



CENTRAL DELTA WATER AGENCY

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**Via Email to commentletters@waterboards.ca.gov
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State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100



Re: SUPPLEMENTAL Comments on Agenda Item No. 5 for the SWRCB's July 1 & 2, 2014 Board Meeting re "Consideration of a proposed Resolution regarding drought related emergency regulations for curtailment of diversions to protect senior water rights."

Dear SWRCB:

These comments supplement other comments being submitted on the above-referenced matter by the Central Delta Water Agency (CDWA).

1. **It is Important to Note that the Issue Before the SWRCB is Not Whether to Shift the Projects' Burden of Meeting Decision 1461 Water Quality Standards to Pre-1914 and Riparian Water Users.**

In the SWRCB's draft "Emergency Findings," it states:

Pursuant to the State's water right priority system, the State Water Board needs to curtail water diversions when sufficient flows in a watershed are not available for 1) a water users' needs, based on their priority of right because the flows are instead needed to satisfy senior or other correlative rights; or 2) when water in the stream is from water imports or previously stored water released for downstream delivery or use, including meeting public trust and water quality requirements, to which certain diverters do not have any right.

(Agenda Packet, "Emergency Findings," p. 1)

From reviewing the entirety of the SWRCB's Agenda Packet for the instant item, there appears to be no statement or discussion about unraveling in any manner the SWRCB's Decision

1461 which imposed the obligation to meet various Delta water quality standards on the SWP and CVP. Accordingly, the CDWA is assuming the SWRCB is indeed not intending to unravel those obligations in the context of the instant emergency regulations. The CDWA respectfully submits that any such unraveling within the context of such regulations would be highly unwarranted, highly unfair and highly unlawful on numerous grounds.

Thus, assuming the underlying assumption of the SWRCB in operating under the proposed emergency regulations is that the SWP and CVP (“the Projects”) will continue to have the obligation under Decision 1641 (as modified by recent Temporary Urgency Change Orders) to release their stored water as necessary to supplement whatever natural flow is present within the Delta Watershed in order to meet the Delta water quality standards throughout the drought period, then it is important and helpful to clarify the nature of the issue that is before the SWRCB when it considers any curtailments of riparian and pre-1914 water right diverters.

It is important to note that the issue before the SWRCB is not whether the diversions of natural flow by any riparian or pre-1914 water diverters within the Delta, or elsewhere within the Delta Watershed, will cause the Projects to have to release more stored water to offset the impacts those diversions of natural flow will (or may) have on the D1641 water quality standards. Such curtailments of the use of natural flow based on the fact that such use will (or may) cause the Projects to release more stored water to offset the impacts from that use is what the SWRCB’s “Term 91” is based on and which is already in effect. Term 91 applies solely to post-1914 water rights and is based on the principal that the post-1914 water right diverters who have Term 91 in their water permits or license are junior to the Project’s post-1914 water rights and, hence, the theory is that the Term 91 diverters must refrain from using natural flow so that they do not take away any of that natural flow from the Projects who have a senior right to use those natural flows over the junior Term 91 diverters.

The application of Term 91, i.e., the application of the requirement that water users within the Delta Watershed curtail their use of natural flow so that the Projects can use all of that natural flow to meet D1641 water quality standards, to post-1914 water diverters whose priority is senior to the Projects and as well as to pre-1914 and riparian water diverters whose priority is also senior to the Projects would, as noted above, involve the complete and highly unwarranted unraveling of D1461 which specifically imposed the requirement that the Projects use their stored water to meet D1641 water quality standards.

In other words, it was the express purpose of D1641 to require the Projects to use their stored water as necessary whenever natural flows in the Delta Watershed were insufficient to meet the D1641 water quality standards. Except when Term 91 is in effect on post-1914 water diverters, it was assumed and clearly intended that all other senior post-1914 diverters as well as all other pre-1914 and riparian diverts would be allowed to continue using any available natural flow in priority to the Projects’ use of that flow based on the Projects’ post-1914 water rights.

Accordingly, it was clearly intended that the Projects would have to release stored water to offset any impacts to the Delta water quality standards that may allegedly be caused by any senior post-1914, pre-1914 or riparian diversions use of the natural flow within the Delta Watershed.

The CDWA realizes the SWRCB is fully aware of this, but it is nevertheless important to keep in mind what is at issue in connection with any potential water curtailments. That issue is simply where there is any natural flow available to a diverter based on that diverter's priority over other diverters. The issue is not whether the diverters' use of that natural flow will cause the Projects to release stored water to offset any alleged impacts of that use on the Delta water quality standards. That latter issue was already addressed in D1641 and, for numerous and comprehensive reasons, and after about eighty (80) days of intensive factual hearings, D1641 imposed on the Project's the burden to offset any such impacts with their stored water.

Hence, when it comes to diverters within the Delta and elsewhere within the Delta Watershed, the paramount issue before the SWRCB in connection with the instant emergency regulations is the following:

Whether there is sufficient natural flow to meet the diversion needs of the particular diverter in question and, if not, for riparians and some groundwater diverters, how much of whatever natural flow is physically available to them should each of them be afforded in the exercise of their correlative rights to the common supply they are lawfully entitled, and obligated, to share with each other.

2. The Enormous Amount of Natural Tidal Flow Flowing into the Delta Must Be Properly Taken into Consideration When Quantifying the Amount of Natural Flow Available to Diverters Located Within the Influence of the Tides.

