July 29, 2021

Via Electronic Mail
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100
commentletters@waterboards.ca.gov
Bay-Delta@waterboards.ca.gov

Re: Comments on State Water Resources Control Board's July 27, 2021, Workshop for Proposed Emergency Curtailment and Reporting Regulation for the Sacramento-San Joaquin Delta Watershed and Overview of Recent Updates to the Water Unavailability Methodology for the Delta Watershed

Dear State Water Resources Control Board:

Byron-Bethany Irrigation District (BBID) appreciates the State Water Resources Control Board (State Board) providing an opportunity for stakeholders, like BBID, to learn about and comment on State Board staff's proposed Enhanced Water Use Reporting and Curtailment of Diversions due to Lack of Water Availability in the Sacramento-San Joaquin Delta Watershed (Proposed Regulation) and recent updates to the Water Unavailability Methodology for the Delta Watershed dated July 2021 (Revised Methodology). On July 20, 2021, the State Board provided a notice of staff workshop on the Proposed Regulation (Notice). The Notice states that the Revised Methodology is "planned to be used to inform curtailment decisions as described in the [Proposed] [R]egulation." (Notice, p. 1.) State Board staff released the Proposed Regulation in the late afternoon of July 23, 2021. Four calendar days later, on July 27, 2021, staff hosted the workshop on the Proposed Regulation. The deadline for written comments is noon on Thursday, July 29, 2021 – less than two days following the workshop. BBID understands that the State Board will consider adopting a resolution to approve the Proposed Regulation during its August 3, 2021, meeting, which will trigger a rapid approval process such that the Proposed Regulation may be effective as soon as August 16, 2021.

BBID's consultants provided oral comments on its behalf during the workshop on the Proposed Regulation. BBID provides written comments on the Proposed Regulation and the Revised Methodology below.

General Comment:

As the State Board determined in its Order WR 2016-0015 (June 7, 2016), a water availability or unavailability analysis (e.g., the Revised Methodology) must (1) account for updates to forecasted supply and demand data, (2) document removal of unmet demand from the calculations, and (3) remove demands that were met by imported or stored water.

The Revised Methodology is one of the limited tools, and arguably the primary tool, in the Proposed Regulation to determine whether water is unavailable under a water right holder's priority of right and whether to order curtailment of water diversions. (Proposed Regulation, § 876.1, subd. (d)(6).) Given the critical nature of this essential resource, efforts to curtail its use must be based on precise and accurate information. Despite State Board staff's June 16 and July 23 modifications, the Revised Methodology still does not reflect the unique nature of the Delta as compared to other river runs, including and not limited to residence time and certain irrigation demands that may be deemed non-consumptive. BBID submits that because of assumptions in the Revised Methodology, rather than reliance on measured and modeled conditions, the use of the Revised Methodology will result in improper determinations that native water is unavailable for use and diversion in the Delta, cutting off Delta water users prematurely in favor of other water users.

In addition, BBID flags several issues that it can neither properly vet nor propose resolutions to in the truncated comment time frame.

Specific Comments:

1. The Revised Methodology Relies on Inaccurate and Unanalyzed Assumptions for Residence Time of Water in the Delta

In response to the administrative civil liability complaint at issue in Order WR 2016-0015,[1] BBID provided a thorough analysis of the behavior and residence time of water within the Delta, making key points with respect to Delta hydrodynamics, which BBID incorporates herein and restates below as they remain relevant and unaddressed in the Revised Methodology.[2]

The Revised Methodology states, "given the extreme dry conditions that exist and have existed for a prolonged period, there is no basis to assume that any remaining storage of fresh water flows would exist in the Delta longer than the methodology's one-month time step." (Revised Methodology, § 1, p. 8.) Residence time of water in the Delta, however, is on the order of two to three months during critical years, such as 2021.

