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BEFORE THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petitions of Sacramento Regional County Sanitation District and California Sportfishing Protection Alliance (Waste Discharge Requirements Order No. R5-2010-0114 [NPDES No. CA0077682] for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant, Sacramento County), Central Valley Water Board.	SWRCB/OCC File Nos. A-2144(a) and A2144(b) Consolidated Petitions **SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT'S RESPONSE TO CALIFORNIA SPORTFISHING PROTECTION ALLIANCE'S PETITION FOR REVIEW OF ORDER NO. R5-2010-0114**

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In accordance with section 2050.5(a) of Title 23 of the California Code of Regulations, Sacramento Regional County Sanitation District (SRCSD or District) hereby responds to the Petition for Review of Order No. R5-2010-0114 filed by California Sportfishing Protection Alliance (CSPA) (CSPA Petition).[1] For the convenience of the State Water Resources Control Board (SWRCB or State Board), SRCSD addresses CSPA's issues in the same sequence as they are presented in CSPA's Petition.

I. DISCUSSION

A. The Central Valley Regional Water Quality Control Board's Revisions to the Permit Identified By CSPA Which Were Made After Circulation of the Tentative Permit Are Proper

As described in the separate Petition for Review filed by SRCSD,[2] on September 3, 2010, Central Valley Regional Water Quality Control Board (Regional Board) staff issued a tentative order for renewal of the Sacramento Regional Wastewater Treatment Plant (SRWTP) permit. (California Regional Water Quality Control Board, Central Valley Region, Tentative Order No. R5-2010-XXXX [NPDES No. CA0077682] Waste Discharge Requirements for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant (Sept. 3, 2010) (hereafter, September Tentative Permit).) Following receipt of comments, on November 24 Regional Board staff released a revised tentative permit (California Regional Water Quality Control Board, Central Valley Region, Order No. R5-2010-XXXX [NPDES No. CA0077682] Waste Discharge Requirements for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant, Sacramento County (November Tentative Permit)) and other materials including an "underline / strikeout" version of the permit showing changes in the November Tentative Permit as compared to the September Tentative Permit (California Regional Water Quality Control Board, Central Valley Region, Order No. R5-2010-XXXX [NPDES No. CA0077682] Waste Discharge Requirements for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant, Sacramento County (November Redline Tentative Permit)). Regional Board staff issued

[1] Order No. R5-2010-0114 [NPDES No. CA0077682] (Dec. 9, 2010) (Permit).

[2] SRCSD's Petition for Review (Jan. 10, 2011) (SRCSD Petition).

proposed "Late Revisions" on December 8, and proposed certain other modifications after the conclusion of hearing testimony.[3]

CSPA identifies certain Permit revisions that occurred after the October 11, 2010, close of the written comment period on the September Tentative Permit.[4] CSPA appears to question the validity of the revisions and suggests that such revisions should have been subject to re-circulation.[5] In fact, CSPA provided comments on such revisions at the December 9, 2010, Permit hearing.[6] However, CSPA provides no evidence or legal argument to demonstrate that the Regional Board's procedural actions were improper, or that any rights of CSPA were violated. Further, review of the issues identified by CSPA indicates that such revisions were a "logical outgrowth" of the September Tentative Permit and reaction to comments, and that re-circulation was not *required*.[7] Also, CSPA mischaracterizes supposed revisions. And last, the State Board can readily determine that CSPA's contentions related to the substance of any revisions lack merit.

Notably, to support its position for re-circulation, CSPA references Title 40, section 124.14, of the Code of Federal Regulations, which includes provisions related to re-opening public comment. CSPA's reliance on section 124.14 of Title 40 of the Code of Federal Regulations is misplaced. Specifically, this section of the federal regulations applies only to NPDES permits issued by the United States Environmental Protection Agency (U.S. EPA), and is not applicable to NPDES permits issued under state programs.[8] CSPA identifies no state or federal regulations that mandate re-circulation in any particular circumstance. The Second

[3] See, e.g., Meeting, State of California, Central Valley Regional Water Quality Control Board, Partial Transcript (Dec. 9, 2010), Tiffany C. Kraft, CSR (Hearing Transcript), pp. 314, 421, 426.

[4] CSPA Petition, pp. 3-8.

[5] CPSA Petition, pp. 2-3.

[6] See Hearing Transcript, pp. 304-313.

[7] As already indicated, SRCSD believes it would have been *appropriate* to re-circulate the November Tentative Permit for written comment. (SRCSD Petition, p. 16.) This is a different matter, however, than saying any given issue, let alone CSPA's, required that the tentative permit be re-circulated for written comment.

[8] 40 Code of Federal Regulations section 124.14; see also 40 Code of Federal Regulations section 123.25. SRCSD does not believe the federal regulations cited by CSPA would have *required* re-circulation even if U.S. EPA had been the authority adopting the Permit. Nor does CSPA explain why the regulations would have so required. In any event, as discussed above, the cited regulations do not apply here.

District Court of the California Court of Appeal, in an unpublished portion of a recent case, evaluated a claim that a regional board's changes to an NPDES permit triggered the need for re-circulation. Specifically, in responding to plaintiff's challenges that changes were made to an NPDES permit without opportunity for comment, the Court found that "the modifications in the permit were not of such gravity that a due process or other violation occurred. The final permit was a logical outgrowth of the draft permit. Hence, there was no violation of any right to notice or a hearing."[9] While not binding on the Regional Board or State Board, the decision is useful for practical guidance. The Regional Board's revisions identified by CSPA are reasonably "a logical outgrowth," and CSPA's "due process" rights were not violated. Additional public notice and opportunity to comment was not required.