It is well-established that “[riparians] enjoy as an incident of common ownership with other riparians on the stream a correlative share of the natural flow.” (United States v. State Water Res. Control Bd. (1986) 182 Cal.App.3d 82, 104, emphasis added.). As the California Supreme Court explains in Turner v. James Canal Co. (1909) 155 Cal. 82, at page 87:

The right of a riparian owner to the use of water bordering upon his land . . . comes from the situation of the land with respect to the water, the opportunity afforded thereby to divert and use the water upon the land, the natural advantages and benefits resulting from the relative positions, and the presumption that the owner of the land acquired it with a view to the use and enjoyment of these opportunities, advantages, and benefits. [Citation.] Out of regard to the equal rights of others whose lands may abut upon the same water, the law has declared, as will hereafter be more fully shown, that the use of the water for irrigation, so far as it affects the right of others similarly situated, must be reasonable, and must be confined to a reasonable share thereof; but, with this common limitation, the right to use water upon adjoining land applies as well to the water of a lake, pond,

slough, or any natural body of water, by whatever name it may be called, as to a running stream.

(Emphasis added.)

Upon review of the SWRCB's Agenda Packet for the instant Item No. 5, it appears the SWRCB's staff may be solely focusing on upstream tributary natural flow, i.e., water this is flowing into the delta from surface streams that are upstream of the Delta.¹

For riparian (as well as pre-1914 and post-1914) diverters that are uniquely located within the portion of the Delta that is influenced by the tides, upstream tributary natural flow is not the only natural flow within that portion of the Delta. Instead, there is an ENORMOUS amount of natural tidal flow that flows from the Ocean and Bay into the Delta twice a day, every days, regardless of whether the Delta watershed is experiencing drought or flood conditions.

As indicated in the enclosed excerpt from DWR's 1993 "Sacramento San Joaquin Delta Atlas" (i.e., page 21 of that atlas entitled, "Delta Tidal Flows"), "typical maximum flows over a 25-hour cycle in summer conditions" are on the order of 330,000 cubic feet per second flowing into the Delta from the Ocean and Bay every day. That equates to approximately 653,400 acre feet of water every day, or approximately 19,602,000 acre feet per month!

That enormous amount of natural tidal flow is part of "the natural advantages and benefits resulting" from being located within an estuary, i.e., being located within the mixing zone of a watershed where there are two distinct sources of natural flow: tidal inflow and upstream tributary (and groundwater) inflow. (Turner v. James Canal Co. (1909) 155 Cal. 82, 87.) Accordingly, the natural tidal inflow into the Delta must absolutely be properly taken into consideration whenever the SWRCB evaluates whether there is a sufficient amount of natural flow for a diverter located within the influence of that tidal inflow to support its diversion needs (whether it be based on a riparian, pre-1914, post-1914 or any other water right based on natural flow).

Again, it is not clear whether the SWRCB or its staff intends to omit this literally overwhelming amount of natural flow when calculating the amount of natural flow available to diverters within the tidal zone of the Delta. It would not only be manifestly unfair to omit such and to curtail such diverters based solely on a quantification of the amount of upstream tributary flow, but it would also be squarely contrary to law. As noted above, diverters within the tidal

¹ See for example, Appendix 5, page A5-1: "Unimpaired flow estimates (also described as the "full natural flow" estimate by [DWR] can be compared to reported water diversion values to determine if water is available to divert under a post-1914, pre-1914 and riparian water rights or claims of water right. [¶] "Full Natural Flow" or 'Unimpaired Runoff' represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (Emphasis added.)

zone of the Delta are uniquely situated in that, unlike upstream diverters who are dependent on solely on natural tributary (and groundwater) inflow, they have “the natural advantage[.]” of having access to this additional and virtually unlimited source of natural flow and, hence, “the right to use [such] water” (Turner v. James Canal Co. (1909) 155 Cal. 82, 87.)

- a. **The Fact that the Projects are Required by Decision 1641 (as Well as Other State and Federal Laws) to Release Stored Water Into the Delta to Meet Delta Water Quality Standards Does Not in Any Manner Mean Natural Tidal Flow Can Be Omitted From the Quantification of Natural Flow.**

It is well-established that any commingling of upstream storage water or other non-natural flow with the natural tidal and tributary flow present within the Delta cannot lawfully deprive water diverters within the Delta of their ability to lawfully access that natural tidal and tributary flow pursuant to their riparian, pre-1914 and/or post-1914 water rights.

As the CA Supreme Court explains in Butte Canal & Ditch Co. v. Vaughn (1858) 11 Cal. 143, 152-53:

“There may be some difficulty in [water commingling] cases like the present, in determining with exactness the quantity of water which parties are entitled to divert. Similar difficulty exists in the case of a mixture of wheat and corn--the quantity to be taken by each owner must be a matter of evidence. The Courts do not, however, refuse the consideration of such subjects, because of the complicated and embarrassing character of the questions to which they give rise. If exact justice cannot be obtained, an approximation to it must be sought, care being taken that no injury is done to the innocent party. The burden of proof rests with the party causing the mixture. He must show clearly to what portion he is entitled. He can claim only such portion as is established by decisive proof. The enforcement of his right must leave the opposite party in the use of the full quantity to which he was originally entitled.”

(Emphasis added.)

Thus, while the Projects’ may certainly use the various channels within the Delta to meet their permit conditions and state and federal statutory obligations to provide salinity control, fish flow or other water quality standards, or to move water through the Delta to their export pumps in the South Delta, by mixing their stored water with the natural tidal and tributary flow naturally existing within the Delta, such mixing of water “must leave [the diverters located within the Delta] the use of the full quantity to which [they were] originally entitled.”²

² See also, Water Code section 7075: “Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished.”