Residence time can be estimated as the volume of water in the Delta, divided by inflows to the Delta. Residence time is critical; only when residence time is considered appropriately can anyone (whether water users or the State Board and its staff) understand whether native water is available for use. If an assumed residence time is too short, that assumption may effectively cut off Delta water users, such as BBID, prematurely and favor storage users, such as the State Water Project (SWP) and/or Central Valley Project (CVP). In addition, the residence time assumption simply does not match measured and modeled conditions that are known at this time.

The bottoms of Delta channels are below sea level. So, too, is more than half of the land in the Delta. The Delta's low elevation and connection to the San Francisco Bay complex mean that water will always be present in both the Delta and Delta channels,

[1] BBID and the West Side Irrigation District (WSID) consolidated into one irrigation district, effective on September 2, 2020, and BBID is the successor district.

[2] Expert Report of Susan C. Paulsen, Ph.D., P.E., *Availability of Water in Old River, Sacramento-San Joaquin Delta, During Drought Conditions* (Jan. 2016) (Paulsen Expert Report).

such that the volume of water in the Delta is essentially fixed. During dry conditions, when inflows are lower, the residence time is longer because there is less water flowing into and out of the Delta to "replace" water already present in the Delta. Conversely, in wet conditions when river inflows are high, water flows from the Delta to the San Francisco Bay much more quickly, and residence times are shorter.

Preliminary modeling using the Delta Simulation Model II (DSM2) confirms that during the current 2021 water year (i.e., October 1, 2020, through June 30, 2021), residence times are significantly longer than one month, and closer to two to three months. (The DSM2 modeling methodology is described in Attachment A, which also includes Figures 1 and 2 describing the source fingerprints for water at BBID's primary diversion locations for the period of January 1 through June 30, 2021.) Moreover, this preliminary modeling shows that a significant volume of water in the Delta entered months ago (i.e., prior to June) *and* from sources other than releases of stored water from the SWP and CVP (e.g., agricultural return flows and east side streams). Approximately 47 percent of the water that was present in Clifton Court Forebay at the end of June 2021 was Sacramento River water that flowed into the Delta in May 2021 or before, and roughly 24 percent of the water in Clifton Court Forebay consisted of agricultural return flows. Simply put, the Revised Methodology's assumption that residence time is less than one month is incorrect. Also, the inference that residence times are shorter in dry conditions than in wet conditions is incorrect. Therefore, the residence times assumptions in the Revised Methodology injure BBID and other similarly situated water users.

The Revised Methodology further states, "The methodology does not assume there is storage (residence time) longer than a month in the Legal Delta that would affect water availability given the extremely dry conditions that have persisted for an extended period *and the supplementation of flows in the Delta with previously stored water for many months*." (Revised Methodology, § 2.3.3, p. 53, emphasis added.) This assumption is, again, incorrect. The supplementation of flows with previously stored water does not affect residence time. Residence time is a function of the total inflows to the Delta and the volume of water in the Delta, not the source of inflows. Whether Delta inflows are natural flows or previously stored water is not relevant to the calculation of residence time.

To our knowledge, State Board staff have yet to analyze, either quantitatively or qualitatively, what fraction of water in the Delta is "stored water" or what fraction of Delta inflows consist of "stored water"—a necessary analysis to the support the above-quoted assumption. To properly rely on that assumption, State Board staff needs to develop a methodology for it and apply it, likely using modeling analyses similar to the analyses described above to determine the distribution and volume of stored water in the Delta.

Representing residence time in the Delta accurately is critical to assess the availability of native water. The Revised Methodology does not do so, and, therefore, cannot be considered the best available data. Accordingly, the Revised Methodology does not meet the State Board's criteria to determine the unavailability of water upon which to issue curtailment orders to water users within the Delta.

2. State Board Staff's Assertion that Tidal Inflows are of Insufficient Quality for Use Is Misplaced.

During the workshop, State Board staff presented a slide stating, "Tidal inflows [are] not sufficient quality for use." This assertion was listed as a response to the comments received on the previous version of the methodology regarding staff's need to consider the Delta's unique hydrology. BBID submitted both comments and data describing its historical diversions of brackish water, and those comments address this assertion.