Plainly, the public comment period can be expected to result in some changes to a tentative permit. If every single change required re-circulation, the process would become unmanageable. CSPA does not explain how such "changes," or purported changes, were so significant that CSPA's due process rights were violated. Re-circulation was not required for the issues CSPA identifies. Further, CSPA was afforded the opportunity to comment on the revisions identified below at the December hearing, as the changes were circulated prior to that hearing.[10]

1. Findings and Discharge Prohibition Regarding Groundwater

The November Tentative Permit included revisions to Finding B (the Facility Description finding) and Discharge Prohibition III.B. Both pertain to the District's corrective action program (CAP), which is subject to separate waste discharge requirements.[11] The November revision to Finding B is merely an addition of language that was included in the September Tentative Permit as part of its Fact Sheet.[12] The inclusion of language in Finding B duplicating that originally included in the Fact Sheet does not prejudice any commenting party and does not change the

[9] *County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985 (unpublished segment in original decision, at section IV.*1*.4).

[10] See November Tentative Permit; Hearing Transcript, pp. 304-313.

[11] The Permit references Order No. 98-087. However, such reference may appear to be in error as Order No. 98-087 was replaced by Order No. R5-2003-0076.

[12] See September Tentative Permit, p. F-14.

substance of the final permit. The Fact Sheet itself constitutes part of the Findings for the Order.[13] Thus, the Regional Board's addition of language already contained in the Fact Sheet cannot possibly rise to a level of change that would have required re-circulation of the November Tentative Permit.

With respect to the change to Discharge Prohibition III.B, the Regional Board responded to comments submitted by the District. Specifically, the District submitted comments requesting that Discharge Prohibition III.B be revised to incorporate language from the District's previous permit (Order No. 5-00-188), which clarified that the discharge prohibition for by-pass did not apply to discharges from the CAP system, including because the treatment systems upstream are not designed to address CAP discharge constituents of concern, and, based on groundwater sampling, CAP discharges are below effluent concentrations or do not have reasonable potential to violate water quality objectives.[14] The revision was circulated with the November Tentative Permit, and clarified application of the by-pass discharge prohibition in a manner entirely consistent with a previous order. The change was not significant, and CSPA had opportunity to comment on the proposed revision at the December hearing.[15] Accordingly, CSPA's due process rights were not violated and re-circulation was not necessary to protect CSPA's rights. Further, clarifying the continued exclusion from the discharge prohibition of groundwater collected from the CAP does not violate applicable federal regulations.

2. Effluent Limitation for Electrical Conductivity

As indicated by CSPA, the proposed effluent limitation for Electrical Conductivity (EC) in the September Tentative Permit was 840 μmhos/cm, and the proposed limit in the November Tentative Permit was 900 μmhos/cm.[16] However, contrary to CSPA's allegations, the Staff Response to Comments clearly explains that the change occurred in response to the District's

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[13] See, e.g., Permit, p. 6.

[14] Sacramento Regional County Sanitation District's Comments and Evidence Regarding Tentative NPDES Permit, Time Schedule Order, and Permitting Options Circulated on September 3, 2010 (Oct. 11, 2010) (District's October 2010 Comments and Evidence Letter), p. 137.

[15] November Redline Tentative Permit, p. 12.

[16] See CSPA Petition, p. 3.

comments. In particular, the District had explained the basis for increasing the proposed EC effluent limit from 840 μmhos/cm to 1000 μmhos/cm, including to account for water conservation efforts and other concerns, issues the District had identified prior to the September Tentative Permit.[17] Although Regional Board staff declined to accept or agree with the District's comment in full, staff did respond that a slight increase in the proposed limit from 840 μmhos/cm to 900 μmhos/cm was appropriate "to account for some increases due to water conservation."[18] The increase was a slight increase that did not deviate greatly from the September Tentative Permit. Moreover, CSPA commented extensively on the proposed EC limit contained in the September Tentative Permit.[19] CSPA's comments apply if the effluent limit is 840 μmhos/cm or 900 μmhos/cm. Thus, the revision after release of the September Tentative Permit did not deprive CSPA of the opportunity to comment.

3. Receiving Water Limitation for Temperature

CSPA objects to a receiving water limitation that does not even exist in the Permit. In particular, CSPA asserts that the Permit "was revised to add a Receiving Water Limitation for temperature stating that: 'The discharge shall not cause the receiving water temperature to increase more than 4°F above the ambient temperature of the receiving water at any time (sp) or place outside the initial dilution.' "[20] CSPA states that this language is inconsistent with the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). CSPA correctly reports that the relevant Thermal Plan requirement is that "[n]o discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place."[21]

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[17] District's October 2010 Comments and Evidence Letter, pp. 103-104; RWQCB Staff Response to Written Comments for Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant Tentative Waste Discharge Requirements (Staff Response to Comments), pp. 61-62.

[18] Staff Response to Comments, p. 62.

