State Water Resources Control Board

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Dear Mr. McLaughlin and Ms. Windler:

We have reviewed the Draft Modeling Special Study Report (MSS Report), which offers a detailed evaluation of the physical dynamics governing salinity and circulation in the interior southern Delta. The Office of the Delta Watermaster recognizes the need and obligation to complete the study as a milestone in the Water Quality Control Plan implementation process, and to proceed with development of the long-term monitoring and reporting program. In addition to references and comments in the attached comment worksheet, we also endorse suggestions provided in the comment worksheet submitted by the Division of Water Rights on August 27.

Overall, the MSS Report is of high quality, provides important modeling data, and offers a detailed framework in describing and analyzing the processes affecting water quality and water levels, including detailed descriptions of the formation of null zones, one of the primary drivers of salinity accumulation.

We note that several areas of study which are addressed in the MSS Report in some depth, would benefit from further illumination and collaboration to review the significance of study results and findings, and demonstrate actionable alternatives. The MSS Report clearly frames the interdependence of key variables driving salinity conditions, including water quality, water levels, export operations, barrier configuration, agricultural diversions and return flows, and the effect of San Joaquin River flows on southern Delta conditions.

Often, however, generalizations are stated in the report about certain relationships in isolation and should not be presented as specific findings. For example, there are several statements to the effect that water level change due to temporary barriers “more

than offsets the drawdown from water project export operations" (p. 4-3). While this may be factually true in the sense of protecting minimum water levels, this statement does not recognize the associated reduction in tidal energy and conveyed flows, and the reduced circulation that has the potential to accelerate water quality degradation and sediment accumulation. Regarding water availability alone, the presence of the barriers and protection of minimum levels may not sustain adequate flows through channels or tide gates, which rely on the hydraulic effects of the entire tidal range, to serve local diversion requirements.

In recent years, certain water users in the southern Delta have consistently experienced water unavailability on an annual basis, in the months of July-August coincident with a typical ramp-up of export pumping rates. Measured data suggest that a combination of factors is at work in affecting water levels and water quality, especially in this timeframe. This combination of factors includes pump operations, low-inflow conditions, presence of temporary barriers, and reduction in tidal energy, as well as depositional sand bars that affect flows and water level conditions, that appear demonstrably to reduce the availability of water in such places as Sugar Cut and Five Points in the southern Delta.

Another statement of concern is "[Clifton Court Forebay] gate scheduling is fairly constrained, particularly in high export scenarios by allotments and agreements, and the results did not find that minor adjustments to gate scheduling are a big contributor to local water levels or water quality" (p. 3-6). Clearly, overall operations at high export rates do impact water levels and water quality, and there may be further approaches to explore gate operations or operations in general and associated effects, which could contribute to the deeper understanding by all parties in the Delta. Additionally, there may be other options to be considered such as reoperation of San Luis Reservoir to recirculate water back into the Delta and bring beneficial effects to water quality and water availability. Similarly, as shown in 2021, pulse flow releases from New Melones Reservoir in mid to late summer may also demonstrate a potential pathway to improve south Delta water quality in combination with operations.

In general, it is critical that the MSS Report – *and how this information is applied going forward* – brings forth the potential to build toward collaborative modeling efforts. In considering how the information developed in the MSS Report can inform other planning processes such as the Long-Term Monitoring Plan and Comprehensive Operations Plan (COP), it would be beneficial for DWR to continue to share and distribute the MSS modeling openly and transparently with SWRCB, the Delta Science Program, and other research groups. It is noted that a modeling workshop is referenced at several points in the MSS Report. Such a collaborative modeling effort would improve the common understanding of Delta salinity and hydrodynamic processes, and support future planning processes. It may also be possible to include scenarios from the COEQWAL and Just Transitions modeling programs to advance further iterations of operations and flow scenarios to increase understanding about potential actions to reduce salinity conditions in the south Delta.

I would also note that a few ideas (e.g. Franks Tract Futures) continue to be explored in thinking about how operations of the Delta Cross Channel Gates and various experiments in flow dynamics above Franks Tract may help infuse freshwater flows from Middle River which would benefit both in-Delta diverters and the State and federal projects.

As noted above, we feel that the MSS Report should be the basis for deeper dialogue with DWR and the Bureau of Reclamation to gain a better understanding of the granular datasets of the modeling assumptions for diversions, drainage discharge, and other channel depletion factors for the southern Delta region referenced in the document. Although many of these conditions are noted/graphed in the report or otherwise represented, we are not aware of complete documentation that has been released for DeltaCD channel depletion assumptions, for example. Office of the Delta Watermaster staff would like to review specific diversion assumptions, to contribute to the effort to improve and align estimates in current Delta water accounting methodologies, and to evaluate approaches to better characterize diversions and return flows.

We welcome the opportunity to stay engaged as the models continue to be improved and evolve, and to address emerging questions that modeling studies are equipped to answer. We appreciate your responsiveness in addressing these requests to help advance the MSS Report as a baseline for better understanding of dynamic management alternatives. Thank you for consideration of our perspective, and for additional information related to the modeling assumptions built into the MSS Report modeling methodology.

We look forward to continuing dialogue on these important issues.

Sincerely,

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