In BBID's analysis submitted in 2016, BBID provided historical data and information confirming that water continued to be diverted at both the BBID and WSID diversion locations in the critically dry year of 1931, even when chloride concentrations exceeded 1,000 milligrams per liter (mg/L).[3] Historical analyses also indicate that water was present in the channel, and BBID diverted water during July and August of 1977, when chloride concentrations may have approached 300 mg/L. In protracted litigation initiated by the State of California against BBID contesting BBID's diversion and use of water, BBID submitted testimony from a civil engineer regarding the quantity and quality of water available during July and August of 1977. The civil engineer opined:

[3] Paulsen Expert Report at pages 62-63.

> State records indicate that the level of chlorides in the channel did not exceed 300 ppm [mg/L] during July and August of 1977. During that period, the District used that water, as available, just as it has every other year, *regardless of quality*. To my knowledge the District has never refrained from using [D]elta water because of its quality, and I believe it would have used water during that period regardless of drought conditions and regardless of the impact of the SWP.[4]

Water from San Francisco Bay enters the Delta with tidal action. This Bay water mixes with fresher water sources within the Delta as a result of tidal forcing and dispersion. The salinity of water in the interior Delta increases when water from the Bay is present in even small concentrations. As shown in Figures 1 and 2 in Attachment A, San Francisco Bay water constituted only a small fraction of the water present at the end of June 2021 in Clifton Court Forebay —the source of water diverted at BBID's primary intake. The majority of water at this location originates from the Sacramento River (including water that flowed into the Delta many months prior), the San Joaquin River, and agricultural return flows, collectively comprised of less than 1 percent Bay water. The presence of a small fraction of Bay water, combined with the clear history of BBID's diversion of water with chloride levels as high as 1,000 mg/L or more, should not affect the determination of availability of water for diversion by BBID.

The quality of water suitable for diversion is not universal, and yet the Revised Methodology unilaterally makes it so by refusing to consider tidal inflows as a possible supply for Delta users. Ignoring this data may, again, prematurely cut off BBID and similar Delta diverters where water is otherwise available for their diversion and use.

[4] Statement of [CH2M Hill Civil Engineer] William T. O'Leary Regarding Byron-Bethany Irrigation District's Use of Water in July and August 1977 (Aug. 27, 2986), attached as Exhibit 1 to Settlement Conference Statement filed in *State of California v. Contra Costa Water Agency, et al.*, San Francisco Superior Court Case No. 765609, emphasis added.

3. The Consideration of Direct Diversions Below Sea Level as Non-Consumptive Uses Demonstrates that Water Demand in the Delta Is Different than Other River Runs, and the Revised Methodology Should Be Updated to Reflect the Unique Nature of the Delta.

Section 878 of the Proposed Regulation (Section 878) provides certain categories of diversions and uses that may be deemed "non-consumptive uses" and, thus, may continue *after* issuance of a curtailment order upon the satisfaction of certain provisions. One category of possible non-consumptive diversion and use is "[d]irect diversions located within the Legal Delta used exclusively to irrigate lands entirely below sea level when comparison of diversion and drainage records provide substantial evidence that continued irrigation of those lands does not increase net channel depletions." (Proposed Regulation, § 878, subd. (e).)

As stated previously, more than half of the land in the Delta and nearly all Delta channels are situated below sea level. The inclusion of Section 878, subdivision (e), in the Proposed Regulation demonstrates that certain demands in the Delta should not be counted against the available supply in the Delta because they do not increase net depletions. To the extent that the data used in the Revised Methodology (and its previous iterations) accounts for the use of water to irrigate lands below sea level where such use does not increase net depletions, that demand data is overstated, potentially by a substantial magnitude. Thus, the Revised Methodology does not account for the unique characteristics of the Delta, nor does it present an accurate water demand therein. Just as in 2016, the Revised Methodology includes an assumption that overstates demand and negatively impacts BBID.