[19] See California Sportfishing Protection Alliance Comments on the Renewal of Waste Discharge Requirements (NPDES No. CA0077682) for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant (Oct. 8, 2010) (CSPA's October 2010 Comment Letter), pp. 9, 34-37, 50.

[20] CSPA Petition, p. 4.

[21] CSPA Petition, p. 4; see Thermal Plan, Specific Water Quality Objectives, section 5.A(1)c; see also Permit, p. F-84.

However, CSPA's asserted objection is a purported "exception for the zone of initial dilution."[22] Contrary to CSPA's contention, the receiving water limitation adopted by the Regional Board does not, with respect to this requirement of the Thermal Plan, contain any "exception" for the zone of initial dilution. Rather, the Permit provides, in section V.A.15.c (p. 19): "The discharge shall not cause the receiving water surface temperature to increase more than 4°F above the ambient temperature of the receiving water at any time or place." There is no reference to a zone of initial dilution.

Thus, with respect this "4°F" provision, the Permit simply implements section 5.A(1)c of the Thermal Plan, and contains no exception or inconsistency. CSPA's contentions do not even relate to the adopted Permit.[23]

In the case of *other* provisions of the Thermal Plan (specifically, Thermal Plan sections 5.A(1)a and b), there are applicable exceptions, implemented in the Permit. These are discussed below under heading "T" of this Response.

4. Receiving Water Limitation for pH

With respect to receiving water limitations for pH, CSPA again objects to a Permit provision that does not even exist. CSPA states that the receiving water limitation for pH "was modified to allow a minimum pH of 6.0."[24] CSPA argues that the minimum pH in the receiving water limitations should be 6.5.[25]

In fact, the Permit receiving water limitation for pH states that the discharge shall not cause "[t]he pH to be depressed below 6.5 nor raised above 8.5."[26] Thus, CSPA's Petition related to this issue should simply be ignored.

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[22] CSPA Petition, p. 4.

[23] The September Tentative Permit did not include any receiving water limitation based on section 5.A(1)c of the Thermal Plan. The November Tentative Permit corrected the oversight. (See November Redline Tentative Permit, p. 19.) Based on CSPA's comments at the Permit hearing, the Regional Board deleted any reference to a zone of initial dilution in this provision. (Hearing Transcript, pp. 306, 421.)

[24] CSPA Petition, p. 4.

[25] CSPA Petition, p. 4.

[26] Permit, section V.A.8, p. 17.

5. Receiving Water Limit Compliance

CSPA objects that "page 37" of the Permit was revised with respect to determining receiving water limit compliance for turbidity.[27] While there is no page 37 of the Permit, SRCSD understands CSPA to object to a revision that states that compliance with the receiving water limitation for turbidity is determined by comparison of data from the upstream monitoring location RSWU-001 and downstream location RSWD-003.[28] The receiving water limit itself pertains to changes in "natural turbidity," which includes a series of requirements depending on the natural turbidity of the receiving water.[29] The September Tentative Permit included receiving water monitoring requirements for four additional monitoring locations, several of which were "in-river" sampling locations.[30] In response to the proposed new locations, the District expressed concern for various reasons, including practical difficulties associated with sampling at the proposed locations.[31] Further, because there were now four additional, downstream receiving water locations, the District expressed concern, and requested clarification, as to which receiving water monitoring location should be used for determining compliance with receiving water limits in general.[32] Due to difficulties with proposed locations RSWD-002a, RSWD-002b, RSWD-004, and RSWD-005, the District recommended that compliance be determined based on results at RSWD-003, or the difference between RSWU-001 and RSWD-003.[33] In response to the District's comments, the Regional Board staff proposed and the Regional Board approved modifications that eliminated two of the new sampling locations, and clarified that for determining compliance with turbidity receiving water limits, receiving water location RSWD-003 was appropriate.[34]

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[27] CSPA Petition, p. 5.

[28] November Redline Tentative Permit, p. 37; Permit, p. 36.

[29] Permit, section V.A.17.a-e, p. 19.

[30] September Tentative Permit, pp. E-4, E-13 to E-14.

[31] District's October 2010 Comments and Evidence letter, pp. 122-123.

[32] District's October 2010 Comments and Evidence letter, pp. 122-123.

[33] District's October 2010 Comments and Evidence letter, pp. 122-123.

[34] Staff Response to Comments, p. 79; November Redline Tentative Permit, p. 37.

The revisions are a logical outgrowth of the September Tentative Permit and comment process. They clarified the appropriate point for determining compliance, eliminating uncertainty as to where such compliance should be determined. The clarifications were not major substantive changes. No violation of CSPA's rights occurred.

Further, CSPA's allegations imply that all receiving water limitations are required to be met at the point of discharge, regardless of available dilution.[35] Such an interpretation would undermine one of the primary purposes associated with mixing zones, which is to allow "a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body."[36] The Permit recognizes that mixing zones exist and grants mixing zones of 350 feet downstream and 3 miles downstream for chronic aquatic life and human health criteria, respectively.[37]

Moreover, the Regional Board has discretion to determine the appropriate level of monitoring, as well as monitoring locations. Federal regulations require only that monitoring be conducted to assure compliance with permit limitations.[38] Using this discretion, and based on logistical and practical information with respect to appropriate monitoring locations, the Regional Board had adopted RSWD-003 (Cliff's Marina) as the closest receiving water monitoring location to the SRWTP outfall. As the closest monitoring location to the outfall, it is also the most appropriate location to determine compliance with receiving water limitations, as the two other downstream receiving water locations are even further downstream than RSWD-003.

