

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

455 Golden Gate Avenue • Suite 10600 • San Francisco, California 94102 • (415) 352-3600 • Fax: (415) 352-3606 • www.bcdc.ca.gov

April 25, 2014

TO: Commissioners and Alternates
FROM: Lawrence J. Goldzband, Executive Director (415/352-3653 lgoldzband@bcdc.ca.gov)
Joe LaClair, Chief Planning Officer (415/352-3656 joel@bcdc.ca.gov)
SUBJECT: Commission Briefing and Panel on the Bay Delta Conservation Plan
(For Commission consideration on May 1, 2014)

Summary

The Commission received a briefing from Paul Helliker from the Department of Water Resources (DWR) on the Bay Delta Conservation Plan (BDCP) at its February 20, 2014 meeting. At that meeting, Commissioners raised several questions about how the proposed project may directly affect the San Francisco Bay and Suisun Marsh. The BDCP is undergoing state and federal environmental review. Commission laws and policies call for adequate fresh water inflows from the Delta to Suisun Marsh and the Bay to maintain proper salinity levels and water circulation patterns, to flush pollutants, and to maintain related ecosystem functions. Based on Commissioner comments and questions, staff has organized a panel discussion for the Commission's May 1, 2014 meeting. The panelists and the Commission will discuss issues related to the BDCP that have important implications for the Bay and Suisun Marsh, including fresh water inflows and Delta diversions, levee failures, sediment management, and land use planning and climate change.

Staff Report

Bay-Delta Conservation Plan Project Description. The Bay-Delta Conservation Plan (BDCP) is being prepared to meet the requirements of the federal and state Endangered Species Acts. It is the first attempt in the nation to prepare a habitat conservation plan that includes aquatic habitats. The plan lays out a framework for conserving certain species, both listed and non-listed, and authorizes take of listed species under certain circumstances. Regulated entities (DWR and the U.S. Bureau of Reclamation, state and federal water contractors, other users of Delta water) and resource agencies (California Natural Resources Agency, state and federal fishery agencies) and non-governmental organizations developed the plan.

BDCP's long-term goal is to preserve, restore and enhance aquatic, riparian and associated terrestrial natural communities and ecosystems that support a wide range of species of concern. It intends to provide a stable regulatory environment for water projects, standardize mitigation and compensation requirements, and provide a less costly and more efficient approach to conservation than project-by-project and species-by-species reviews.



Making San Francisco Bay Better

The BDCP Environmental Impact Report/Statement (EIR/S) evaluates sixteen project alternatives, including fifteen that vary over different project components. These variations include: four different water conveyance configurations; different intake locations and alignment options; four different diversion capacities ranging from 3,000 to 15,000 cubic feet per second (cfs); eight various operational scenarios based upon guiding water supply parameters, diversion flows, operational demands, and water quality requirements; and, three different habitat restoration plans ranging from 113,000 to 163,000 acres. The alternatives have varying implications for biological resources, hydrology, and interactions with the human environment. Alternative 4, the proposed project of the BDCP, includes using a pipeline/tunnel system to convey water from the Sacramento River over forty miles south, under the Delta, to the California Aqueduct system, which supplies much of the state's water. The comment period on the BDCP draft EIR/S ends June 13, 2014.

Project Impacts. Potential effects of the BDCP on water bodies downstream of the Delta were analyzed and the EIR/S states that the project may affect the following downstream resources:

- Flow;
- Sediment inputs;
- Food;
- Temperature; and
- Dissolved oxygen.

The analysis in the EIR/S concludes that there would be no significant adverse effects on San Francisco Bay. Therefore, areas downstream of the Delta (e.g., San Pablo Bay, San Francisco Bay south to the Golden Gate Bridge and Bay Bridge) were considered, but were not included as a part of the BDCP's analysis.

BDCP Expert Panel

To facilitate the Commission's consideration and discussion of the potential BDCP impacts on the San Francisco Bay and the Suisun Marsh, the staff has organized a panel of experts from a variety of fields and agencies to engage Commissioners on the issues.

| BDCP Expert Panel | |
|---------------------|--|
| Panel Moderator | Organization |
| John Coleman | Bay Planning Coalition, Executive Director East Bay Municipal Utility District, Board Member Association of California Water Agencies, President |
| Panelist | Organization |
| Paul Helliker | California Department of Water Resources, Deputy Director |
| Marguerite Patil | Contra Costa Water Agency, Special Assistant to the General Manager |
| Jonathan Rosenfield | The Bay Institute, Conservation Biologist |
| Carl Willcox | California Department of Fish and Wildlife, Policy Advisor on the Delta |

The expert panel members will provide the Commission their perspectives on the potential impacts of the BDCP on San Francisco Bay and the Delta, and will discuss these issues with the Commission to help guide the staff's preparation of comments on the draft BDCP EIR/S.

