• Bay-Delta Management Report

Summary

This report provides a summary of activities related to the Bay-Delta for March 2019.

Purpose

Informational

Detailed Report

Near-Term Delta Actions

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) is in the process of developing and implementing updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan), and on December 12, 2018, the SWRCB adopted Bay-Delta Plan updates addressing San Joaquin River flows and south Delta salinity. Phase 2 of the Bay-Delta Plan update is focused on Sacramento River and its tributaries, Delta eastside tributaries, Delta outflows and interior Delta flows. Voluntary Agreement discussions continue to progress. On March 1, the California Natural Resources Agency provided the SWRCB with a Project Description that would support their environmental and biological objectives through flow and non-flow actions, adaptive management, and funding commitments. The Voluntary Agreement package also includes a planning agreement that outlines necessary terms still needed, and an approach for the additional work to be completed. Staff is participating in the Voluntary Agreement process to provide technical input on the evaluation of the proposed voluntary actions. By June 2019, the Voluntary Agreement parties will provide the SWRCB with further refinements to the Project Description related to governance and a science program.

As reported previously, the Delta Science Program organized an Independent Scientific Advisory Panel (Panel) at the request of the SWRCB, to develop recommendations on scientifically defensible methods for formulating biological goals that can be used to assess progress toward achieving the Bay-Delta Water Quality Control Plan's narrative objectives. The draft Panel report was released February 4, 2019 and staff reviewed the report and coordinated with the State Water Contractors (SWC) to submit comments on the report on February 26. On March 4, staff participated in the SWRCB Bay-Delta Biological Goals Scientific Advisory Panel meeting to provide input on the draft Panel recommendations. Staff provided input regarding the importance of goals addressing linkages, biological goals as part of an adaptive management framework, goals as indicators of functioning ecosystems, and use of biological models. The Panel is expected to produce a revised report in April, 2019.

Science Activities

Staff attended the Interagency Ecological Program 2019 Annual Workshop on March 5-7, which is an annual science conference focused on studies in the Bay-Delta. Staff also organized and moderated the Anadromous Fishes session at the workshop. Science conducted or supported by Metropolitan was well represented in the conference, including studies addressing salmon predation and impacts of water project operations:

- Steve Zeug (Cramer Fish Sciences). Experimental Quantification of Piscivore Density and Habitat Effects on Juvenile Chinook Salmon Survival.
- Mike Tillotson (ICF). A Machine Learning Model for Predicting Salmonid Take at the State Water Project (SWP) and Central Valley Project (CVP) in Real-Time.

Staff is working with ICF consultants and SWC to refine a salmonid entrainment model that ICF consultants developed to evaluate loss and salvage of juvenile salmon and steelhead at the SWP/CVP facilities under different

environmental and operational scenarios. The model predicts weekly salvage of salmonids based on a suite of variables that can be forecasted one month into the future. Once the model is refined, we will work with state and federal agencies to incorporate this into the discussion process that the Delta Operations for Salmonids and Sturgeon use to estimate juvenile salmonid risk of entrainment and provide recommendations on export levels.

Staff is working with UC Santa Cruz to identify sites around Bouldin Island that can be used to better understand predation on juvenile Chinook salmon as part of the predator contact point study. The predator contact point study, a multi-agency supported scientific study, will be investigating if modification or elimination of predator contact points result in decreased predation mortality and increased juvenile salmonid survival. Contact points are manmade structures associated with increased predation mortality of juvenile salmonids (e.g. diversions, scour holes, pilings). Year 1 of field work for the study will occur this April-June, 2019.

Staff continued participating in the Collaborative Science and Adaptive Management Program (CSAMP), including participation on the Collaborative Adaptive Management Team (CAMT). In March, CSAMP and CAMT received updates on Delta smelt and Salmon Resiliency Strategy actions including: project status, initial findings from action implementation, and funding needs. The California Department of Water Resources (DWR) reported on a project underway to test using net pens in the field to rear Delta smelt from the hatchery. Initial results from the field test were promising with Delta smelt survival in the net pens being similar to Delta smelt in the hatchery. DWR is considering next steps to use the net pens in the field which could be a very promising way to evaluate Delta smelt response to management actions. CAMT also discussed next steps in the CSAMP Structured Decision Making project for Delta smelt and considered options for integrating with the Delta Science Program/US Bureau of Reclamation Structured Decision Making process. CAMT received the Delta Smelt Science Plan revised report in March and staff is reviewing the report. CAMT is discussing next steps including an approach to test implementation of the plan this year, which includes identification of who is responsible; planned monitoring and studies; identification of knowledge gaps for Delta smelt evaluation and proposals to address the gaps; and development of plans for communication.

Delta Emergency Preparedness

Delta Flood Emergency Management Plan

The Final Delta Flood Emergency Management Plan (DFEMP) was approved by the Director of DWR in February 2019. This culminates many years of work by the state to develop an actionable plan to respond to catastrophic events that could significantly affect SWP operations in the Delta. In the Foreward to the Plan, the Director states, "The DFEMP provides a concise, but flexible blueprint for guiding Delta flood emergency management. It serves as a checklist to ensure that important flood management elements are not overlooked, and a manual to help set priorities and allocate resources under emergency conditions when there is not enough time to conduct detailed fact-finding and economic analyses from scratch. Finally, the DFEMP provides reference information and specific procedures that can be incorporated into training programs and then used effectively in Delta flood emergencies." DWR has indicated that the DFEMP would be revised from time to time as needs dictate.

The DFEMP defines the emergency freshwater pathway as a corridor traversing the Delta to the export pumps, in which the repair of levees would be prioritized and channel barriers installed to isolate the pathway from the rest of the Delta. In the most robust response strategy, fresh water reservoir releases from north of Delta reservoirs would be directed toward the central Delta where the pathway would capture and convey freshwater to the southern Delta.