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[35] See CSPA Petition, p. 5.

[36] *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005) (SIP), Appendix 1-4; see also U.S. EPA *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) (March 1991) (TSD) Glossary ["[M]ixing zone . . . A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented."].

[37] Permit, pp. F-36 and F-38.

[38] 40 Code of Federal Regulations section 122.44(i)(1).

6. Modifications of Effluent Hardness Samples From Grab Samples to 24-Hour Composite Samples

As adopted, the Permit requires effluent characterization of hardness based on 24-hour composite samples.[39] CSPA objects that this change, reflected in the November Tentative Permit, is different than the "grab" sample specified in the September Tentative Permit.[40]

The revision was the result of Regional Board staff concurrence with the District's comments on the September Tentative Permit. The District had commented that the effluent monitoring requirement for hardness should be changed from requiring a grab sample to a "24-hour composite" sample. Specifically, the District noted that the sampling for hardness should be consistent with the sample types for metals.[41] The change from grab sample to 24-hour composite sample is a logical outgrowth of what was originally noticed and circulated for comment.[42] The Monitoring and Reporting Program (MRP) specifies the sample type for parameters required to be monitored. The three primary sample types are: meter, 24-hour composite, or grab. Upon receiving comments from the public as to what sample types are appropriate, it is logical and reasonable for the Regional Board to revise the sample types where the Regional Board agrees with the comment. In this case, the Regional Board concurred with the District, and modified the sample type accordingly.[43] The change in sample type from grab to composite sample is not a significant change.

CSPA argues that the use of a 24-hour composite sample is inappropriate because "it will average the hardness collected throughout the day and does not represent the worst case hardness." However, CSPA does not explain why a grab sample would capture worst-case hardness. A grab sample represents the effluent at a moment in time, which may or may not be the worst-case hardness. It could just as easily represent the best-case hardness. Thus, CSPA's

[39] Permit, p. E-8.

[40] See November Redline Tentative Permit, p. E-9.

[41] District's October 2010 Comments and Evidence Letter, p. 128.

[42] September Tentative Permit, p. E-7.

[43] See Staff Response to Comments, p. 83; November Redline Tentative Permit, p. E-9.

argument as to why the grab sample type requirement should have remained is nonsensical and should be ignored.

7. Removal of Acute Toxicity Testing Requirements to Re-Sample and Re-Test Within Seven Days if an Acute Toxicity Test Fails

CSPA alleges that the Regional Board's revision to acute toxicity testing requirements relaxes the District's acute toxicity testing requirements, and that such a revision triggers the need for re-circulation and additional public comment.[44] However, as with the revisions discussed previously, the revision here is a logical outgrowth of the September Tentative Permit and the process of addressing comments; and, in fact the revision does not change the substantive monitoring requirements of the Permit.

The September Tentative Permit proposed to require the District to re-sample and re-test for acute toxicity as soon as possible, but no later than seven days following notification of the test failure.[45] In response to this requirement, the District submitted comments explaining that re-sampling and re-testing in case of a test failure coincides with the District's weekly acute toxicity testing, and therefore the District's normally scheduled weekly acute toxicity testing should be considered to meet the re-sampling and re-testing provisions of the proposed MRP.[46] The Regional Board staff concurred with the District's comment and revised the September Tentative Permit accordingly.[47] The Regional Board's revision realistically did not even change the terms of the Permit, and acute toxicity testing requirements were not relaxed. Thus, CSPA's allegation is not supported and must be dismissed.

8. Revisions to Mixing Zone Conditions Language

CSPA highlights certain revisions to the mixing zone language contained in the Fact Sheet related to mixing zones for aquatic life criteria.[48] In general, it appears that CSPA is concerned

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[44] CSPA Petition, pp. 2 and 5-6.

[45] September Tentative Permit, p. E-10.

[46] District's October 2010 Comments and Evidence Letter, p. 131.

[47] Staff Response to Comments, p. 86; November Redline Tentative Permit, p. E-10.

[48] CSPA Petition, pp. 6-8; November Redline Tentative Permit, pp. F-34 to F-36.

that the revisions to the Fact Sheet constituted a significant revision that should have triggered the need for re-circulation and additional time to submit written comments on the November Tentative Permit. However, the revisions to the Fact Sheet with respect to mixing zones appear to be clarifying language as to how and why the Regional Board reached its findings with respect to granting and/or denying mixing zones for acute and chronic aquatic life criteria.[49] As part of its Public Notice with the September Tentative Permit, the Regional Board circulated various permitting alternatives with respect to mixing zones and dilution credits, requesting public comment on all of the various alternatives.[50] The Regional Board then revised the permitting alternatives based on comments received and re-circulated them with the November Redline Tentative Permit.[51] In other words, the Regional Board anticipated receiving significant public comment on mixing zones and dilution, and put the public on notice that the staff's recommended approach contained in the September Tentative Permit could change based on comments received.[52] However, although significant comment was received on all of the alternatives, the Regional Board adopted the same mixing zones as proposed in the September Tentative Permit.[53] At most, the November Redline Tentative Permit reflects staff's clarifications to the Fact Sheet.[54] Although the revisions add text supplementing the September Tentative Permit's proposed determinations, they do not change the Regional Board's findings for each constituent as compared to the September Tentative Permit. The revised language now more completely explained that an acute aquatic life mixing zone met the requirements of the SIP; however, the Permit continued to deny the granting of such a mixing zone because of "concerns with aquatic

[49] November Redline Tentative Permit, pp. F-34 to F-36.

