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April 17, 2020

SENT VIA EMAIL (DeltaConveyanceScoping@water.ca.gov)

Delta Conveyance Scoping Comments
Attn: Renee Rodriguez
Department of Water Resources
P.O. Box 94236
Sacramento, CA 94236

RE: Comments on Delta Conveyance Project Notice of Preparation.

Dear Ms. Rodriguez:

These comments on the Department of Water Resources' ("DWR") Delta Conveyance Project ("Project") Notice of Preparation ("NOP") are submitted on behalf of San Joaquin County.

San Joaquin County is concerned that DWR will repeat its mistakes from the environmental review of the California WaterFix ("CWF") and continue to discount the potentially significant effects of the Project, which appears to be very similar to the CWF.¹ Throughout the CWF review process, as well as the related administrative proceedings such as the Water Rights Change Petition hearings at the State Water Resources Control Board ("SWRCB") and the Consistency Determination appeals at the Delta Stewardship Council, DWR ignored or downplayed evidence demonstrating the potentially significant impacts WaterFix would have had on Delta habitat, wildlife, agriculture and residents. DWR must conduct a transparent and thorough environmental

¹ The level of detail in the NOP is inadequate for the County to fully understand the proposed project, including both the proposed physical components as well as proposed operations.

review of the Project's numerous potentially significant impacts.

As a jurisdiction in the southern portion of the Delta, San Joaquin County is particularly concerned about reductions in freshwater flows into the Delta that the Project would cause. Over the last four years, numerous cautions and advisories regarding harmful algal blooms ("HABs") needed to be issued in San Joaquin County.² The Project would undoubtedly exacerbate HABs formation, and this must be addressed in the Draft EIR for the Project.

In the CWF proceedings, DWR failed to squarely address the proliferation of HABs that would result from diversion of up to half of the average flow of the Sacramento River from the northern Delta. In the SWRCB Water Rights Change Petition hearing and in the Final Environmental Impact Report/Statement ("FEIR/S"), DWR previously relied on DSM-2, a water quality and salinity model, to evaluate the HABs impacts of WaterFix operations.³ DWR failed to undertake any Delta-specific modeling that accounted for all factors that contribute to HABs formation, such as water residence time or temperature.⁴ DWR conducted only a *qualitative review* to conclude that CWF operations would not substantially increase HABs formation.⁵ DWR also downplayed how increased water temperatures could facilitate increased HABs formation.⁶ DWR improperly relied on DSM-2, and made baseless assumptions regarding factors contributing to HABs growth. These analytical flaws rendered DWR's analysis of HABs formation a mere approximation.

Dr. Michael Brett's testimony, which was co-presented by San Joaquin County at the SWRCB hearings identified substantial flaws in DWR's cursory and conceptual analysis and explains why a quantitative, Delta-specific model is necessary to evaluate the impacts of the current Project on HABs formation. Dr. Brett noted that DWR overemphasized the importance of flow velocity over water residence times.⁷ While both

² See Exhibit 1, Surface Water – Freshwater Harmful Algal Blooms Data Set. See also HAB Incident Reports Map (available at: https://mywaterquality.ca.gov/habs/where/freshwater_events.html.)

³ Exhibit 2, DWR-81, Written Testimony of Michael Bryan, p. 5.

⁴ See Exhibit 3, SWRCB Hearing Transcript, April 27, 2017, pp. 188-189 (Cross-examination of Michael Bryan).

⁵ See Exhibit 4, SJC-200 Errata, SWRCB Written Testimony of Michael Brett, p. 2, citing Exhibit 2, DWR-81, Written Testimony of Michael Bryan, pp. 16-18.

⁶ See Exhibit 4, SJC-200 Errata, SWRCB Written Testimony of Michael Brett, p. 2, citing Exhibit 2, DWR-81, Written Testimony of Michael Bryan, pp. 16-18.

⁷ See Exhibit 4, SJC-200 Errata, SWRCB Written Testimony of Michael Brett, p. 3.

low turbulent mixing and long residence times favor HABs, the underlying reasons are different.⁸ Prioritizing one factor over the other is inconsistent with published literature and available evidence.⁹ Further, DWR heavily relied on a lack of model-predicted change in mid-channel flow velocities to conclude CWF would not have significant HABs impacts.¹⁰ However, changes to mid-channel flow velocities, or a lack thereof, are simply not relevant to the areas where HABs have been observed in the Delta, vegetated shoreline areas and backwater sloughs.¹¹ Reduced flows causing lower water turbulence and water residence times in these areas are the pertinent factors to consider, but DWR ignored those factors in the past.¹²