While it is difficult to imagine on the order of 330,000 cfs of natural tidal inflow entering into the Delta, not to mention whatever additional amount of natural upstream tributary flow and natural up-gradient groundwater accretions are likewise flowing into the Delta, could ever be said to be insufficient to meet the water diversion needs of all of the riparian, pre-1914 and post-1914 water users within the portion of the Delta that is under the tidal influence and the recipient of such flows, the SWRCB must, at a minimum, ensure that natural tidal flow, as well as natural upstream tributary flow and natural up-gradient groundwater accretions (discussed more fully below), are fully and properly taken into consideration in the quantification of whether there is sufficient natural flow for any diverter within the Delta to exercise its riparian, pre-1914 or post-1914 water rights.

b. **The Quality of the Natural Tidal Inflow.**

With regard to water quality, the particular quality of natural flow, tidal or otherwise, is not determinative whether or not a diverter has the legal right to use that natural flow. Instead, the diverter, having the “the natural advantage[.]” of access to that flow, has the legal right to use that flow no matter how good or bad the quality. (Turner v. James Canal Co. (1909) 155 Cal. 82, 87.) Of course, the diverter can seek legal recourse against other water users in the event it believes the water quality of the natural flow has been improperly degraded by other water users.

In any event, to the extent the quality of that natural tidal inflow in a “state of nature” is for some reason deemed relevant to the instant matter, Contra Costa Water District prepared a study on this precise topic in 2010 entitled, “Historical Fresh Water and Salinity Conditions in the Western Sacramento-San Joaquin Delta and Suisun Bay, A summary of historical reviews, reports, analyses and measurements.” The “major conclusions” of that study were the following:

1. Salinity intrusion during the last 100 years has been among the highest levels over the past 2,500 years. The Delta has been predominantly a freshwater tidal marsh for the last 2,500 years.
2. Human activities during the last 150 years, including channelization of the Delta, elimination of tidal marsh, construction of deep ship channels, and diversion of water, have resulted in the increased salinity levels in the Delta.
3. Conditions in the Delta during the early 1900’s were much fresher than current conditions for hydrologically similar periods. Salinity typically intrudes 3 to 15 miles farther into the Delta today.
4. The historical record and published studies uniformly demonstrate and conclude the Delta is now managed at a salinity level that is much higher than would have occurred under pre-1900 conditions. Operation of new reservoirs and water diversion facilities for salinity management reduces salinity intrusion somewhat.

but the levels still exceed pre-1900 salinities.

5. Seasonal and inter-annual variation in salinity has also been changed; however, this change is largely the result of reduced freshwater flows into the Delta. At any given location in the western Delta and Suisun Bay, the percentage of time during the year when fresh water is present has been greatly reduced or, in some cases, largely eliminated.

(Ibid pp. v & vi, emphasis added.)

Accordingly, to the extent any consideration is given to the quality of the natural tidal inflow into the Delta in “a state of nature,” going back long before the Projects and their storage reservoirs even existed, for example, going back to the “early 1900’s,” that quality was “much fresher than current conditions for hydrologically similar periods.” (Ibid.)

3. Groundwater Accretions Must Also Be Properly Taken into Consideration When Quantifying Natural Flow for In-Delta and Other Diverters.

While a proper consideration of the 330,000 or so cubic feet per second of natural tidal waters flowing daily into the Delta ought to be more than sufficient to avoid any determination of a lack of sufficient natural flow to support any diversion needs of diverters located within the influence of those flows, there is nevertheless a very significant impediment to any proposed curtailment of in-Delta riparians (as well as other upstream riparians).

That impediment is due to the fact that it is well-established in the law that riparians are not only entitled to share whatever natural flows are available with other riparians who have access to those flows, but, in addition, riparians are also entitled to share any and all natural groundwater accretions to the water courses (i.e., the groundwater component of natural flow within a watercourse) with all of the groundwater diverters that extract and consume, evaporate or otherwise remove those accretions from those watercourses.

As the California Supreme Court explains in Hudson v. Dailey (1909) 156 Cal. 617, at page 628:

The owner of land has a natural right to the reasonable use of the waters percolating therein, although it may be moving through his land into the land of his neighbor, and, although his use may prevent it from entering his neighbor's land or draw it therefrom. This right arises from the fact that the water is then in his land so that he may take it without trespassing upon his neighbor. His ownership of the land carries with it all the natural advantages of its situation, and the right to a reasonable use of the land and everything it contains, limited only by the operation of the maxim *sic utere tuo ut alienum non laedas*. It is upon this principle that the law of riparian rights is founded, giving to each owner the right

to use the waters of the stream upon his riparian land, but limiting him to a reasonable share thereof, as against other riparian owners thereon. We think the same application of the principle should be made to the case of percolating waters feeding the stream and necessary to its continued flow. There is no rational ground for any distinction between such percolating waters and the waters in the gravels immediately beneath and directly supporting the surface flow, and no reason for applying a different rule to the two classes, with respect to such rights, if, indeed, the two classes can be distinguished at all. Such waters, together with the surface stream supplied by them, should be considered a common supply, in which all who by their natural situation have access to it have a common right, and of which they may each make a reasonable use upon the land so situated, taking it either from the surface flow, or directly from the percolations beneath their lands. The natural rights of these defendants and the plaintiff in this common supply of water would therefore be coequal, except as to quantity, and correlative.

(Emphasis added.)

This legal entitlement of riparians to share with groundwater diverters the “common supply” of surface waters and the groundwaters that feed those surface waters present a tremendous problem, and CDWA respectfully submits an insurmountable problem, for the SWRCB when it comes to lawfully curtailing riparians within the context of the proposed emergency regulations (as opposed to, e.g., within the context of a comprehensive stream-wide adjudication), especially riparians that are located at the base of the entire Delta Watershed, e.g., those located within the tidal zone of the Delta.