[50] Tentative NPDES Permitting Options, Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant (Tentative Permitting Options), pp. 1-2.

[51] Dilution Alternative Nos. 1-3.

[52] Dilution Alternative Nos. 1-3; see Tentative Permitting Options, p. 1 ("[a] number of alternative discharge limitations are being considered, and are presented for public review and comment").

[53] Staff Report, Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant Proposed NPDES Permit Renewal and Time Schedule Order (Nov. 2010) (Staff Report), pp. 8-12.

[54] Staff Report, p. 12.

toxicity in the Delta."[55] Considering that the limitations of the September Tentative Permit did not change with these revisions, members of the public could reasonably have anticipated that the Permit would contain supportive findings. Thus, the changes here did not trigger the need for re-circulation of the November Tentative Permit.

With respect to the substantive comments incorporated into CSPA's allegations under headings 8a, b, and c of CSPA's Petition, such comments are addressed in sub-section R below, which addresses CSPA's challenge to the issuance of mixing zones in the Permit for the SRWTP discharges.

Receiving Water Limitation for Temperature

After heading 8.c, which relates to mixing zones, CSPA's Petition also refers again to the receiving water limitation for temperature that is discussed under item A.3 of CSPA's Petition.[56] CSPA quotes a "late revision" change. The specific language that CSPA quotes in its Petition does not appear in the Permit as adopted.

In any event, in this specific instance, CSPA appears to object to the Thermal Plan itself rather than the Permit. The Specific Water Quality Objectives of the Thermal Plan states that no discharge "shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place." The corresponding Permit receiving water limitation V.A.15.c[57] states that the discharge "shall not cause the receiving water surface temperature to increase more than 4°F above the ambient temperature of the receiving water at any time or place." The limitation simply implements the Thermal Plan and there is no basis for objection.

CSPA implies that the Thermal Plan provision does not relate to the surface of the water but to all water in the water column. That is not what it says. The Thermal Plan as a whole only applies to "surface water" (and not groundwater for example), and the Thermal Plan plainly distinguishes between water at the surface and the entire water column. Section 5.A(1)c

[55] November Redline Tentative Permit, p. F-36.

[56] CSPA Petition, p. 8.

[57] Permit, p. 19.

necessarily applies to changes at the water's surface. A submerged discharge may cause greater increase below the water surface; indeed, section 5.A(1)a of the Thermal Plan allows any discharge to be up to 20°F warmer than the natural receiving water temperature.[58]

In like manner, certain Thermal Plan provisions that relate to ocean discharges provide that the discharge will not exceed natural temperature of the receiving water by more than 20°F and not result in increase in temperature of more than 4°F at "the ocean surface" more than 1000 feet from the discharge system. "General" provisions of the Thermal Plan refer to heat dispersion areas being minimized to achieve dispersion "through the vertical water column *rather than at the surface* or in shallow water."[59] Thus, the Thermal Plan plainly distinguishes between the receiving water generally and the surface of the receiving water.

B. Endangered Species

The Permit states that it does not authorize any act that results in taking of threatened or endangered species or any act prohibited by either the California Endangered Species Act or federal Endangered Species Act (ESA).[60] CSPA asserts various arguments related to the ESA and alleged violations by SRCSD or the Regional Board or U.S. EPA.[61] CSPA contends that a permit finding should state that the discharge may result in "take" of endangered species,[62] that section 7 of the federal ESA is applicable, and that SRCSD and the Regional Board must "secure incidental take permits from NMFS and USFWS."[63]

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[58] If SRCSD's discharge were a new discharge, section 5.B(2), Specific Water Quality Objectives of the Thermal Plan would disallow discharge that had a temperature greater than 4°F of the temperature of the receiving water, without reference to any location in the water column. But the applicable limitation relates to the water surface.

[59] Thermal Plan, General Water Quality Provisions, section 1.A, emphasis added.

[60] Specifically, the Permit states:

> **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act. (Permit, p. 11, § II.P.)

[61] CSPA Petition, pp. 8-13.

[62] CSPA Petition, p. 8.

[63] CSPA Petition, p. 12.

The State Board has already rejected these same arguments, in a precedential order addressing another CSPA petition:

> **Discussion:** The essence of this contention is Petitioner's claim that the City will, in discharging pursuant to the Permit, harm or kill endangered species, and that the Permit therefore authorizes a 'take" of endangered species, requiring the inclusion of findings with respect to federal and state endangered species laws. There is no provision in state or federal law requiring a regional water board to make a finding regarding endangered or threatened species, when issuing an NPDES permit. Whether a "take" permit must be obtained from the California Department of Fish and Game is not a matter on which a regional water board need comment. Further, the Permit does not authorize a "take." If the project will likely result in an illegal "take" of listed species, the City must obtain a permit or a consistency determination under appropriate provisions of state and federal law. The Permit does not relieve the City of any obligations to comply with laws and regulations concerning endangered species.[64]

The State Board's prior ruling is on point and requires no future elaboration. However, SRCSD emphasizes certain principles that support the State Board's ruling.

