



Coalition for a Sustainable Delta



November 9, 2017

VIA EMAIL

Eileen Sobeck
State Water Resources Control Board
P.O. Box 100
Sacramento, Ca 95812-0100
Bay-Delta@waterboards.ca.gov

Re: Phase II Bay-Delta Plan Input

Dear Ms. Sobeck:

The Coalition for a Sustainable Delta (“Coalition”) is writing to provide its input with respect to the Development of the Program of Implementation for the Phase II Update to the Bay-Delta Plan. The Coalition is a California nonprofit corporation comprised of agricultural, municipal, and industrial water users, as well as individuals in the San Joaquin Valley. The Coalition and its members depend on water from the Sacramento-San Joaquin Delta (“Delta”) for their continued livelihood. Individual Coalition members frequently use the Delta for environmental, aesthetic, and recreational purposes; thus, the economic and non-economic interests of the Coalition and its members are dependent on a healthy and sustainable Delta ecosystem.

The Coalition observes that it is premature to be contemplating a program of implementation prior to the development of project alternatives and associated environmental and economic analyses. It appears that the move toward implementation is a consequence of a blindered view of the singular challenge posed to at-risk, native species and the Bay-Delta ecosystem as one that can be remedied only by increasing outflow, irrespective of the fact that the best available scientific information countermands this paradigm. We are concerned that the Board has proceeded past the point in its decision-making process where the requirements of the California Environmental Quality Act (CEQA) can play an integral role in the process.

Among the questions posed by the Board is “how should the ... Board structure adaptive management for the new objectives?” This pre-supposes that there will be new outflow objectives, which clearly implies that the Board has predetermined the need for and intention to implement targeted management actions before undertaking environmental review pursuant to CEQA.

More to the point, for adaptive management to be meaningful – that is, effective, efficient, and accountable – it must inform the process of identifying management actions as well as

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implementing them, monitoring the consequences of implementing those actions, and incorporating the results of monitoring into future decision-making. “Almost without exception, adaptive-management plans and programs have given relatively little attention to the structured process that is necessary to identify programmatic management actions and select from among them an action or actions for implementation” (Murphy and Weiland 2014). The process of getting from planning a management action to implementing the action involves a series of steps that are frequently absent from models of adaptive management in the literature (for example, Williams et al. 2009). Those steps are laid out in a manner that can be drawn upon by this Board in the Phase II process in Murphy and Weiland (2014, Fig. 4) and Delta Science Program (2016, Fig. 3-1).

The reason it is essential to implement adaptive management as a step-wise, structured approach incorporating scientific information into decision making from the outset, is that, when an improper management action is selected for implementation, it is often impossible to manage adaptively in a manner that can address the short-comings of the underlying action. “For example, if a management action is premised on an assumed relationship between a target species and some substitute species or surrogate measure (see Caro 2010), and the proxy relationship is not actually valid, then both the action and subsequent efforts to monitor its effectiveness will be compromised” (Murphy and Weiland 2014). Here, action taken to increase outflow to benefit Delta smelt, for example, may be based on the asserted surrogate relationship between Delta smelt habitat and the monthly average location of X2 (State Water Resources Control Board 2017, Fish and Wildlife Service 2008). But numerous lines of evidence indicate that this relationship is not founded on the best available science. For example, there is strong evidence of Delta smelt year-round in the Cache Slough area substantially upstream from the month average location of X2 (Sommer et al. 2011, Merz et al. 2011, Sommer and Mejia 2013, Murphy and Hamilton 2014). Likewise, there is a growing body of evidence that Delta smelt are distributed in areas with substantially higher salinity than X2, up to and beyond X10. In fact, in the recently initiated Enhanced Delta Smelt Monitoring surveys August and September 2017 consistently sampled Delta smelt from western portions of Suisun Bay, the Carquinez Strait, and San Pablo Bay under more highly saline conditions than at the Sacramento-San Joaquin rivers confluence and the central Delta, where Delta smelt were frequently absent. See https://www.fws.gov/lodi/juvenile_fish_monitoring_program/ifmp_index.htm. Those survey data indicate that the asserted relationship between X2 and the location and extent of Delta smelt habitat is not legitimate, and surely efforts to adjust the monthly average location of X2 in the fall upstream or downstream a few kilometers will not provide hoped for benefits to Delta smelt.

A conceptual ecological model that provides the basis for one or more proposed management actions includes elements that both to allow for hypothesis testing exercises to assess those actions and to subsequently develop performance measures that will be used to evaluate the actions (Murphy and Weiland 2011, 2014, 2016, Delta Science Program 2016). The conceptual

model that illustrates the posited relationships and quantitative predictive models based on it provides the bridge from the selection of a management action to the design of monitoring protocols, allowing for the performance of the action to be assessed. So, for example, using the prior example of X2 and Delta smelt habitat, the asserted surrogate relationship not only serves as the basis for development of the management action, it also may result in the use of location of X2 as the performance measure, since X2 is assumed to be a proxy for Delta smelt habitat.

An obstacle to adaptive management of the State Board's proposed outflow action stems from the fact that the response variables identified by the State Board include numerous native fish with differing life histories *and* the greater Bay-Delta ecosystem. This set of wide-ranging response variables, un-tethered to a specific proposed management action, effectively precludes assessment of a management action in an adaptive framework. The fact that the State Board intends to prescribe a management action accompanied by that broad array of response variables belies the reliance of the Board on the dominant paradigm in the Delta, namely to select management actions on bases other than support from the prevailing best available science, which would lead to the selection of more highly refined flow- and non-flow-related management actions (Murphy and Weiland 2016).

Finally, we would note that whereas rigorous adherence to a structured adaptive management decision-making process could be expected to reduce pernicious uncertainties regarding Delta fishes and their habitats and identify the ecological factors that presently limit population growth in listed and other target species, the broad brush assessment of species and the ecosystem conducted by the Board precludes identification of limiting factors. Among the consequences of this approach is the potential for the Board to impose increasingly aggressive outflow requirements in order to trigger a response that will never be manifest because a factor other than outflow -- such as competition or lack of spawning grounds -- is the functional limiting factor on the target species.

We urge the Board to give due consideration to this input as it decides upon next steps. In our view, there is good reason for the Board to take a pause both to assure compliance with CEQA and other applicable laws and in order to carry out its mandate by protecting the resources of the Bay-Delta and authorizing reasonable beneficial uses of water going forward.

Sincerely,



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