This problem results from the fact that it appears to be undisputed that the SWRCB not only lacks sufficient information to meaningfully quantify the amount of loss of natural groundwater accretions to the numerous watercourses throughout the entire Delta Watershed as a result of groundwater extractions, but also that the SWRCB lacks sufficient information to meaningfully identify the particular groundwater diverters that are causing such losses. Moreover, it is also not clear that even if the SWRCB were to meaningfully identify those diverters that the SWRCB would have authority within the scope of its emergency regulations or otherwise to curtail those diverters.

Because riparians are lawfully entitled to share whatever natural groundwater accretions occur to the watercourses to which their riparian rights attach (which, depending on where the particular riparian is located, can attach to all of the watercourses within the entire Delta Watershed), without knowing how much of those accretions are being consumed or otherwise removed from the watercourses by groundwater diverters, the SWRCB can not lawfully declare that a riparian does not have sufficient natural flow to meet its diversion needs, nor determine what that riparian’s fair share of such flow is, much less order that riparian to partially or entirely curtail its diversions or else be subject to potentially millions of dollars of fines. Without such

information, the SWRCB quite simply lacks sufficient information to support any such declarations or curtailments.

While the SWRCB may indeed have sufficient information on the extent of groundwater diverters' removal of accretions in one more particular stretches of watercourses throughout the Delta Watershed, perhaps the extreme upper reaches of such watercourses or watercourses which have undergone formal surface and groundwater adjudications, it again appears to be undisputed that the more downstream one gets within the Delta Watershed the more it is clear that the SWRCB simply lacks sufficient information to fairly or lawfully curtail any riparian diverters on the grounds they lack sufficient natural flow. For riparians at the very bottom of the Delta Watershed, i.e., within the tidal zone, the CDWA respectfully submits sufficient information is manifestly lacking.

And, once again, even if the SWRCB were to meaningfully quantify the amount of groundwater accretions being removed by groundwater diverters, the SWRCB would still have the difficulty, jurisdictionally and practically, with curtailing those diverters to ensure that riparians are getting their fair and reasonable share of those accretions.

Moreover, the matter of sharing between riparians and between riparians and groundwater diverters is an immensely factual undertaking that has no place within the context of the proposed emergency regulations which are entirely devoid of any semblance of due process to those riparians and diverters (who would likely be in the tens of thousands) whose livelihoods, and in many cases, lifetime investments, not to mention fundamental and vested water rights, would be substantially impaired if not destroyed by any curtailments of their water rights.

a. The Anticipated Increase in Groundwater Extractions as a Result of Potential Curtailment Orders Significantly Compounds the Problem.

To make a meaningful quantification of the loss of groundwater accretions through the upcoming months even more problematic, in its Agenda Packet, the SWRCB explains that it anticipates that groundwater extractions will increase in response to any potential curtailments of surface water rights and, in fact, encourages such extractions. As the SWRCB explains:

“On January 17, 2014, the State Water Board issued a Notice of Surface Water Shortage and Potential for Curtailment of Water Right Diversions in light of anticipated supply shortages for junior and potentially senior water users. The notice encourages advanced conservation planning and suggests that water right holders look into the use of alternative water supplies, such as groundwater wells, purchased water under contractual arrangements and recycled wastewater.” (Agenda Packet, p. 4, emphasis added.)

“Reductions in water available for diverters being curtailed, however, would likely then be offset by some level of groundwater pumping and water

purchases.” (Agenda Packet, p. A10-6.)

“The time required to construct new wells is generally greater than the timeframe for the emergency regulations, but pumping from existing wells will likely be increased to replace a portion of the supplies reduced by curtailments.” (Ibid.)

“In addition to the replacement of curtailed water by public agricultural water agencies described above, there will likely also be an increase in groundwater pumping by farmers from privately owned wells. It is estimated that about 40 percent of overall supply reductions resulting from agricultural curtailments will be replaced by farmers in this fashion.” (Agenda Packet, p. A10-7.)

“It is estimated that urban water agencies will replace 60 percent of curtailed water supply (50 percent by additional groundwater pumping and 10 percent by water purchases) as described above, but generally they, or the customers they serve, will not have the option to obtain additional water from private wells.” (Ibid.)

Thus, even if the SWRCB could somehow obtain a fair and meaningful handle on the amount of groundwater accretions that are currently being lost throughout the entire Delta Watershed, based on the SWRCB’s anticipation of increased groundwater use as result of any surface water curtailments, the SWRCB would have to go considerable further, and in a very short amount of time, to try to evaluate precisely where those increased groundwater extractions will take place and then quantify how much accretions, if any, those extractions will remove from the watercourses. And assuming such removal will occur, the SWRCB then has to ensure that such accretions are duly shared among all other riparians and groundwater diverters with correlative rights to those accretions.

CDWA respectfully submits that but for perhaps some of the very uppermost reaches of particular watercourse where, for example, the sub-watershed has already been adjudicated or where the number of groundwater diverters and riparians is very small and the effects on accretions are well known, for the vast majority of the Delta watershed this is a truly overwhelming task for the SWRCB to perform within the context of the proposed emergency regulations and one that the SWRCB cannot fairly or lawfully perform within that context.

b. Examples of the Acknowledgment of the Contribution of Groundwater Accretions to Natural Surface Flows and the Lack of a Meaningful Understanding of the Quantification of Those Contributions.