Initially, it is not clear what CSPA would have the Regional Board, or the State Board, do. Prior to adoption of the Permit, there was a permit in effect, which CSPA presumably considers more objectionable than the Permit adopted in December of 2010. If, as CSPA suggests, the Regional Board was required to "enter into formal consultation" with federal fisheries agencies "pursuant to Section 7 of the ESA",[65] the new permit likely would not even have been adopted yet. Beyond that of course, obligations to consult under section 7 of the ESA apply only to *federal* agencies who have determined that their actions are likely to affect threatened or endangered species.[66]

Most fundamentally, however, the Regional Board's obligations, and its *powers*, are derived exclusively from the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) (Porter-Cologne). These powers do not include ESA enforcement. Under CSPA's view, all regional boards, and presumably permitting agencies of all kinds throughout the United States,

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[64] *In the Matter of the Petition of California Sportfishing Protection Alliance for Review of Waste Discharge Requirements for the City of Davis Wastewater Treatment Plant*, Order WQ 2008-0008 Corrected (Sept. 2, 2008) (Davis Order), pp. 7-8, footnote omitted.

[65] CSPA Petition, p. 12.

[66] Title 16 United States Code section 1536(a)(3). CSPA also suggests that U.S. EPA was required to consult under section 7 of the ESA. (CSPA Petition, p. 12.) While SRCSD disagrees, the State Board is acting under Water Code section 13320 and has no authority to order U.S. EPA to a comply with a completely distinct federal statute.

would have powers and obligations that the law does not confer. CSPA's contention that the Permit authorizes "take"[67] is belied by the express terms of the Permit itself.

Finally, CSPA uses the opportunity of its already-rejected ESA arguments to quote various findings from the Permit or Tentative Permit,[68] and to make argumentative assertions with minimal reference to evidence. SRCSD does not agree that the evidence establishes any violations of the ESA; the arguments advanced by CSPA are addressed by SRCSD elsewhere in this response, SRCSD's own Petition, and the record.

C. Bis(2-ethylhexyl)phthalate and Water Code Section 13263.6(a)

CSPA objects to the provisions in the Fact Sheet pertaining to the Emergency Planning and Community Right-to-Know Act (EPCRA) because CSPA believes such provisions to inappropriately omit bis(2-ethylhexyl)phthalate from the list of chemicals identified by the Regional Board.[69] The Water Code requires the Regional Board to prescribe effluent limits for chemicals that are reported to the state emergency response commission pursuant to section 313 of EPCRA[70] as part of the most recent toxic chemical release data if (1) the chemical is identified as being released into the publicly owned treatment work (POTW); (2) there are established numeric water quality objectives; and (3) the Regional Board finds that the discharge into the system has reasonable potential to cause or contribute to an excursion above the numeric water quality objective.[71]

In the Fact Sheet, the Regional Board explains its compliance with this provision of the Water Code. Specifically, the Permit discusses the EPCRA, and identifies the chemicals released in the POTW as indicated in the most recent, applicable toxic release data reported to the state emergency response commission.[72] Bis(2-ethylhexyl)phthalate was not identified because, as

[67] CSPA Petition, p. 12.

[68] In fact, it appears CSPA quotes primarily from the September Tentative Permit rather than the Permit actually adopted by the Regional Board. While similar in many respects, the two documents are not identical. (CSPA Petition, pp. 8-11.)

[69] CSPA Petition, p. 13.

[70] Title 42 United States Code section 11023.

[71] Water Code section 13263.6(a).

[72] Permit, pp. F-10 to F-11.

explained by the Regional Board, it was not listed in the toxic release inventory database as a constituent that was discharged into the collection systems that convey sewage to the SRWTP.[73] Because bis(2-ethylhexyl)phthalate was not identified as being discharged into the POTW, Water Code section 13263.6 does not apply. Accordingly, the Regional Board was not obligated to address bis(2-ethylhexyl)phthalate in the Permit with respect to the EPCRA.

The Staff Response to Comments mistakenly states that effluent limitations were adopted for bis(2-ethylhexyl)phthalate pursuant to Water Code section 13263.6(a).[74] In fact, the effluent limitations for bis(2-ethylhexyl)phthalate were adopted pursuant to federal regulatory requirements and the SIP—not the Water Code.[75]

D. Effluent Limitations for Aluminum and EC as Annual Averages

CSPA objects to certain effluent limitations for aluminum and EC being established as annual average limits.[76] The limitations in issue here are the aluminum limit based on the narrative water quality objective for the protection of the municipal drinking water (MUN) beneficial use, and the performance-based limit for EC. The annual limitation for aluminum is appropriate because the maximum contaminant levels (MCLs) are based on annual average values. For EC, the Regional Board properly exercised its discretion in establishing a performance-based limit expressed as an annual average.

1. Aluminum

The Permit includes an effluent limitation for aluminum of 200 µg/L as an annual average.[77] The limit is based on the secondary MCL for aluminum.[78] Compliance with secondary MCLs in drinking water are determined on an annual average basis.[79] Federal regulations require

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[73] Staff Response to Comments, pp. 140-141.

[74] Staff Response to Comments, p. 141.

[75] See 40 Code of Federal Regulations section 122.44(d)(1)(i); see also Permit, pp. F-45, F-58.

