DELTA STEWARDSHIP COUNCIL
A California State Agency

980 NINTH STREET, SUITE 1500
SACRAMENTO, CALIFORNIA 95814
HTTP://DELTACOUNCIL.CA.GOV
(916) 445-5511

August 15, 2016

Ms. Marguerite Patil
Special Assistant to the General Manager
Contra Costa Water District
1331 Concord Avenue
Concord, CA 94520

Re: June 21, 2016 Comment Letter regarding the Delta Levees Investment Strategy

Dear Ms. Patil:

Thank you for your June 21, 2016 comment letter to the Delta Stewardship Council regarding the Delta Levees Investment Strategy (DLIS). In your letter, you raised several important issues related to State interests and beneficiaries that I would like to address. In addition, Attachment A has specific responses to issues you raised regarding the importance of Delta levees for water quality and aquatic habitat, and specific inputs to the decision support tool.

In early 2015, the Delta Stewardship Council (Council) reviewed State policies for the Delta as identified in the 2009 Delta Reform Act and other legislation to identify the State interests related to Delta levees. Based on that review, the Council established four primary State interests in Delta levees and Delta risk reduction: (1) protecting lives; (2) reducing potential damage to property, including infrastructure; (3) reducing risk to water supply and Delta water quality; and (4) protecting and enhancing the Delta ecosystem. The Council is also considering how levee investment priorities could affect other considerations related to the Delta's unique values as an evolving place, such as legacy towns, prime agricultural lands, and the public roadways that support recreation and the local community.

Based on this direction, the DLIS project team developed metrics to evaluate the potential risk to State interests for each island and tract in the Delta and Suisun Marsh. The Council expects to identify the islands and tracts in the Delta where the risks to State interests are greatest and, therefore, are highest priority for levee investments. However, the identification of the specific investments to reduce risk on high priority islands and tracts and the allocation of costs to the beneficiaries of those investments is beyond the scope of the current project. Instead, those decisions will need to be made by project sponsors and funders.

Current cost allocation procedures such as the Delta Levees Subventions and Special Projects programs are specified by the Legislature. We do not expect the DLIS to recommend allocation of Delta levee improvement costs to other parties such as water users or transportation interests. However, in parallel with DLIS, the Delta Protection Commission is evaluating the feasibility of a Delta levees assessment district, and that study is considering additional beneficiaries of Delta levees, including water users and transportation interests. The DLIS project team is coordinating closely with the Delta Protection Commission feasibility study and we encourage CCWD to do so as well. More information on the Delta Protection Commission study can be found on their website: http://www.delta.ca.gov/Flood_Risk_Assessment.htm.

Your comments have been helpful as we refine information for presentation to the Council. If you have any additional questions or comments please don't hesitate to contact me at Cassandra.Enos@deltacouncil.ca.gov or Dustin Jones at Dustin.Jones@DeltaCouncil.ca.gov or (916) 445-5891. Thank you for your participation and review.

Sincerely,

C Enos-Nobriga

Cassandra Enos-Nobriga
Deputy Executive Officer
Delta Stewardship Council

Attachment

cc: Jennifer Ruffolo, Delta Protection Commission

Water Quality and Delta Habitat

The DLIS project team currently considers the importance of Delta islands and tracts for protecting Delta water quality within the water supply metric. The water supply metric includes consideration of the islands and tracts that are most important for protecting Delta water quality by acting as salinity barriers (primarily the eight western islands in the Delta) and the probability of levee failures for those islands. In response to comments from the Independent Review Panel, the DLIS project team worked closely with the Department of Water Resources to identify a method to quantify the specific water quality and water supply consequences that could result from a levee failure at each island or tract. The staffs at both agencies concluded that such an evaluation is extremely complex and beyond the scope of the current project.

Regarding aquatic habitat, we agree that consideration of aquatic habitat protection and enhancement is critical for achievement of the coequal goals. The DLIS project team considered the potential damage to aquatic habitat from levee failure and concluded that the potential consequences are highly variable. Existing aquatic habitats are on the water side of levees and therefore unlikely to be damaged by flooding. In some cases, such as seasonal floodplains in the Yolo Bypass, habitat areas are intentionally flooded. Therefore, the risk analysis does not consider impacts to aquatic habitat from levee failures.

