitious goals, but the goals should also be realistic and feasible because the Delta Plan will not be well-served if its goals cannot be achieved.

Although the revised performance measures incorporate some short-term targets that offer the opportunity to change course and/or re-evaluate goals, I think there is still room to give more consideration to adaptive management and alternative actions in cases where the targets may require adjustment. There are missed opportunities for better incorporating adaptive management into the performance measures (e.g., designing projects in an experimental context and using early projects as a tool for assessing design features that lead to greater success).

Feedback #5

The request on August 21, 2019, from the Council staff to the Delta ISB was inappropriate. Delta ISB members were asked to accept the environmental goals of the Legislature as reasonable even if those goals seemed entirely unreasonable given the scientific knowledge of Delta ISB members. The first request to the Delta ISB started with the condition:

> Given the goals and strategies for protecting, restoring, and enhancing the Delta ecosystem in the 2009 Delta Reform Act,

The Delta ISB's letter of September 27 conveying the shared concerns of the Delta ISB noted that the goal of preventing any new invasives from becoming established was scientifically unrealistic. The Delta ISB suggested that the performance measures be expressed in ranges to account for the uncertainties. And the Delta ISB suggested that some of the performance measures could be contingent on the rate of environmental change that unfolds, for example, the rate of sea level rise to be more scientifically defensible.

The Council staff made some adjustments to the performance measures in response to the Delta ISB's suggestions but defended at least some of the goals as at least "feasible" given the current scientific literature.

There are two problems with this response. Being scientifically feasible and being reasonable given management capabilities and constraints are not the same. And the current literature is based on research undertaken under current conditions, not those that are likely in the future based on current science.

If the goals sought by the Legislature ten years ago are not scientifically defensible, it is the responsibility of scientists to say so.

Feedback #6

Delta Plan Chapter 4:

1. Overall, I agree with the general direction and ideas in the chapter. Portfolio approaches, need to address ecosystems and ecosystem functions rather than single species, etc. are all good themes for an ecosystem plan. The plan seems to touch on most of the important topics and ideas that should be in an ecosystem plan element.

2. The writing generally could use a fair bit of tightening.

3. Page 4-15. In the climate change box, the issue is more altered RUNOFF patterns, or altered runoff and precipitation patterns, than altered precipitation patterns.

4. “A call for action” is an odd heading title for a “plan”. Perhaps “A need for action” would be better.

5. Page 4-19. Please cite science sources for the “currently estimated” need for 60,000 to 80,000 acres of new needed habitat.

6. The core strategies are useful foci. They will need to be developed and better integrated over time.

7. Figure 4-4 and the discussion of the importance of elevation is especially welcome, as is the discussion of restoration potentials for different parts of the Delta.

8. For the non-priority areas for restoration, what kinds of ecosystems can we expect to see? I am imagining good large-mouth bass fishing, which does support some Delta goals. Are these large areas to be written-off in some sense? What long-term objectives seem realistic?

9. Some fundamental resource limitations restrict our ability to restore or maintain Delta ecosystems. These include: land, land elevations, freshwater, initial and ongoing financial resources, tidal energy, science, and the effective organization of activities. All of these resources are scarce.

10. What should be the official ecosystem policy and plan when a subsided island fails? This is a levee policy, but also an ecosystem policy. When a Delta levee fails, should it be repaired or should the land be restored, or some combination? Since there are many possibilities, identifying the general policy issues and stating some general policy directions are probably all that can be done here. We are more likely to make such large landscape changes as responses to failures than in terms of planned actions and investments, so it seems important to have an ecosystem policy (and a levee policy) for responding to such failures and opportunities.

11. It would be useful to see a bit more on the need for ongoing long-term adaptation of ecosystem management over time. How should this need for adaptation mesh with the managing institutions and the development and revision of scientific information?

