

## **SOME INITIAL THOUGHTS ON READING THE PHASE 2 REVIEW PANEL REPORT ON THE BDCP EFFECTS ANALYSIS**

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To help the Delta Independent Science Board (DISB) prepare for their review of the draft EIR/EIS of the Bay Delta Conservation Plan (BDCP), we read the summary report of the Independent Scientific Review Panel convened by the Delta Science Program to review Chapter 5: Effects Analysis of BDCP. The review is an impressive document that is detailed (70 pages) and based on considerable knowledge of the system. The Panel noted that this draft is improved over the previous one, but makes 17 well-founded recommendations for further substantive changes. Our comments are not intended as an endorsement of the report, but rather highlight some of the major concerns of the Panel that the DISB should consider in their review of the EIR/EIS. All DISB members should read at least the Executive Summary of the report.

The Effects Analysis chapter of BDCP contains the major elements that address the co-equal goal of “protecting, restoring, and enhancing the Delta ecosystem.” It is therefore essential that it be founded on the best available science that is fully integrated to address clearly articulated objectives and that it provide reliable guidance for implementing planned actions. That it does not do this yet is indicated by the following quotes from the review:

“The Panel universally believes Chapter 5: Effects Analysis fails to achieve the fully integrated assessment that is needed to draw conclusions about such a momentous Plan” (p. 4).

“By missing or obscuring key concepts and specifics, it falls short of presenting an analytical framework for a compelling and rigorous analysis of whether and how the BDCP would achieve its biological and other objectives” (p. 4)

“...the Effects Analysis is too inconsistent in its treatment of how effects are analyzed across listed species and the potential costs and benefits of the planned BDCP activities are too uncertain to provide an objective assessment of the BDCP on covered species” (p. 5).

“The Net Effects described for many of the conservation measures in the Plan are substantially misleading” (p. 24).

“Achieving beneficial conservation measures requires a complex and detailed sequencing, adaptive management responses, understanding thresholds for certain actions, and understanding interactions and other consequences of these actions, otherwise, this isn’t a conservation plan, but rather a conservation menu” (p. 19).

There is much in the review that merits attention. Here we highlight some concerns raised by the Panel that we think are particularly important:

- There is a *lack of synthesis and integration* throughout the Effects Analysis: “understanding the conservation plan requires placing the actions explicitly within a framework that indicates interactions, and that synthesizes the system as a whole” (p. 21)
- The Effects Analysis fails to recognize that *how actions are sequenced* in time or related spatially can have important consequences: “changing the order of different conservation measures will push ecological systems onto different trajectories” (p/ 20).
- Effects are generally evaluated separately for individual species; *tradeoffs among actions* that would benefit some species but have negative effects on other ecosystem components are rarely considered.
- There is *considerable uncertainty about the effects of the conservation measures* (even direction unclear for some), and this is not adequately considered when the effects are “rolled up” to the population level. “Uncertainty is not addressed scientifically, particularly in the case of critical biological analyses of restoration, non-fish covered species and invasive species” (p. 22).
- The Effects Analysis seems to assume that *restoration will ultimately be successful*, “that habitat created by restoration is suitable and will be occupied by the species” (p. 68). This is not necessarily the case.
- *All conservation measures are treated as having a positive effect* without taking into account factors (e.g., providing habitat for invasive species like *Egeria*) that may lead to negative effects; “the degradation impacts of conservation measures are not incorporated into the effects analysis, only the presumed positive effects” (p. 25). [Note: adverse effects are in fact evaluated, but not fully considered in the calculations of net effects]
- Although models are used for many of the analyses, *there are few comparisons among models* or model outputs, much less comparisons with actual data; sensitivity tests and scenario analyses are generally lacking.
- *Basic aspects of natural history and ecology are neglected*: “the treatment of food resource availability is grossly incomplete and overly simplistic” (p. 27).
- The “*hydrodynamic modeling ... is lacking the documentation details* necessary for the Panel to evaluate the underlying assumptions made when modeling the future Delta physical configuration, adding major uncertainties to the net effects analysis” (p. 4).
- “...the absence of essentially any detail in the Effects Analysis about *how adaptive management will be implemented* to reduce the effects of scientific and technical uncertainties does not impart confidence in the Plan” (p. 38).
- The Effects Analysis did not consider *potential impacts on San Francisco Bay* nor on *delivery of sediment to downstream tidal wetlands* and how that might impact their ability to respond to rising sea level.

The technical appendices contain critical details to support the Effects Analysis. These are not always clearly presented. In particular, Appendix K, which deals with effects on terrestrial communities, wildlife, and plants, consists entirely of tables, with no explanatory text. In addition, several technical appendices were not available for the Panel’s review: 5.A: Climate Change Implications for Natural Communities and Terrestrial Species and Climate Change Approach and Implications for Aquatic Species, 5.E: Habitat Restoration, and 5.G: Fish Life Cycle Models. It was not clear whether the Panel will be asked to review these when they are available. We hope they will, because it will help us considerably in our review of the EIR/EIS.