Levee failures or levee modifications have the potential to improve aquatic habitat, too. The DLIS project team is considering these potential improvements to aquatic habitat as opportunity areas. These opportunities are identified in the decision support tool by noting the areas that are within the Delta Plan priority restoration areas and at elevations appropriate for tidal habitat, seasonal floodplains, riparian, and transitional habitat. The goal is to highlight these areas for special consideration for levee investments that may enhance aquatic habitat.

We welcome any additional thoughts on how water quality and aquatic habitats could be considered and evaluated in identifying levee investment priorities.

Specific Comments Regarding the Decision Support Tool

Sea Level Rise. The decision support tool has the capacity to consider potential changes in flood probability and risks resulting from future sea level rise. As recommended by the California Natural Resources Agency, the tool considers nominal and high forecasts for sea level rise at the Golden Gate Bridge for 2030 and 2050 (National Research Council of the National Academies 2012, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*). The sea levels at the Golden Gate Bridge are attenuated across the Delta based on the historical tidal influence in the Delta as described in the *Delta Risk Management Strategy* (*DRMS Phase 1; Topical Area: Flood Hazard Final 2008*). This generalized approach assumes no changes in the Delta levee configurations and no changes in tidal effects in the Delta. The DLIS study was undertaken to evaluate risks to islands and tracts with existing levees. The effects of sea level rise on low-lying, non-leveed areas are not considered in this study. Future refinements to the tool could include more detailed modeling of future sea level rise scenarios.

Hydrodynamic and Mixing Model. As discussed above, the DLIS project team reviewed available information to evaluate how individual island flooding could affect Delta water quality.

We acknowledge that unintentional or intentional flooding of Delta islands can affect water quality and hydrodynamics. However, the state of the science is not sufficient to link the probability of an island flooding with the consequences for water quality, water supply, or aquatic habitats. The detailed analysis suggested is best suited for evaluation of specific levee projects that may incorporate changes to aquatic habitats, such as setback levees. Such analyses should be conducted as part of environmental reviews and permitting of such projects. We welcome further thoughts on how these issues could be incorporated to further assist the Council in setting levee investment priorities and risk reduction policies.

Byron Tract. The DLIS project team has reviewed your comments regarding Byron Tract. The team is revising the hydrologic units defined for Byron Tract and Discovery Bay such that the community of Discovery Bay is included in a hydrologic unit separate from the rest of Byron Tract. The 2010 Census populations for the revised Discovery Bay unit [DLIS-08 (Discovery Bay Area)] is 10,383 and the population for the revised Byron Tract is 55. The risk results for both areas will also be modified. The DLIS project team evaluated two hazards to determine the probability of flooding: hydrologic and seismic. For Byron Tract, the probability of flooding due to hydrologic hazards is 0.5 percent, consistent with federal requirements for 100-year flood protection for Discovery Bay and similar to the FEMA map segment you provided. However, the probability of flooding from a seismic event (2.7 percent) for this area is greater than the probability from a hydrologic event (0.5 percent) resulting in a combined probability of flooding of 3.2 percent. These probabilities and the associated risks will be updated with the revised boundary definitions for Discovery Bay and Byron Tract.

Contra Costa Water District (CCWD) Facilities on Byron Tract. The DLIS analysis is using the hydrologic units of islands and tracts as the unit of analysis. For each island or tract, the probability of flooding is determined by considering the weakest point of the entire levee surrounding the island or tract. For the potential to disrupt water supply, the analysis considered the function of each island for (1) protecting water quality by preventing salinity intrusion, (2) protecting the conveyance corridor, and (3) protecting infrastructure for water agencies that rely on Delta supplies. At this time, the analysis is not sufficiently detailed to account for different flood risks for specific infrastructure on an island or tract. Accordingly, the DLIS project team has reached out to all of the water supply infrastructure owners to identify if their facilities would be disrupted if the island flooded.

At this time, the DLIS evaluation will continue to include the CCWD infrastructure in the consideration of potential water supply disruption from flooding on Byron Tract. However, future evaluations of levee risks may be sufficiently detailed to consider specific risks to assets within individual islands or tracts.