4. The Process for Receiving Certification of Non-Consumptive Uses Under Section 878 is Inverted, Impacts Available Supply, and Should be Further Revised to Provide Recourse if the Deputy Director Disapproves Certification.

The process to obtain certification from the Deputy Director (or Delta Watermaster, as discussed elsewhere herein) under Section 878 is inverted. Section 878, subdivision (e), indicates that a diverter may continue diversions "without further approval from the Deputy Director" upon submittal of certification of non-consumptive use. (Proposed Regulation, § 878, p. 6.) Provided the Deputy Director does not

"disapprove" a certification, demand in the Revised Methodology will be reduced, which presumably will increase supply available to other Delta diverters. However, this increase in supply will occur after the fact, perhaps long after the fact, and too late for diverters who needlessly stopped diverting under a curtailment order. Given the relatively large extent of below-sea-level lands in the Delta, this provision may significantly reduce Delta demand as quantified by the Revised Methodology. Diverters should be afforded with the opportunity to submit certification that their diversions and uses are non-consumptive *prior* to issuance of curtailment orders and the available supply be updated accordingly.

Furthermore, it is unclear whether submittal of a certification under Section 878 stays the period of time during which a diverter receiving a curtailment order must cease diversions. The process in Section 878 leaves open the possibility that the Deputy Director may, "if more convincing evidence contradicts the claims," (see Proposed Regulation, § 878, p. 7), deny the diverter's certification that its diversions do not decrease downstream flows, and the diverter has no recourse.

5. The Revised Methodology Continues to Make Return Flows Attributable to Delta Demand Available as Supply to Diverters Upstream of the Delta and Should Be Modified so that the Entirety of Delta Return Flow Supply is Available Only to Delta Diverters

The Revised Methodology does not address BBID's previous concerns regarding State Board staff's use of Delta return flows as supply available to diverters upstream of the Delta; an assumption that is physically impossible. Item 2 in BBID's May 25, 2021, letter to the State Board commenting on the Draft Water Unavailability Methodology for the Delta Watershed cited State Board staff's improper consideration of Delta return flows as supply available to diverters upstream of the Delta:

> However, the Draft Methodology does not consider the Delta as a separate area, but rather one composed of the lower portions of the Sacramento Valley Floor, San Joaquin Valley Floor, and Mokelumne subwatersheds. The Draft Methodology appears to add the return flows assumed for Delta diverters to the subwatershed-wide supply, such that return flows in the Delta are counted as supply available to diverters

> within portions of the subwatersheds upstream from the Delta. This is physically impossible and potentially overstates the amount of demand within these upstream subwatersheds that could be supplied from available supply, which results in an inaccurate reckoning of supply available to Delta diverters. BBID recommends that the State Board treat the Delta as its own supply and demand area, as much as possible, so that only demands that have physical access to the available supply are charged against the supply.

The State Board's Revised Methodology responds to this comment and issue by stating, "Commenters suggested that return flows from Legal Delta diversions should not be made available to diverters upstream. The methodology only makes return flows available within four downstream subwatersheds. As discussed above, data and tools for more granular analyses are not currently available at this time." (Revised Methodology, p. 8.)

This reply does not refute BBID's concern, but rather acknowledges that a more granular analysis is needed to properly account for supply and demand in the Delta. Notwithstanding the fact that the Revised Methodology makes return flows available to "only four downstream watersheds," substantial portions of three of these subwatersheds (i.e., Sacramento Valley Floor, San Joaquin Valley Floor, and Mokelumne) are outside of the Delta. The Revised Methodology, therefore, continues to make return flows attributable to Delta demand available as supply to diverters upstream of the Delta. This remains physically impossible. It also potentially overstates the amount of demand within the upstream portions of subwatersheds that can be supplied from available supply, which results in an inaccurate accounting of supply available to Delta diverters.