[76] CSPA Petition, pp. 13-14.

[77] Permit, section IV.A.1.i, p. 15; pp. F-53 to F-54.

[78] Permit, p. F-54.

[79] See, e.g., California Code of Regulations, title 22, section 64449(c)(1) ("If monitoring quarterly, determine compliance by a running annual average for four quarterly samples; . . .").

effluent limits for POTWs to be set as average weekly and average monthly limitations, unless impracticable.[80]

When setting effluent limitations based on MCLs,[81] the Regional Board finds it is inaccurate and impracticable to set effluent limits as average weekly and average monthly limits.[82] Notably, if average monthly and average weekly effluent limits were each equal to the numeric value of the secondary MCL, the limits would be more stringent than necessary to protect the MUN use, and, therefore, impracticable. In fact, they would not be based on the MCL at all, because compliance with the MCL itself is determined as an annual average. Therefore, the Regional Board's adoption of the annual average limitation for aluminum, for MUN protection, is appropriate and in compliance with federal regulations.

2. EC

The Permit includes an effluent limit for EC of 900 µmhos/cm as a calendar annual average.[83] The EC limit is a performance-based effluent limit, calculated from the 99.9th percentile of running annual average EC for data from June 2006 through April 2010.[84] The effluent does *not* have reasonable potential to cause or contribute to an excursion above any applicable water quality standard for salinity. Thus, no effluent limitation was required. The Regional Board nonetheless established an effluent limitation based on performance, to protect the Delta from increased salt loadings.[85]

The Regional Board's approach for calculating the annual average EC limitation here is consistent with the approach used by the Regional Board in calculating an interim performance-based effluent limitation for other Central Valley dischargers, including the City of Davis.[86] In

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[80] 40 Code of Federal Regulations section 122.45(d)(1).

[81] Other ammonia effluent limitations, established to protect aquatic life are monthly average and daily maximum limits, water quality criterion, as determined by the Regional Board, and are not in issue here. (Permit, § IV.A.1.i, p. 13; p. F-54.)

[82] Staff Response to Comments, p. 141.

[83] Permit, section IV.A.1.j, p. 15.

[84] Permit, p. F-51.

[85] Permit, pp. F-49 to F-51.

[86] See Davis Order, pp. 19-21.

the Davis Order, the State Board concluded that the annual average limitation was appropriate, "as it used a reasonable statistical approach, was based on best professional judgment, and resulted in a conservative, enforceable, performance-based limitation for EC from past and current yearly averages."[87] In light of the State Board's rationale and conclusion in the Davis Order, CSPA's claim has no merit.

E. Mass Limits

CSPA alleges that the Permit is required to contain mass-based limitations for all of the constituents regulated in the Permit.[88] CSPA argues that mass-based limitations for these constituents are required by Title 40, section 122.45(b) of the Code of Federal Regulations because mass-based limitations can be derived from design-flow while concentration-based limitations cannot. CSPA's arguments are misplaced.

The limitations placed in issue by CSPA are water quality-based effluent limitations (WQBELs) issued pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(i), or performance-based limits issued pursuant to the Regional Board's best professional judgment. In general, WQBELs are required when the discharge may have the reasonable potential to cause or contribute to an excursion above a water quality standard.[89] Because the limitations in question are WQBELs or performance-based, they are not subject to section 122.45(b).[90]

Mass limitations for these constituents are not required by section 122.45(f)(1), which *is* applicable. Under this section, all pollutants limited in a permit are required to be expressed in

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[87] Davis Order, p. 21.

[88] CSPA Petition, pp. 15-17.

[89] Title 33 United States Code section 1312; 40 Code of Federal Regulations section 122.44(d)(1)(i); see also Permit, pp. F-18 to F-86 (discussing WQBELs, including all of the constituents identified by CSPA). The performance-based limits were adopted to maintain current levels of discharge because calculated WQBELs, considering dilution, were determined to allocate an unnecessarily large portion of assimilative capacity, or because there was no reasonable potential. (See, e.g., Permit, pp. F-50 (EC), F-58 (bis(2-ethylhexyl)phthalate).)

[90] Section 122.45(b) applies specifically to production-based limitations. (40 C.F.R. § 122.45(b).) The term "production-based limitations" is not defined by federal regulations (see 40 C.F.R. § 122.2), but is typically associated with technology-based effluent limitations. (See U.S. EPA NPDES Permit Writers' Manual, EPA-833-B-96-003 (Dec. 1996) (Permit Writers' Manual), pp. 63-65.) Technology-based limitations are those that represent the minimum level of control or treatment required by the Clean Water Act (CWA). (See 33 U.S.C. § 1311; see also 40 C.F.R. § 125.3; see also Permit, pp. F-16 to F-17.) CSPA's objections are related to WQBELs and performance-based limits—not technology-based limits.

terms of mass except: if the pollutant cannot be expressed in terms of mass, if applicable standards and limitations are expressed in terms of other units of measurement, or if it is infeasible.[91] For the pollutants at issue here, mass limitations were not appropriate or necessary because the applicable standards are expressed in terms of concentration (other units of measurement), and therefore expressly excepted from the mass limitation requirements of section 122.45(f).[92] Considering the fact that the limitations challenged by CSPA are not subject to section 122.45(b), and are within the exception of section 122.45(f)(1)(ii), mass limitations for all constituents listed in Table 6 of the Permit were not required. Therefore, the Permit is consistent with the federal regulatory requirements and CSPA's claims must be dismissed.

