

Review of the Monitoring Design for the Delta Regional Monitoring Program Charge to the Independent Review Panel

Background/Purpose

The Delta Regional Monitoring Program (Delta RMP) was initiated by the Central Valley Regional Water Quality Control Board (Regional Water Board) to fulfill the unique need for a comprehensive effort to assess and track water quality constituents and their effects in the Delta to provide a scientific basis for water policy and documenting the effectiveness of beneficial use protection and restoration efforts. The development of the Delta RMP was initially prompted by the collapse of several pelagic fish species in the early 2000s, an event that triggered new inquiries into the potential role of contaminants in what is now termed the Pelagic Organism Decline; however, these inquiries more broadly highlighted the shortcomings of existing monitoring efforts to address similar questions at the scale of the Delta.

Establishing the Delta RMP also reflects an increasing desire among water quality and resource managers throughout the state for more integrated information about patterns and trends in ambient conditions across watersheds and regions, as many stressors on beneficial uses are interrelated and must be addressed more holistically (see <http://deltacouncil.ca.gov/docs/delta-challenges>). In addition to its role in coordinating and designing monitoring activities around the Delta to create a cost-effective approach for providing critically needed water quality information, the Delta RMP aspires to be comparable to other state regional monitoring programs and to also augment local efforts through its monitoring and analysis of a more complete list of water quality constituents.

A stakeholder process resulted in agreements on the goals and objectives of the Delta RMP and a Management Questions Framework to guide monitoring and assessment at the regional scale. Work to date has also helped to identify the initial program priorities, which include current use pesticides, mercury, nutrients, and pathogens. A Monitoring Design for the Delta RMP (Monitoring Design) was approved in June 2015 and monitoring for pesticides and pathogens began that same year. The current document includes full monitoring design details for current use pesticides and toxicity, mercury, and pathogens. For nutrients, the Delta RMP plans to synthesize and analyze existing information and then design a monitoring plan based on findings and recommendations from the gathered information. Thus, the nutrient section currently involves a monitoring design approach, rather than a detailed plan. The Monitoring Design is a scaled effort, with identified questions reflecting what is perceived as reasonable and cost effective. Additional monitoring opportunities and questions will be phased in and identified as more funding becomes available.

The purpose of this review is to provide an independent and objective assessment of the Monitoring Design. This effort will involve an initial and final review of the 2015 Monitoring Design. The initial review will involve comments from the Independent Review Panel (IRP) on the scientific quality of the Monitoring Design based on the questions posed below. The Delta RMP participants will then prepare a response to this initial review. The IRP will use the information provided in the response in developing the final review, which should evaluate whether the initial recommendations the IRP provided were adequately addressed

Charge to Independent Review Panel

The IRP will review and provide comments and recommendations on the scientific rigor of the Monitoring Design. Overall, the IRP will:

- 1) Comment on whether the Monitoring Design (including sites, sampling frequencies and methods, and target parameters) is adequate to answer the management and assessment¹ questions in a reasonable amount of time; and
- 2) Provide recommendations for scientific criteria (i.e., value of the information provided, linkage to management question, availability of alternative methods) the Delta RMP should consider when deciding how to distribute limited resources towards monitoring efforts.

Specific Questions

Management

1. For each constituent class², how well are the respective assessment questions stated and relevant to addressing the core management questions?
2. To what extent do the monitoring designs of each constituent class generate information that adequately addresses each assessment question? Is this linkage clear? What improvements can be made?

Prioritization

3. How appropriate is the monitoring design's focus on status and trends questions in addressing management questions? How appropriate is the prioritization of the management and associated assessment questions (high priority questions are highlighted in yellow)? What technical criteria should be used in prioritizing the management questions?

Design improvement

4. What, if any, improvements for each constituent monitoring design scenario would make them more cost-effective and technically robust?
5. How appropriate are the proposed schedules for monitoring, assessment, and reporting as stated in the communication plan and monitoring design?
6. Are there any substantial short-falls in the "recommended" constituent monitoring scenarios? If so, given limited funding, what additional data collection is needed/can be substituted?

Review Materials

1. Delta Regional Monitoring Program Monitoring Design
2. Delta Regional Monitoring Program Communications Plan
3. Fiscal Year 2015-2016 Work Plan
4. Fiscal Year 2016-2017 Work Plan

¹Management questions reflect specific concerns about multiple aspects of the Delta and the impacts of human activities. Assessment questions are more specific, intended to guide the monitoring design to ultimately answer the broader management questions.

²Constituent Classes: Nutrients, Pathogens, Current Use Pesticides and Toxicity, and Mercury. Please note, the Nutrients section of the Monitoring Design only involves the design approach, which includes a synthesis process and applying this information to a monitoring design.

Supplementary Materials

1. Draft Delta Regional Monitoring Program Charter
2. Quality Assurance Project Plan