In addition, in State Board staff's July 27, 2021 workshop presentation on slide 13, staff essentially restated the response in the Revised Methodology adding, "Delta return flows are available to other Legal Delta diverters, avoids underestimating supply." While Delta return flows are available to other Delta diverters, the Revised Methodology also makes them available to diverters not in the Delta. Since the Revised Methodology evaluates supply and demand on a subwatershed basis, we expect that the assertion of conservatism is for the subject subwatersheds as a whole. It is unclear,

absent a thorough review of the Revised Methodology spreadsheet (Spreadsheet) and consideration of spatial aspects and water right priorities within each subwatershed, whether the Revised Methodology is, in fact, conservative for Delta diverters. Either way, given the physical impossibility that supply generated in the Delta is available to diverters upstream of the Delta, the Revised Methodology should be modified such that the entirety of the Delta return flow supply is available only to diverters in the Delta.

6. The Revised Methodology Spreadsheet Relies on Inaccurate Demand Data.

Section 876.1, subdivision (d)(6), of the Proposed Regulation identifies the use of the Revised Methodology to determine water unavailability, as stated above. The Spreadsheet, however, relies on data that: (a) is not representative of current demands; (b) includes duplicative demands for water rights in the Delta; and (c) appears to mischaracterize Exchange Contractor water demands.

First, the Spreadsheet relies upon 2018 water rights reporting data to represent demand claiming, "2018 was a below normal water year in both the Sacramento and San Joaquin River watersheds and is assumed to more closely resemble demands during a critically dry year than 2019, which was a wet water year in both watersheds. The reliance on 2018 demand data may underestimate actual demand since demands are likely to be greater during a critically dry year due to drier soil conditions. There are also likely higher losses to evaporation and seepage in a critically dry year." (Revised Methodology, § at p. 34).

As can be readily determined through review of multiple years of reporting for particular water rights, demands vary year-to-year and even more so month-to-month across years based upon more than just whether soil was wetted by rainfall. During peak irrigation months, such as June through August, monthly demand in water rights reporting reflect crop types, acreage, agronomic activities, and wind and weather conditions – not just when effective rainfall was no longer available to a crop. Since the Spreadsheet uses a month-by-month evaluation of supply and demand, the assertion that demand in July of 2018 was more or less reflective of the hydrology of 2021 is misplaced. When inspecting a few water rights with large quantities of reported diversion across months and years, this becomes apparent. The Spreadsheet should

utilize 2021 actual diversion and projected demand information prior to determining whether water supplies are unavailable.

Second, the Spreadsheet improperly includes duplicative demands for water rights in the Delta, an issue unaddressed by the State Board's water availability analysis used in 2015/2016 proceedings. As articulated in a civil engineer's testimony on behalf of BBID in response to the administrative civil liability complaint at issue in Order WR 2016-0015, the direct use of several reports for water rights holders in the Delta results in duplicative demands for the lands actually served by those rights, causing the total demand to include "phantom" demands that cannot (and do not) actually exist. (Written Testimony of Greg Young, P.E., In the Matter of Enforcement Action ENF01951, ¶¶ 28-33 (Testimony).) In his testimony, the expert described many instances in which multiple purportedly separate statements of demand had the same listed value for the same month, ultimately revealing that each identical statement had the same owner, and represented a duplicative statement covering the same parcel of land. (Testimony, ¶ 28.) In some instances, this resulted in demands three to four times of the actual demand. (Testimony, ¶¶ 31-32.)

As presently noted in the Spreadsheet on the "Demand" tab, State Board staff marked certain representations of reported demand as "not reviewed," even though these demands were explicitly noted as duplicative in the 2015/2016 proceedings. These duplications result in an over-estimated demand of a minimum of 198 cubic feet per second (cfs) in July alone, which is approximately 12,000 acre-feet. Accurately representing these demands may result in the Spreadsheet showing water available to Delta diverters.

