



INFORMATION ITEM

Delta Independent Science Board (ISB) Update

Summary

Dr. Lisa Wainger, Delta ISB Chair, will provide an update on the Delta ISB's current activities, including an overview of the Delta ISB's 2024 annual work plan and an update on current thematic reviews on food-webs, subsidence, and decision-making under deep uncertainty. To help inform Delta Stewardship Council (Council) efforts, the Delta ISB provides the Council with independent scientific advice on the Delta Plan and reports findings and recommendations from Delta ISB reviews of scientific activities that support adaptive management in the Delta.

Background

As mandated by the Sacramento-San Joaquin Delta Reform Act of 2009, California Water Code sections 85000, et seq., (Delta Reform Act), the Delta ISB is responsible for providing oversight of the scientific research, monitoring, and assessment programs that support adaptive management in the Delta (Water Code Section 85280(a)(3)) and providing independent advice on the Delta Plan (Water Code Section 85308(a)). The findings and recommendations of the Delta ISB inform updates to and the implementation of the Delta Plan, the Science Action Agenda, the Delta Science Plan, and other Council and Delta Science Program efforts.

The Delta ISB reviews programs that support adaptive management by "thematic" or topical areas to meet its legislative mandate. To date, the Delta ISB has completed and presented the following thematic reviews to the Council: restoration (2013), fish and flows (2015), adaptive management (2016), levee hazards (2016), Delta as an evolving place (2017), water quality (2018), the Interagency Ecological Program (2019), non-native species (2021), the monitoring enterprise (2022), and water supply reliability estimation (2022). The Delta ISB also reviews specific science documents related to adaptive management or the Delta Plan. These reviews can be either self-initiated or based on a specific request from an individual or entity. In

addition, the Delta ISB may develop “call-to-action” memos and letters to specific agencies, including the Council, which are meant to share the Delta ISB’s emerging insights, key findings, or recommendations that require action.

As described in the Delta ISB’s operating guidelines, the comments, findings, and recommendations of the Delta ISB are expected to increase scientific credibility, improve research clarity, advance the debate about Delta issues, and seek better connectivity between science, management, and policy. The communication and relationship between the Council and Delta ISB are critical for helping to inform the Council’s work. Since the last update to the Council, Dr. Stephen Brandt concluded his second term on the Delta ISB on January 14, 2024, and Dr. Kenneth Rose began on January 15, 2024.

Recently Completed ISB Products Since Last Council Update

Since the last update to the Council in September 2023, the Delta ISB finished examining the draft Staff Report/Substitute Environmental Document (Staff Report) in support of possible updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary (Bay Delta Plan) for responsiveness to its earlier comments (available here: <https://bit.ly/4b5dSBK>) on the Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements (available here: <https://bit.ly/3S7m105>) and the Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions (MOU of 29 March 2022, available here: <https://bit.ly/428GIT9> and revised 10 November 2022, available here: <https://bit.ly/3S5OaUX>). In summary, the Delta ISB indicated that concrete plans for data management, analysis and synthesis will be critical to successful adaptive management of the Bay Delta Plan regardless of the implementation path selected for the updated plan. The Delta ISB strongly recommends that the scientific monitoring, assessment, and reporting approach for implementing the updated Bay-Delta Plan include appropriate scientific and community input and mechanisms for providing sufficient funding for the approach. For the Delta ISB’s full letter, please refer to Attachment 1.

Overview of 2024 Annual Workplan

In 2024, the Delta ISB will be working on completing its three thematic reviews on food-webs, subsidence, and decision-making under deep uncertainty, and may take

on additional reviews. The prospectus that describes the scope for each review was finalized last year. In addition, the Delta ISB will work with the Council in partnership with USGS to recruit the next Delta Lead Scientist. Updates on each review are described below and in the annual work plan (Attachment 2).

Exploring Scientific and Management Implications of Upper Trophic Level Interactions in Delta Food-webs

Food-web interactions may directly influence how environmental drivers and management actions affect the abundances of individual species, as changes in one species can affect the abundances of other species. This review will assess the importance of upper trophic level food-web interactions in the Delta and to identify where improved understanding and tools (e.g., food-web models) might substantially improve predictions of an individual species' response to environmental drivers and management actions. This review will evaluate the degree to which the inclusion of food-web interactions can benefit and facilitate multi-species management in the Delta and whether available data and science can support the development of such tools. To help inform this review, the Delta ISB hosted a workshop on November 8-9, 2023, in Sacramento, California (see day 1 here: https://cal-span.org/meeting/disb_20231108/ and day 2 recording here: https://cal-span.org/meeting/disb_20231109/). In 2024, the Delta ISB will work on completing the review. For more information, please refer to the final prospectus (available here: <https://deltacouncil.ca.gov/pdf/isb/meeting-materials/2023-06-19-isb-prospectus-food-webs.pdf>).

Science Supporting Decision-Making Under Deep Uncertainty

This review will build an understanding of the scientific tools and concepts that can inform management and policy decision-making under rapid change and increasing uncertainty of future forecasts. Deep uncertainty is system variability that cannot be well characterized with existing data, models and understanding, such as impacts from climate change. Activities will include public seminars, a survey and analysis of current uncertainty and scenario planning efforts in the Delta, and discussions with members of the Delta scientific and management communities. Insights gained through these activities will be summarized in a report with recommendations to help the Delta science and management community better characterize, prepare for, and adapt to uncertainty for a range of management

needs. In 2024, the Delta ISB will work on completing the review. For more information, please refer to the final prospectus (available here: <https://deltacouncil.ca.gov/pdf/isb/meeting-materials/2023-08-04-isb-final-prospectus-dmdu.pdf>).

Managing Subsidized Lands in the Sacramento-San Joaquin Delta

Subsidence is particularly pronounced in the Central Delta where approximately 50,000 acres of agricultural land lie several meters below sea level, protected by over 1,000 miles of levees. A broad cross-section of stakeholders, including both public agencies and private sector parties, are developing approaches to mitigate subsidence. The purpose of this review is to support ongoing and future subsidence management efforts by summarizing, examining, and assessing the existing or planned programs, barriers and opportunities, state of scientific understanding, and the scientific gaps and deficiencies of interconnected areas of subsidence. This review will be based on synthesizing information from panel presentations and public discussions with invited experts at a two-day public workshop, which occurred in October 2023 (see day 1 here: https://cal-span.org/meeting/disb_20231019/ and day 2 recording here: https://cal-span.org/meeting/disb_20231020/). In 2024, the Delta ISB will work on completing the review. For more information, please refer to the final prospectus (available here: <https://deltacouncil.ca.gov/pdf/isb/meeting-materials/2023-08-04-isb-subsidence-prospectus.pdf>).

List of Attachments

Attachment 1: Comments on the Sacramento / Delta Draft Staff Report by the Delta ISB (will be available here: <https://deltacouncil.ca.gov/delta-isb/products>)

Attachment 2: 2024 Draft Annual Report (will be available here: <https://deltacouncil.ca.gov/delta-isb/>)

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