While the contribution of ground water accretions to the natural flow within watercourses throughout the Delta Watershed is common knowledge, the following are some brief excerpts

from various sources acknowledging such contributions as well as the lack of a meaningful understand of the location and extent of those contributions, which, as discussed above, substantially impedes, and in most cases prohibits, any fair and lawful curtailment of riparian rights within that watershed.

In a watershed that has not undergone any type of hydro-modification, such as: 1) installation of dams; 2) diversions from surface water; or 3) groundwater pumping in adjacent aquifers, any water that remains in rivers and streams after the end of the rainfall season comes from either melting snow or groundwater accretions. However, most watersheds in California have undergone at least some type of hydro-modification. Given increased losses to groundwater in a dry year such as this one there remains little or no natural flow in surface water shortly after rains have stopped and snow has melted.

(SWRCB's Agenda Packet, p. 14, emphasis added.)

Groundwater is a vital resource in California providing close to 60 percent of the state's water supply in a dry year. Drought conditions typically result in an increase of groundwater well activity and pumping to compensate for water supply shortages. Increased groundwater pumping can lead to adverse conditions including dry wells, subsidence, decreased water quality, saline intrusion, and stream depletion.

(DWR's "Public Update for Drought Response Groundwater Basins with Potential Water Shortages and Gaps in Groundwater Monitoring," April 30, 2014, emphasis added.)

The interaction of streams with groundwater may take place in three different ways: streams may gain water from discharge of groundwater through the streambed (gaining stream), streams may lose water to groundwater by seepage through the streambed (losing stream), or streams may gain in some reaches (gaining reaches) and lose in rest of the reaches (losing reaches). As shown in Figure b, for streams to gain water from groundwater, the stream water surface elevation must be lower than the surrounding groundwater table elevation. In contrast, as shown in Figure c and Figure d, for streams to lose water to groundwater, the stream water surface elevation must be higher than the surrounding groundwater table elevation. . . .

The direction of flow between the stream and the groundwater system may change because of storms (or floodflows moving down the stream), causing water to flow from the stream to groundwater. The direction of flow between the stream and groundwater can alter as a result of groundwater pumping near the stream. In the case of a gaining stream, pumping is likely to decrease discharge from the aquifer to the stream and in some cases, high pumping rates can even modify a

gaining stream to a losing stream. In the case of a losing stream, pumping is likely to further increase seepage from the stream to the aquifer (Winter et al., 1998).

(“California Water Plan, Update 2009,” volume 2, chapter 8, p. 8-12, emphasis added.)

This bulletin focuses on groundwater resources, but in reality groundwater and surface water are inextricably linked in the hydrologic cycle. As an example, groundwater may be recharged by spring runoff in streams, but later in the year the base flow of a stream may be provided by groundwater. So, although the land surface is a convenient division for categorizing water resources, it is a somewhat arbitrary one. It is essential that water managers recognize and account for the relationship between groundwater and surface water in their planning and operations.

(DWR’s Bulletin 118, “California’s Groundwater, Update 2003,” October 2003, p. 20, emphasis added.)

Surface water and groundwater are connected and can be effectively managed as integrated resources.

- Groundwater originates as surface water.
- Groundwater extraction can affect flow in streams.
- Changes in surface water flow can affect groundwater levels.
- Legal systems for surface water and groundwater rights can make coordinated management complex.

(One of DWR’s “Major Findings” in its Bulletin 118, “California’s Groundwater, Update 2003,” October 2003, p. 3, emphasis added.)

Little is known about the stream-aquifer interaction in many groundwater basins.

- Groundwater and surface water are closely linked in the hydrologic cycle.
- The relationship between streamflow and extraction of groundwater is not fully understood in most basins and is generally not monitored.
- Groundwater extraction in many basins may affect streamflow.
- Interaction of groundwater flow and surface water may affect environmental resources in the hyporheic zone.
- An understanding of stream-aquifer interaction will be essential to evaluating water transfers in many areas of the State.

(One of DWR’s “Additional Important Findings” in its Bulletin 118, “California’s Groundwater, Update 2003,” October 2003, p. 6, emphasis added.)

In light of the fact that “[t]here are there are 88 basins/subbasins delineated [within the “Sacramento River Hydrologic Region” that] underlie 5.053 million acres (7,900 square miles)” and “The San Joaquin Valley Groundwater Basin is divided into nine subbasins [that] underlie 3.73 million acres (5,830 square miles),” it is no surprise that neither the SWRCB nor any other entity has a meaningful understanding of the full extent of groundwater accretions to the watercourse throughout all of those basins and watersheds. Because riparians are legally entitled to share in those accretions, any curtailments of the water rights of riparians located downstream of any areas that suffer from such a lack of understanding renders those curtailments fundamental unfair and legally unsupportable.

4. The Burden of Accurately Identifying and Quantifying the Amount of Natural Flow in the Delta Watershed Falls on the Projects, Not on the SWRCB, Nor on Any Senior Water Right Holders.

It is important to note that case law confirms that the burden of accurately identifying and quantifying the amount of natural flow present within the streams throughout the Delta Watershed at any particular place or time is on the Projects, i.e., “the party causing the mixture [of stored water and natural flow],” not on the SWRCB, and especially not on any senior water right holder in defense of curtailments issued by the SWRCB or otherwise.

As noted above, the California Supreme Court explains and confirms this burden in Butte Canal & Ditch Co. v. Vaughn, *supra*, 11 Cal. 143, 152-53:

“There may be some difficulty in [water commingling] cases like the present, in determining with exactness the quantity of water which parties are entitled to divert. . . . If exact justice cannot be obtained, an approximation to it must be sought, care being taken that no injury is done to the innocent party. **The burden of proof rests with the party causing the mixture. He must show clearly to what portion he is entitled. He can claim only such portion as is established by decisive proof. The enforcement of his right must leave the opposite party in the use of the full quantity to which he was originally entitled.**”

(Emphasis added.)