Third, the representation of demand for certain Exchange Contractors (e.g., Central California Irrigation District) appears to be inconsistent with the Revised Methodology's reported treatment of the Exchange Contractor demands. The Revised Methodology states: "Accordingly, all Exchange Contractor demands are assumed to be met with previously stored CVP supplies since the Exchange Contractors do not use water from the San Joaquin River under their underlying water right claims unless they are shorted supplies under their Exchange Contracts." (Revised Methodology, § 2.2.6.2, at p. 45). This suggests that the demand for the Exchange Contractors should not be included, especially during the summer irrigation months, as their demand is met with

previously stored water, which is not included as a supply in the Spreadsheet's "Supply Forecast" tab.

Furthermore, Central California Irrigation District's water right, reported under S000477, is claimed as "riparian." This designation is treated by the Revised Methodology as "senior in priority to all other demands for the purposes of the methodology." (Revised Methodology, fn. 22, p. 52, emphasis added.) Water right S000477 represents over 100,000 AF in July 2018 and over 80,000 AF in August 2018. Thus, the inclusion of this very large demand as a senior right when it is being served by previously stored SWP or CVP water has significant impacts on the determination of water unavailability for other Delta diverters. To be consistent with the Revised Methodology's stated treatment of Exchange Contractor demands, this water right, and all others associated with the Exchange Contractors, should be removed from the Spreadsheet. Doing so will more accurately reflect demand.

7. The Revised Methodology Does Not Appear to Account for Return Flows Associated with the Delivery of Previously Stored SWP or CVP Water.

The Spreadsheet implements a unique approach to account for return flows associated with diverted surface water supplies. (Revised Methodology, § 2.2.8, pp. 46-47.) As explained in the Revised Methodology, the Spreadsheet discounts demands by a "Demand Factor," as noted in the "Demand Factor" tab. This discounting is explained to reflect modeling from other tools, such as CalSim3, as a method to reduce the portion of the demands within a "subwatershed" (as that term is used in the Spreadsheet) that will potentially use available supply.

While understanding this approach is a proxy for return flows associated with demands, it appears to not account for rediversion of previously stored SWP or CVP water by certain contractors that will also contribute to available return flows. Specifically, the demands included in the "Demand" tab of the Spreadsheet reflect only demands on a month-by-month basis, as reported by the water right holder in accordance with statutory and State Board requirements. This includes the diversion to storage under water rights held to provide SWP or CVP water that generally occur in the winter and early spring months. Subsequently, this stored water is released for rediversion by SWP or CVP water contractors, including contractors in the Sacramento

Valley Floor and other subwatersheds. However, because some of these contractors, such as contractors with CVP water service contracts located north of the Delta, do not have demands reported to the State Board, there is no demand to discount. Thus, any return flow associated with the diversion and delivery of previously stored SWP or CVP water to such entities should represent a return flow potentially available to other water rights in the subwatershed.

8. The Proposed Regulation Misrepresents the Methods to Determine Water Unavailability.

Section 876.1, subdivision (d) of the Proposed Regulation discusses six methods that will be used to determine whether water is unavailable to a water right holder, including: (1) priority date, statement of diversion and use data, judicial orders, and State Board orders; (2) water demand projections based on use from 2018-2020; (3) monthly reporting information submitted in response to an informational order issued under section 879 of the Proposed Regulation; (4) water supply projections from certain sources; (5) other pertinent, reliable, and publicly available information; and (6) the Water Unavailability Methodology for the Delta Watershed or comparable tools, which BBID assumes will be the Revised Methodology.