Performance Measures

1. Performance goals should be separated from performance measures. Several of the current performance measures are essentially performance goals, many of which are required by statute or regulations. For example, salmon doubling is a fine policy goal, but is silly and unhelpful as a performance indicator. A performance indicator or measure for salmon might be salmon adults returning or juveniles making it to sea. My goal might be to become a millionaire, and I assess my performance towards this goal as an annual assessment of my total wealth. This annual wealth assessment is my performance indicator. If we use goals directly as performance indicators, then we will be failing a lot! Worse yet, we will be focusing on the failure itself, which is just depressing, and not on how we can learn from existing performance to improve performance towards our goals.

2. Although I appreciate the value of quantitative performance measures, I also appreciate their inadequacies. Any periodic assessment of performance should have several parts, including a formal assessment of performance indicators. Other essential components should be more qualitative and interpretive. We should be less interested in indicator numbers than in what these numbers mean (including their limitations). We will get more out of our performance indicators if they are part of a more general performance assessment, which includes some expert assessments and forward-looking interpretations.

3. Overall, if performance indicators are to be central to plan performance evaluation, it is important to organize how the performance indicators will be used in broader assessments of plan performance and improvements. How can performance indicators, which require sizable quantities of blood and treasure from the staff, best contribute to improving policy and management conversations? This will require thinking about the performance indicators

themselves and their communication, as well as how the policy discussions are organized, and how they are organized to digest performance assessments and performance indicators. This might merit some more formal discussion in the Plan.

Feedback #7

I read the latest version of Delta Plan Chapter 4. All seem to be in good order, and the authors have done a great job in revising and responding to Delta ISB comments. A few comments are in order for further consideration, although not imperative to consider for inclusion in the final draft.

The current amendment is in response to a 'fundamental shift' in modus operandi with regard to conservation and restoration planning for the Delta since the implementation of the Delta Plan (2013). It would be very useful to briefly mention what paradigm shifts have taken place in planning and executing projects within the broad coequal goals.

Chapter 4 specifically addresses protection, restoration and enhancement of the Delta ecosystem within the framework of best available science. Appendix Q2 (and hopefully Appendices Q1, Q2 and Q3 to be later uploaded) nicely addresses the context and best available science as a grounding for core categories of the chapter as well as meeting recommendations of the Delta Reform Act (Water Code section 85302c). It is worthwhile to mention a few key recent science advances that could enhance ecosystems management in the Delta, which also provide further justification for the amendment. This is particularly useful given that a good deal of peer reviewed literature mentioned are pre-2013. It is a modern Delta, calling for the use of current science and designs. Science has limited utility in this case if it cannot help meet new challenges via eco-engineering designs (Mitsch and Jorgensen 1989; Poff et al. 2016).

The vision for a restored, yet dynamic, ecosystem is admirable, and emphasis on large scale interconnected ecosystem with natural (and human) communities is appealing. Attributes of such system and core strategies for achieving it is nicely laid out. It is also pleasing to see the emphasis on functional flow to achieve the vision. While discussions on challenges and possible solutions are well worthy, and have become communal and at time repetitious, the bane is the lack of quantitative understanding of flow-ecosystem interactions at different scales. For example, the birds can thrive across disconnected land patches separated by tens of kilometers, but for aquatic species a connectivity through channelization is necessary – as far as I know quantitative information on channels for adequate performance (number of channels, geometric parameters, flow rates through them etc.) is still unknown. A statement emphasizing focused research in areas of knowledge gaps that could help project design related to Chapter 4 will be helpful.

References

Mitsch, W.J. and Jorgensen, S.E. 1989. Introduction to Ecological Engineering, In: W.J. Mitsch and S.E. Jorgensen (Editors), Ecological Engineering: An Introduction to Ecotechnology. John Wiley & Sons, New York, pages 3 to 12.

Poff, N.L., Brown, C.M., Grantham, T.E., Matthews, J.H., Palmer, M.A., Spence, C.M., Wilby, R.L., Haasnoot, M., Mendoza, G.F., Dominique, K.C., and Baeza, A. 2016. Sustainable water management under future uncertainty with eco-engineering decision scaling. Nature Climate Change, 6(1), page 25.