Accordingly, in order to justify curtailments of senior water diversions from watercourses within the Delta Watershed that involve the commingling of natural flow with the Projects’ stored water, it is the Projects’ burden to “show clearly” and “by decisive proof” that senior water right holders are indeed not diverting any natural flow (whether in the form of the groundwater, surface and/or tidal components of that flow).

The SWRCB should not be undertaking that burden on behalf of the Projects under the guise of emergency regulations nor even under the guise of an emergency in general. The Projects are fully capable of protecting their own interests and if they believe senior water

diverters are or will be diverting any component of their stored water over the next few months unlawfully, then the Projects can seek preliminary and permanent injunctive relief from the courts to halt any such diversions. They can also seek after-the-fact judicial relief and can even initiate a statutory streamwide adjudication of the entire Delta Watershed or any severable portion thereof to definitively sort out the mixture of their stored waters with natural flow for the long term.

5. The Allocation of Any Available Natural Flow Within the Delta Watershed to the Tens of Thousands of Riparians and Groundwater Diverters Legally Entitled to Share That Flow Cannot Be Lawfully or Fairly Performed by Way of Emergency Regulations or Curtailment Notices.

As noted above, unless the SWRCB is somehow able to conclude that there is literally ZERO natural flow in any particular stream within the Delta Watershed, after duly taking into consideration of all components of natural flow such as the groundwater component, the surface component, the tidal flow component, etc., then the SWRCB must embrace the highly factual, highly complex and highly onerous task of ensuring that whatever drop or drops of natural flow the SWRCB finds exists in any particular watercourse is properly shared among all of the riparians and groundwater diverters that are entitled to share that natural flow.

Even in the context of a comprehensive court adjudication of the entire Delta Watershed, the fixing of such an allocation of sharing would arguably be one of the most complex and lengthy and contested water right matters ever embraced in the history of California, not to mention the world. The CDWA respectfully submits that for the SWRCB or its staff to attempt to make such a fixing at some point over the course of the next few days, weeks or months, and order riparian and groundwater diverters to immediately stop diverting or else be subject to a penalty of \$2,500.00 per acre foot of water diverted after receipt of such a notice, along with other significant penalties, would be the epitome of the denial of due process and epitome of rendering a decision without substantial evidence to support it and, hence, the ultimate abuse of the SWRCB's discretion.

The CDWA respectfully urges the SWRCB not to undertake such an allocation within the context of the emergency regulations. If the SWRCB believes the instant drought makes a compelling case for the need to initiate a statutory court adjudication of the entire Delta Watershed and definitively determine and allocate the natural flow within that watershed among all riparians and groundwater diverters (as well as pre and post-1914 diverters), then the SWRCB can so initiate that process.

For the SWRCB or its staff to in essence perform such an adjudication with zero of the protections and procedures afforded by such a statutory process via the unilateral issuance of curtailment notices pursuant to the instant emergency regulation would be highly inappropriate, unfair and unlawful.

If conserving the Projects' storage water to meet and maintain their Delta water quality obligations ever becomes a true emergency (note that the SWRCB's Agenda Packet and proposed emergency regulations do not allege any such emergency), then there are numerous alternatives to the wrongful and premature curtailing of senior water rights to alleviate that concern, including, but not limited to the following:

- (1) The Projects can immediately cease exporting any of their stored water from the Delta and save for use in meeting the Delta water quality standards.
- (2) Instead of purchasing water for export from the Delta (as the Projects are currently doing), the Projects can purchase that water and use it to meet the Delta water quality standards.
- (3) The Projects can return some or all of the hundreds of thousands of acre feet of water currently stored in San Luis Reservoir to the San Joaquin River as needed to help meet Delta water quality standards. (See e.g., USBR's "Delta-Mendota Canal Recirculation Feasibility Study," January 2010.)
- (4) The Projects can install salinity barriers in the Delta to reduce the need for storage releases to maintain salinity control in the Delta.
- (5) Etc.

While neither the SWRCB's propose emergency regulations nor its Agenda Packet for the instant matter makes any contention that the Projects' storage levels are so low that senior water right curtailments are necessary to preserve those levels in order to avoid some identified emergency, whether to fish and wildlife or to the general maintenance of the Delta water quality standards or otherwise, there has clearly not been any articulated emergency that would merit the SWRCB or its staff to unilaterally conduct a streamwide adjudication of the entire Delta Watershed in the matter of days or weeks. Such an unprecedented and highly unwarranted, unnecessary, unfair and unlawful course of action should be avoided at all costs.

6. Curtailments of Diversions for Farming in the Delta Lowlands Would be Counter-Productive and Adversely Impact Delta Water Quality Thereby Increasing the Need for Project Storage Releases to Meet Delta Water Quality Standards.

While for the foregoing and numerous other reasons, the curtailment of Delta riparian, pre-1914 and post-1914 water rights pursuant to the instant emergency regulations would be unwarranted, unfair and unlawful, the available evidence demonstrates that curtailing water diversions necessary to support farming operations in the Delta Lowlands would in fact be counterproductive in that such curtailments would adversely impact water quality in the Delta thereby increasing, rather than decreasing, the need for Project storage releases to meet the Delta

water quality standards.

In DWR's July 1956 report, entitled, "Investigation of the Sacramento-San Joaquin Delta, Report No. 4, Quantity and Quality of Waters Applied to and Drained from the Delta Lowlands," DWR "deal[t] with some of the hydrographic and salinic aspects of water supply and water disposal in the Delta." (Report, p. 3.)