It is our understanding that items (1), (2),[5] and (4) are elements of item (6) – the Revised Methodology. Accordingly, these additional provisions serve only to distract and overstate information that is already taken into consideration by the Revised Methodology. These tools are also insufficient to independently determine availability, and do not provide a meaningful opportunity to examine unavailability determinations. Therefore, Section 876.1, subdivision (d) should be revised to make clear that certain items (i.e., 1, 2, and 4) are already, in whole or in part, accounted for in the Revised Methodology, retaining the two other provisions allowing consideration of subsequently available information.

[5] Specifically, data from 2018.

9. The Proposed Regulation Diminishes the Delta Watermaster's Authority Over the Delta.

As previously stated, the Delta is unique in its hydrology and nature. In recognition of the unique nature of the Delta, the Legislature enacted Water Code section 85230 (Section 85230) and created the Office of the Delta Watermaster. Under Section 85230, the Delta Watermaster is granted exclusive authority over matters involving decisions in the Delta, including "monitoring and enforcement of the [State] [B]oard's orders and license and permit terms and conditions that apply to conditions in the Delta." (Wat. Code, § 85230, subd. (b).) The Delta Watermaster is also granted exclusive authority to "issue notice of a proposed cease and desist order or administrative civil liability complaint" involving diversions in the Delta. (*Ibid.*) Moreover, Section 85230 does not provide for delegation of the Delta Watermaster's authority under any circumstances, and there is no support in the statute for diminishing the Delta Watermaster's authority during implementation of emergency regulations.

Disregarding Section 85230, the Proposed Regulation empowers the "Deputy Director" to enforce the regulation, diminishing the Delta Watermaster's role to mere consultation over proposed corrections to the priority date of a Delta diverter seeking a correction. (Proposed Regulation, § 876.1, subd. (e).) This is a violation of Section 85230, and the Proposed Regulation should be revised to substitute "Delta Watermaster" in place of "Deputy Director" wherever it appears in the Proposed Regulation.

Additional Issues:

1. The Revised Methodology suffers from cumulative discrepancies that are significant and need to be corrected before the State Board, Deputy Director, or Delta Watermaster rely on it to issue curtailment orders.

2. The Revised Methodology does not provide a clear process by which curtailment orders will be suspended, whether completely or temporarily.

3. The Proposed Regulation does not contemplate a phased-in approach, like that which is customarily used in a "water right priority call" implemented in other western states. Using a phased-in approach based on priority of right allows for parties to better plan as the water supply drops over a season, rather than an assertion that an entire watershed must cease diversions all at one time.

4. BBID requests the State Board delete proposed Section 879.2(b) because the Proposed Regulation are most appropriately premised on a trespass theory, not an unreasonable use of water theory. A waste and unreasonable use determination involves the State Board or a Court evaluating whether a specific use is unreasonable in light of its impacts on another specific use. For example, in *Stanford Vina Ranch Irrigation Co. v. State of California* (2020) 50 Cal.App. 5th 976, where the State Board evaluated the reasonableness of irrigation in light of its potential impacts on fish. Here, assuming it's possible to do so, the State Board has not analyzed the reasonableness of competing uses by applying the rule cited from *Tulare Irr. Dist. v. Linday-Strathmore Irr. Dist.*, noted in Resolution Recital #14, to the present circumstances to support inclusion of Section 879.2(b). Therefore, the State Board should delete Section 879.2(b).

Very truly yours,

BYRON BETHANY IRRIGATION DISTRICT
Rick Gilmore
General Manager

ATTACHMENT A

Methodology For Obtaining Preliminary Delta Simulation Model II Model Results

We used the Delta Simulation Model II (DSM2) version 8.2.0 to model Delta hydrodynamics and source fingerprints for water year 2021 (WY 2021). The key input data are provided in the table below.