Issue Areas and Initial Questions

Staff's review of portions of the BDCP and the related EIR/EIS identified some potential issue areas and questions for the Commission's consideration during the panel and discussion. The following also includes comments and questions raised by the Commission.

- The EIR/S states, in part, that there would be no significant effects on San Francisco Bay. Commissioners, staff and members of the public raised concerns about possible project impacts west of the Delta in the Suisun Marsh and downstream in the San Francisco Bay. Potential impacts could include effects on salinity, sediment supply, and the consequences (intended and unintended) of various restoration programs, and further impacts on Bay habitats and species. The Delta Independent Science Board concluded that more research and analysis is needed on areas west of the Delta in order to get a more complete picture of the cumulative and far reaching effects of the BDCP.
- Biological opinions from the National Marine Fisheries Service and the US Fish and Wildlife Service determined that habitat degradation in the Marsh for multiple sensitive species is due, in part, to reduced freshwater inflows from the Delta. Since current Delta fresh water outflows seem inadequate to support endangered species, should the BDCP evaluate flow scenarios that provide greater freshwater flows to the Bay beyond the requirements of D1641¹ to recover declining fish populations? Decreased reliance on Delta freshwater diversions may become necessary for the protection of sensitive and threatened species. Scenario F (Alternative 8: pipeline/tunnel alignment, dual conveyance, intakes at 2, 3 & 5, with 9,000 cfs diversion) would increase Delta outflow up to 1.5 million acre-feet annually.
- Higher salinity in the Suisun Marsh due to high diversion years would affect managed wetlands, and the Bay's native species, such as the Dungeness Crab, that use the lower salinity of the Bay as a nursery. However these species are not included in the BDCP's analysis. Also, waterfowl that rely on the lower salinity/freshwater of the Marsh as breeding habitat may be at risk, as higher salinity levels have been shown to be dangerous to ducklings.
- How will the proposed pipelines be managed in the long term if there are recurring droughts that require changes in future flow regimes? How will the issue of storage be addressed within BDCP and future planning?
- The BDCP EIR/S states that a new Implementation Office will partner with private and public entities to attain conservation goals and measures. Among other responsibilities, including implementing compliance monitoring and the adaptive management program, this office will report BDCP progress annually to the Authorized Entity Group, the Permit Oversight Group, the Stakeholder Council, and the public. Will this Office require enabling legislation, and which state or federal agencies will implement its mission? Will other governance changes and funding commitments be needed to implement adaptive management? Will the \$90 million dollars authorized for adaptive

¹ D1641 refers to a State Water Board water rights Decision of 2005 that set water quality (salinity) standards for various monitoring stations in the Bay and Delta and amends certain water rights by assigning responsibilities to the persons or entities holding those rights to help meet the salinity objectives.

management over 50 years discussed in the draft EIR/S be sufficient for successful adaptive management of the conservation measures? What will be the Office's relationship to the Delta Stewardship Council and BCDC vis-à-vis permitting for restoration in Suisun Marsh?