The scientific understanding of HABs has continued to evolve since the SWRCB hearings and the prior review of the twin tunnels project, and those advances must be incorporated into the Draft EIR for the Project. Experts are conducting new studies that better identify the factors driving HABs proliferation. For instance, a new study examined how wet years impacted the persistence of *Microcystis* in the Delta.¹³ This study confirmed that “retention time in the upper estuary and water temperature were key environmental correlates with *Microcystic* bloom amplitude ...”¹⁴ The study’s highlighting of flow rate and temperature as critical factors to HABs proliferation contradicts DWR’s previous claims in the CWF FEIR/S and SWRCB hearings. Moreover, this new study is consistent with the evidence put on by Protestants at the SWRCB hearings -- that increased temperature and water residency caused by CWF would increase the incidence of HABs formation.¹⁵ Moreover, the study’s finding that high-flow wet years do not have the presumed flushing out effect on HABs in the Delta refutes assumptions made by DWR’s experts at the SWRCB Hearings that minimal velocity increases “quickly disrupt” HABs.¹⁶

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ Exhibit 2, DWR-81, Written Testimony of Michael Bryan, p. 4

¹¹ *Ibid.*

¹² *Ibid.*

¹³ Exhibit 5, Lehman, et al., *Impact of extreme wet and dry years on the persistence of Microcystic harmful algal blooms in San Francisco Estuary*, Quaternary International (December 2, 2019).

¹⁴ *Ibid.*

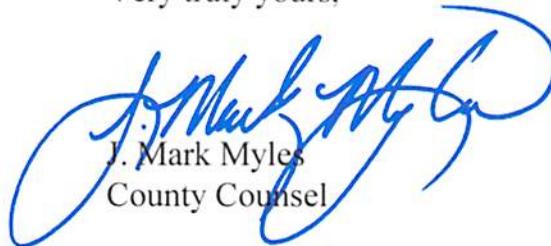
¹⁵ See Exhibit 6, SJC-4, SWRCB Written Testimony of Erik Ringelberg, pp. 11-12; Exhibit 4, SJC-200 Errata, SWRCB Written Testimony of Michael Brett, pp. 2-3, 7-15.

¹⁶ Exhibit 3, SWRCB Hearing Transcript, April 27, 2017, p. 161 (Cross-examination of Michael Bryan).

Another recent study conducted linked global climate change to increased HABS formation.¹⁷ In fact, “[f]reshwater HABS caused by toxic cyanobacteria... provide some of the clearest examples of HABS promoted by climate change and anthropomorphic forcing”¹⁸ Another study reviewed HABS modeling in the context of climate change to evaluate current methodologies.¹⁹ According to Ralston and Moore, climate change will increase HABS formation and proliferation due to warming temperatures, increased stratification, altered nutrient availability and composition, light intensity and ocean acidity.²⁰ DWR must consider the rapidly and drastically changing climate when analyzing how the Project would further exacerbate HABS formation and proliferation. DWR cannot, as it did previously, simply assume that HABS formation is a product of climate change and excuse itself from analyzing the Project’s incremental effects on the identified impact. (See *California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 388 [“In fact, CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present.”].)

These new studies, and the flaws in DWR’s prior conceptual approach, underpin the necessity of a Delta-specific quantitative model to evaluate the Project’s HABS impacts. San Joaquin County requests that DWR fully evaluate the Project’s impacts, including those on HABS formation, to ensure full disclosure and require all feasible mitigation for the Project’s numerous potentially significant impacts.

Very truly yours,



J. Mark Myles
County Counsel

¹⁷ Exhibit 7, Gobler, *Climate Change and Harmful Algal Blooms: Insights and perspectives*, Harmful Algae 91 (2020).

¹⁸ *Ibid.*

¹⁹ Exhibit 8, Ralston & Moore, Modeling harmful algal blooms in a changing climate, Harmful Algae 91 (2020).

²⁰ *Ibid.*

EXHIBIT LIST:

Exhibit 1: Surface Water – Freshwater Harmful Algal Blooms Data Set (available at: https://data.ca.gov/dataset/ab672540-aecd-42f1-9b05-9aad326f97ec/resource/c6f760be-b94f-495e-aa91-2d8e6f426e11/download/fhab_bloomreport.csv).

Exhibit 2: DWR-81, SWRCB Written Testimony of Michael Bryan (available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/petitioners_exhibit/dwr/DWR-81.pdf).

Exhibit 3: SWRCB Hearing Transcript, April 27, 2017 (available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/docs/transcripts/20170427_transcript.pdf).

Exhibit 4: SJC-200 Errata, SWRCB Written Testimony of Michael Brett (available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/COSJ%20et%20al/SJC_200.pdf).

Exhibit 5: Lehman, et al., *Impact of extreme wet and dry years on the persistence of Microcystic harmful algal blooms in San Francisco Estuary*, Quaternary International (December 2, 2019) (available at: <https://www.sciencedirect.com/science/article/pii/S1040618219309036?via%3Dihub>).

Exhibit 6: SJC-4, SWRCB Written Testimony of Erik Ringelberg (available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/COSJ%20et%20al/SJC_004.pdf).

Exhibit 7: Gobler, *Climate Change and Harmful Algal Blooms: Insights and perspectives*, Harmful Algae 91 (2020) (available at: <https://www.sciencedirect.com/science/article/pii/S1568988319302045>).

Exhibit 8: Ralston & Moore, *Modeling harmful algal blooms in a changing climate*, Harmful Algae 91 (2020) (available at: <https://www.sciencedirect.com/science/article/pii/S1568988319302021?via%3Dihub>).