The "Delta Lowlands," which were the subject of the investigation, include the vast majority of the Delta. (See Report, Plate No. 1, as well as the attached excerpt from DWR's 1993 "Sacramento San Joaquin Delta Atlas," i.e., page 4 of that atlas entitled "The Legal Delta.") (See also Report, p. 4 ["The Delta Lowlands refer to those areas in the Sacramento-San Joaquin Delta consisting generally of the lands lying below an elevation of plus five, mean seal-level datum"].)

The ultimate conclusion of the Report is as follows:

The Delta lowlands act as a salt reservoir, storing salts obtained largely from the channels during the summer, when water quality in such channels is most critical and returning such accumulated salts to the channels during the winter when water quality there is least important. Therefore agricultural practices in that area enhanced rather than degraded the good quality Sacramento River water en route to the Tracy Pumping Plant.

(Report, p. 30, emphasis added.)

This is obviously a very significant finding that the SWRCB must duly take into consideration when considering any curtailments of Delta water rights that are used to support farming operations within the Delta Lowlands. Because one of the SWRCB's primary implicit, if not explicit, goals is to ensure that the Projects are not releasing any more stored water than is necessary during the drought to meet their various Delta water quality obligations, the available evidence demonstrates that the curtailment of Delta water diversions necessary to support farming operations within the Delta Lowlands would in fact result in a degradation of the water quality in the Delta (i.e., salinity), and, as a result, increase rather than decrease the need for the Projects' to release storage water to maintain salinity control throughout the drought.

Accordingly, yet another reason why curtailments of farming diversions within the vast Delta Lowlands should be avoided is because such curtailments would be counter-productive and result in an increased burden on the Projects' storage supplies to meet and maintain salinity control within the Delta rather than the sought after alleviation of that burden.

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7. Curtailments of Diversions for Farming in the Delta Lowlands Would Also be Counter-Productive Because Such Curtailments Would Not Result in Any Water Savings and, Instead, Would Result in the Waste and Unreasonable Use of Water.

The available evidence further demonstrates that because of the unique circumstances of the Delta Lowlands, namely the low land surface elevations compared to sea level and very high groundwater tables, the curtailment of diversions necessary to support farming operations in the Delta Lowlands will not result in any material savings of water.

Curtailments that do not result in any material savings of water would be contrary to Article X, section 2 of the California Constitution. Such curtailments would not only result in the failure to “put [the curtailed water] to beneficial use to the fullest extent of which [that water is] capable . . . ,” but would also result in the “waste” and “unreasonable” use of that curtailed water because, as discussed below, curtailments needed to support farming operations in the Delta Lowlands would result in the curtailed water being evaporated or consumed by weeds both of which are wasteful and unreasonable in light of the need in the instant drought to make the most “reasonable and beneficial use [of that water] in the interest of the people and for the public welfare.” (*Ibid.*)

That curtailment of farming operations in the Delta Lowlands will not likely result in any material water savings (and may in fact result in an increase in water use) is no secret and the SWRCB recognized this early on in its 1961 Decision-990, where it states at page 46:

The reclamation of the lands in the Delta has eliminated a large area of aquatic vegetation such as cat-tails and tules which consume three to four times as much water as the crops which are grown on these reclaimed lands. As a result, it appears probable that the consumption of water within the Delta has been decreased by reclamation development, and that a greater proportion of the stream flow entering the Delta now reaches the lower end of the Delta to repel saline invasion than before reclamation.

More recently, in its Water Right Order 2009-0003, the SWRCB discusses the Department of Water Resources’s (DWR’s) comments on this phenomenon in the context of a proposed fallowing of land within the Delta Lowlands (i.e., land within the “Delta Wetlands Project”) for purposes of transferring water to the Metropolitan Water District of Southern California. As the SWRCB explains:

“[DWR] submitted comments to Delta Wetlands regarding the proposed temporary urgency change. DWR did not object to the proposed temporary urgency changes, but DWR stated that conditions were necessary to prevent injury to the State Water Project (SWP) resulting from the change. DWR noted that the elevation of the fields on both Bouldin Island and Webb Tract is about 15 feet below sea level. DWR stated that there is the potential for significant lateral

movement of groundwater through the levees surrounding Bouldin Island and Webb Tract resulting in relatively high groundwater table. During previous similar fallowing transfers, DWR found that the high groundwater table supports weed growth on idled fields. In some cases, DWR found that the weed growth resulted in higher ETAW than the crops that were fallowed. Additionally, DWR noted that recent studies show that significant evaporation may occur from bare ground. DWR stated that water consumed during weed growth on idled fields (or evaporation from bare fields) will reduce the amount of water conserved by fallowing.”

(WR 2009-0003, p. 3, emphasis added.)

Even more recently, GEI Consultants prepared a memorandum, dated June 6, 2014, in support of the transfer of water as a result of the fallowing on farm land within Webb Tract and Bouldin Island. As explained in that memorandum:

Land surface elevations in the interior of Delta islands in the western and central Delta can be more than 15 feet below sea level. This situation is caused by land subsidence which is primarily the result of the loss of organic soils (peat) due to oxidation and wind erosion. . . . [T]he increased hydraulic pressure created by the pressure gradient from the water surface of the adjacent waterways to the island interior causes seepage from adjacent channels to the interior of the islands,

(Id. p. 1). (See enclosed excerpt from DWR's 1993 "Sacramento San Joaquin Delta Atlas," i.e., page 28 of that atlas entitled, "Land Surface Below Sea Level.")