- What regulatory mechanisms will ensure that habitat-related conservation measures will occur should adequate state and federal funds not be appropriated or if voters do not support necessary bond funding?
- Most Conservation Measures are discussed at a programmatic level, rather than at a project level in the EIR/S. Will any Conservation Measures be addressed at a project level so that they can be implemented early in the project cycle, in timeframes consistent with Conservation Measure 1?
- Specific locations for habitat improvements are not discussed in the restoration opportunity areas, including those in the Suisun Marsh. The EIR/S would benefit from further analysis of restoration patterns in the Marsh to determine how they affect salinity patterns in the Marsh and Delta. This may help focus the restoration efforts to specific regions of the Marsh to limit salinity intrusion.
- Will construction of restoration projects, which are highly desirable in the Delta upstream of the Bay, create sediment sinks, thus reducing sediment flows to the Marsh and San Francisco Bay? Will the cumulative impacts analysis consider this?
- Studies project that the salinity in San Francisco Bay could increase by 0.30-0.45 practical salinity unit (psu) per decade due to the compounding effects of decreasing freshwater inflow and rising sea level (projected by Cloern et al. 2011 to rise approximately 4 inches per decade). Climate change will affect future Bay salinity and the restoration and conservation measures proposed in the EIR/S. There is little discussion in the EIR/S of the effects of climate change on conservation measures.
- How will the EIR/S address cumulative impacts of related projects? Related projects include dredging the Baldwin Ship Channel (between San Pablo Bay and the Port of Stockton) that includes constructing a sill in the Carquinez Strait; constructing seasonal drought barriers or gates in the Delta; and several proposed water storage projects on existing dams and reservoirs.
- The BCDP EIR discusses a potential reduction in suspended sediment transport to San Francisco Bay of approximately 8-10 percent. The EIR/S does not characterize this change as a significant impact. The Independent Science Board's report to the Delta Stewardship Council raises this as a significant issue. USGS researchers have observed a steep reduction in Bay suspended sediment concentrations and characterize San Pablo Bay as erosional. With projected sea level rise, further reduction in Bay sediment inputs should be considered significant, given Bay wetland restoration targets, current subsided diked-baylands, and the overall Bay-Delta sediment budget. Will the new pumping regime alter the direction and flow of the river upstream, affecting sediment transport, delivery, and rate of deposition downstream? Reduced suspended sediment in the Bay will exacerbate nutrient loading problems caused from the sewage treatment plants discharging into the Bay.

BCDC's Role, Relevant Policies and Related Agreements

As a responsible agency under CEQA, BCDC must comment on the EIR/S. Commission staff may recommend that BCDC require a federal consistency determination by the federal agency sponsors for the BDCP. The project elements in the Delta will affect the Coastal Zone (BCDC's jurisdiction) and some project elements will occur within the Coastal Zone in the Suisun Marsh. Such a consistency review process would need to be completed before the federal agencies sign a record of decision on the project and prior to federal environmental action on project elements, including specific actions within the Coastal Zone, such as restoration projects. The Commission will need to issue permits for the conservation measure projects located in the Suisun Marsh or San Francisco Bay.

Bay Plan Findings and Policies. The Commission's Bay Plan recognizes the tremendous ecological value of the Bay-Delta estuary and the importance of fresh water inflows from the Delta to the survival of fish and wildlife in the Bay and Suisun Marsh.

Bay Plan findings on Tidal Marshes and Tidal Flats state, in part, that "San Francisco Bay is a substantial part of the largest estuary along the Pacific shore of North and South America and is a natural resource of incalculable value" and that "the sheltered waters of estuaries support unique communities of plants and animals specially adapted for life in the region where rivers meet the coast."

Bay Plan findings and policies recognize the importance of fresh water inflows to the ecosystem of the Bay. Bay Plan findings on Fish, Other Aquatic Organisms and Wildlife state, in part, that "conserving fish, other aquatic organisms and wildlife depends, among other things, upon availability of ...proper fresh water inflows, temperature, salt content, water quality, and velocity of the water." Fresh Water Inflow Finding A states that "[f]resh water flowing into the Bay, most of which is from the Delta, dilutes the salt water of the ocean flowing into the Bay through the Golden Gate....This delicate relationship between fresh and salt water helps to determine the ability of the Bay to support a variety of aquatic life and wildlife in and around the Bay."

Bay Plan findings and policies also recognize the impact of pollutants passing through the Delta into the Bay. Bay Plan findings on Water Quality state, in part, that "water from approximately 40 percent of California drains into San Francisco Bay carrying with it pollutants from point and nonpoint sources" and that "harmful effects of pollutants reaching the Bay can be reduced by maximizing the Bay's capacity to assimilate, disperse, and flush pollutants by maintaining and increasing...the volume and circulation of water flowing in and out with the tides and in fresh water inflow."

The Bay Plan's Fresh Water Inflow policies require limits on water diversions, preservation of the Suisun Marsh, and cooperation with the State Water Board to ensure adequate fresh water inflow. Policy 1 states that "[d]iversions of fresh water should not reduce the inflow into the Bay to the point of damaging the oxygen content of the Bay, the flushing of the Bay, or the ability of the Bay to support existing wildlife." Policy 2 states that "[h]igh priority should be given to the preservation of Suisun Marsh through adequate protective measures, including maintenance of fresh water inflows." Finally, Policy 3 states, in part, that the "Bay Commission should cooperate with the State Board and others to ensure that adequate fresh water inflows to protect the Bay are made available."