Category	Input Data	Data Source	Station ID	Time Interval
Major export / diversions ("Source Flow")	Contra Costa Water District	CDEC	INB	Daily
	Contra Costa Water District	CDEC	IDB	Daily
	Tracy Pumping Plant	CDEC	TRP	Daily
	Contra Costa Water District	CDEC	CCW	Daily
Reservoir Inflow	Clifton Court Inflow	CDEC	CLC	Daily
Delta inflows	Sacramento River Inflow	CDEC	FPT / SPE	Daily
	San Joaquin River Inflow	CDEC	VNS	Daily
	Cosumnes River Inflow	CDEC	MHB	Daily
	Mokelumne River Inflow	CDEC	CMN	Daily
	Calaveras River Inflow	CDEC	NHG	Daily
	Yolo Bypass Inflow	USGS	11453000	Daily
	North Bay	CDEC	BKS	Daily
Boundary Stage	Stage at Martinez	CDEC	MRZ	Hourly

Because Delta Channel Depletion (DCD) and gate operation records for WY 2021 were not publicly available when we performed the simulation, we used data from water 2015 (WY 2015) for these model parameters.

We used the DSM2 QUAL module to simulate volumetric fingerprints. Inflows were "tagged" within the model and traced throughout the model domain to determine both the source of water at key locations in the domain and, for Sacramento River inflows, the month water entered the Delta. Figures 1 and 2 (below) show these results.

Results from this modeling should be considered preliminary, but are generally consistent with model results from the WY 2015, as presented in prior BBID comments.

Figure 1. Preliminary Fingerprinting Results for WY 2021, Clifton Court Forebay.

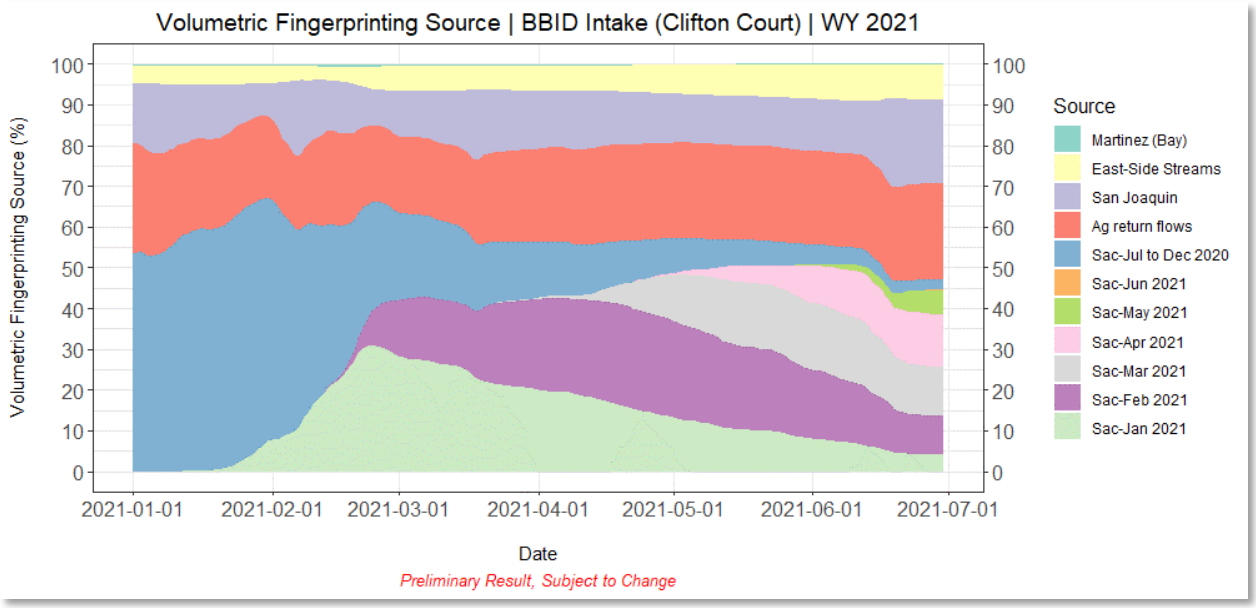

Figure 2. Preliminary Fingerprinting Results for WY 2021, BBID intake in Old River (former WSID intake).