From GEI p. 4:

Therefore, for a curtailment action in the Delta to provide a conservation benefit relative to water supply, active management of the fallowed property is a must. Simple curtailment of surface water deliveries for surface irrigation of crop land will not result in water conservation due to the prevalence of weeds and volunteer crops in combination with prevalence of shallow groundwater due to the hydraulic gradient relative to the adjacent surface water and the surface elevation of the island interior.

Conservation of water in the Delta islands can only be achieved through continual operation of the islands reclamation system to maintain the subsurface water levels below the root zone to the extent possible in combination with an active weed abatement program. The operation of the reclamation pumps and implementation of a weed abatement program is a costly endeavor that absent a mechanism for revenue generation such as farming will likely not take place.

(Id. p. 4, emphasis added.)

EFFECTS OF WATER RIGHTS CURTAILMENT

An effective land fallowing program that can generate new conserved water supplies requires dedicated, aggressive and highly managed land management and ET monitoring programs, as described above. Alternatively, in the absence of such land management programs, idling the land is expected to result in water consumption on par with continued agriculture. As such, curtailment of the Licenses will not result in any increase in water supply and Delta flows for senior right holders.

(Id. p. 7, emphasis added.)

The fact that the available evidence demonstrates that the curtailment of water needed to support farming operations within the Delta Lowlands “will not result in any increase in water supply” is obviously very significant to the SWRCB’s determinations of when and where to impose such curtailments within the Delta Watershed.

What is even more significant, however, is the conflict such curtailments would have with the California Constitution. Because such curtailments would not result in any water savings, but instead, would result in the evaporation or consumption of the curtailed water by weeds, such curtailments result in the failure to “put [the curtailed water] to beneficial use to the fullest extent of which [that water is] capable . . .” and constitute the “waste” and “unreasonable” use of that curtailed water. (Cal. Const., art X, § 2.) The curtailed water would be wasted in lieu of being beneficially used to (1) grow food for humans and animal consumption; (2) grow food for waterfowl and other wildlife habitat; (3) to support the livelihoods and economic well-being of hundreds of farmers and their work forces; (4) to support the economic well-being of the entire local and regional agricultural sector as a whole, etc.

It is essential during a drought, more than any other time, to ensure that water is not wasted and that water is “put to beneficial use to the fullest extent of which [that water is] capable . . .” (Cal. Const., art X, § 2.) Curtailments of water needed to support farming operations within the Delta Lowlands would be directly contrary to that constitutional directive.

8. Conclusion.

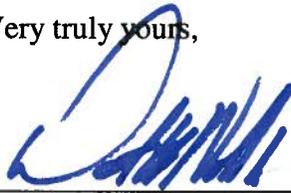
The Projects are not complaining that they have insufficient water to meet and maintain their Delta water quality requirements, but even if they were, they have hundreds of thousands of acre feet of water currently stored in their San Luis Reservoir than can be released into the Delta as needed to meet those requirements, as well as numerous other options available to them in the event they do get short on such water. Just like any other water user, the Projects can seek judicial relief immediately and into the future against any pre-1914 or riparian diverter in the

event they believe those diverters are unlawfully taking water to which the Projects are entitled. The SWRCB is undoubtedly trying to do the right thing, however, the instant emergency regulations and contemplated and seemingly unprecedented curtailment of senior water rights under the guise of a drought emergency, and essentially on behalf of the Projects to protect their stored water, is not the right thing, not legally, factually, fairly nor otherwise.

For these and other reasons advanced by the CDWA and others, the CDWA respectfully requests and urges the SWRCB to refrain from any curtailments of pre-1914 and riparian diverters within the Delta Watershed, and especially, any curtailments of pre-1914 and riparians diverters located within the tidally influenced Delta Lowlands.

Thank you for considering these comments and concerns.

Very truly yours,



Dante John Nomellini, Jr.
Attorney for the CDWA

Enclosures:

- (1) Excerpt from DWR's 1993 "Sacramento San Joaquin Delta Atlas," i.e., page 21 of that atlas entitled, "Delta Tidal Flows."
- (2) Contra Costa Water District's 2010 study entitled, "Historical Fresh Water and Salinity Conditions in the Western Sacramento-San Joaquin Delta and Suisun Bay, A summary of historical reviews, reports, analyses and measurements."
- (3) DWR's "Public Update for Drought Response Groundwater Basins with Potential Water Shortages and Gaps in Groundwater Monitoring," April 30, 2014.
- (4) "California Water Plan, Update 2009," volume 2.
- (5) DWR's Bulletin 118, "California's Groundwater, Update 2003," October 2003.
- (6) DWR's July 1956 report, entitled, "Investigation of the Sacramento-San Joaquin Delta, Report No. 4, Quantity and Quality of Waters Applied to and Drained from the Delta Lowlands."
- (7) Excerpt from DWR's 1993 "Sacramento San Joaquin Delta Atlas," i.e., page 4 of that atlas entitled "The Legal Delta."

- (8) SWRCB's Water Right Order 2009-0003.
- (9) GEI Consultants' memorandum, dated June 6, 2014, re Delta Land Following.
- (10) Excerpt from DWR's 1993 "Sacramento San Joaquin Delta Atlas," i.e., page 28 of that atlas entitled "Land Surface Below Sea Level.
- (11) Summary Report for the Determination of Conserved Water Associated with the 2009 Webb Tract Water Transfer Pilot Study.
- (12) DWR Office Memos re 2009 Monitoring of Vegetation Growth on Webb Tract.
- (13) RD 756 et al.'s June 9, 2014 letter to the SWRCB re Webb Tract & Bouldin Island.
- (14) USBR's "Delta-Mendota Canal Recirculation Feasibility Study," January 2010.