Suisun Marsh Preservation Act. The Nejedly-Bagley-Z'berg Suisun Marsh Preservation Act of 1974 directed BCDC and the California Department of Fish and Game (CDFG) to develop the Suisun Marsh Protection Plan, which was codified into law as the Suisun Marsh Preservation Act of 1977. The Act recognizes the important role of the Suisun Marsh in providing wintering habitat for waterfowl using the Pacific Flyway and critical habitat for other wildlife, including rare and endangered species.

The Suisun Marsh, where salt and fresh water meet and mix, contains approximately 85,000 acres of tidal marsh, managed wetlands, and waterways in southern Solano County. It is an important part of the Bay-Delta ecosystem and requires adequate fresh water inflows to maintain its fish and wildlife habitat.

Section 29003 of the Act finds that continued wildlife use of Suisun Marsh requires, among other things, “[p]rovision for future supplemental water supplies and related facilities to assure that adequate water quality will be achieved within the wetland areas.”

Section 29010 finds that “[w]ater quality in the marsh is dependent on the salinity of the water in sloughs of the marsh, which depends in turn on the amount of fresh water flowing in from the Delta.”

Suisun Marsh Protection Plan. The Plan recognizes that Suisun Marsh contains “the unique diversity of fish and wildlife habitats characteristic of a brackish marsh.” The Plan emphasizes the need to maintain adequate fresh water inflows to preserve this unique habitat.

Water Supply and Quality Finding 2 of the Plan states, in part, that “[t]he most important source of fresh water inflow to the Suisun Marsh is the outflow from the Sacramento-San Joaquin River Delta.”

Finding 9 states, in part, that “[t]he State Water Resources Control Board in its Delta Decision, and the Environmental Protection Agency and the Regional Water Quality Control Board in the Water Quality Control Plan for the San Francisco Bay Basin, have set water and soil salinity standards for the Marsh.”

Finding 10 states, in part, that “[a]ssuring that sufficient quantities of fresh water will be available to the Marsh to meet the standards and marsh management requirements is as important as determining appropriate water quality standards for the Marsh.”

Water Supply and Quality Policy 1 states, in part, “there should be no increase in diversions by State or Federal Governments that would cause violations of existing Delta Decision or Basin Plan standards.”

Policy 2 states, “Adequate supplies of fresh water are essential to the maintenance of water quality in the Suisun Marsh. Therefore, the State should have the authority to require the Bureau of Reclamation to comply with State and Federal water quality standards for the Delta and the Marsh. This should be accomplished through Federal legislation if necessary.”

Policy 4 states, in part, that “[w]ater quality standards in the Marsh should be met by maintaining adequate inflows from the Delta.”

Suisun Marsh Preservation Agreement. In 1987, DWR, CDFG, the Bureau, and the Suisun Resource Conservation District signed the Suisun Marsh Preservation Agreement to mitigate impacts on Marsh salinity from the CVP, SWP, and other upstream diversions. The objectives of the agreement are:

- To assure that the Bureau and DWR maintain a water supply of adequate quantity and quality for managed wetlands within the Marsh. This is to mitigate adverse effects on these wetlands from operation of the CVP and SWP as well as a portion of the adverse effects of other upstream diversions;
- To improve Marsh wildlife habitat on these managed wetlands;
- To define the obligations of the Bureau and DWR necessary to assure the water supply, distribution, management facilities, and actions necessary to accomplish these objectives; and
- To recognize that water users in the Marsh (i.e., existing landowners) divert water for wildlife habitat management within the Marsh.

In 2005, the Revised Suisun Marsh Preservation Agreement was signed to make its water salinity requirements consistent with water quality standards adopted in 1999 (see “Bay-Delta Beneficial Uses” in Bay-Delta Management section below) and to replace proposed large scale water management facilities with landowner water and management activities to meet the Agreement objectives in the western Marsh.

X2 Water Quality Standards. X2 refers to the salinity level of 2 parts per thousand, which corresponds to the mixing zone of fresh and salt water. Maintaining X2 within Suisun Bay between February and June is considered beneficial for the reproductive success and survival of the early life stages of many estuarine species, including Delta smelt. The CCMP recommended the adoption of these standards, which became an element of the 1994 Bay-Delta Accord.

The U.S. Fish and Wildlife Service listed the Delta Smelt as threatened under the federal Endangered Species Act in 1993, and designated portions of the Delta as critical habitat for the smelt in 1994. The U.S. Environmental Protection Agency and FWS established the X2 water quality standards in 1995. The standards require X2 to be maintained at particular locations within the Delta between February and June depending on the amount of precipitation.