F. Aluminum Effluent Limitation Based on Narrative Toxicity Objective

CSPA argues that the Permit fails to include an effluent limitation for aluminum based on the 87 µg/L criterion for chronic aquatic toxicity contained in U.S. EPA's National Recommended Ambient Water Quality Criteria (U.S. EPA's *Ambient Water Quality Criteria for Aluminum*). CSPA argues that the Regional Board's failure to apply a chronic criterion of 87 µg/L is inappropriate and inconsistent with federal law and that the Regional Board improperly used criteria from Utah.[93] The District disagrees.

Specifically, CSPA objects to the average monthly effluent limitation (AMEL) of 503 µg/L because it is not equal to or calculated from the chronic criterion of 87 µg/L contained in the U.S. EPA's *Ambient Water Quality Criteria for Aluminum*.[94] The chronic criterion for 87 µg/L includes a significant footnote, which states in part as follows:

> L. Three are three major reasons why the use of Water Effect Ratios might be appropriate. (1) The value of 87 µg/L is based on a toxicity test with striped bass in water with pH = 6.5-6.6 and hardness <10 mg/L. Data in "Aluminum Water-Effect Ratio for the 3M Plant Effluent Discharge, Middleway, West Virginia" (May 1994) indicate that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are not well quantified at this time. (2) . . . (3) EPA is aware of field data indicating that many high quality waters in

[91] 40 C.F.R. section 122.45(f)(1)(i)-(iii).

[92] See Permit, p. F-91; see also Staff Response to Comments, pp. 142-143.

[93] CSPA Petition, pp. 17-26.

[94] CSPA Petition, pp. 17-18; see also Permit, p. F-54.

> the U.S. contain more than 87 g aluminum/L, when either total receivable or dissolved is measured.[95]

Further, the application of the chronic criterion, and the determination of whether it is appropriate or not for waters in the Central Valley, has received significant attention from the U.S. EPA, the Regional Board, and others. For example, CSPA includes as part of its October 2010 Comment Letter, a letter from U.S. EPA Region 9 pertaining to water quality criteria for aluminum and the Placer County Sewer Maintenance District 1 WWTP.[96] CSPA implies that this letter supports the use and applicability of the chronic criterion for aluminum in all situations, including discharges from the SRWTP.[97] CSPA's characterization of the U.S. EPA letter is erroneous. U.S. EPA Region 9's letter actually states the opposite.

> EPA has not formally changed its recommended aluminum criteria; *the appropriate aluminum criteria values for higher hardness situations remain uncertain.* The existing EPA-recommended chronic aluminum criterion of 87 µg/l is clearly protective of aquatic life and is appropriate for use in evaluating reasonable potential and establishing effluent limitations. As EPA's Charles Delos notes in his 2002 and 2010 letters, it may be reasonable to apply a higher criterion value if the ambient hardness levels are substantially and consistently higher than the values used in deriving the existing chronic criterion value. When considering whether to apply a higher criterion value, the Regional Board should carefully consider whether the high ambient and effluent hardness values asserted by the discharger are accurate and likely to continue in the future.
>
> The Regional Board has discretion in interpreting the Basin Plan narrative toxicity standard and it may be possible to make a different reasonable potential conclusion or derive less stringent effluent limitations than provided in the existing permit.[98]

In other words, U.S. EPA recognizes that it may be appropriate for the Regional Board to apply a higher criterion value, and if doing so, the Regional Board should carefully consider the accuracy of high ambient and effluent hardness values.[99]

In this case, the Regional Board properly exercised its judgment, as allowed by both the SIP and federal regulations, to calculate an appropriate effluent limitation to protect aquatic life

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[95] See, http://water.epa.gov/scitech/swguidance/standards/current/index.cfm, U.S. EPA *Ambient Water Quality Criteria for Aluminum*, Non-Priority Pollutants, fn. L (as of May 4, 2011).

[96] CSPA's October 2010 Comment Letter, pp. 13, 14.

[97] CSPA Petition, p. 18.

[98] CSPA's October 2010 Comment Letter, p. 14, emphasis added.

[99] CSPA's October 2010 Comment Letter, p. 14.

from chronic impacts from aluminum. More specifically, the Regional Board correctly determined that the U.S. EPA ambient chronic criterion of 87 µg/L was not applicable because Sacramento River conditions are not similar to the receiving water conditions from which the chronic criterion was derived by U.S. EPA.[100] As compared to the hardness value of <10 mg/L, the Regional Board notes that hardness of the Sacramento River ranges from 26 mg/L to 100 mg/L.[101] For pH, the Sacramento River varies between 6.4 to 8.8, as compared to the pH of 6.5 to 6.6 associated with the chronic criterion.[102] The Regional Board's action is consistent with federal regulatory requirements applicable to the development of WQBELs.

The federal regulations specify that where a state has not established a water quality criterion for a pollutant that has reasonable potential to cause or contribute to an excursion above a narrative criterion, the permitting authority (i.e., the Regional Board) must establish effluent limits using one or more of the options identified in the regulations.[103] The relevant two options for aluminum are as follows:

> (A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion *may* be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information . . . and current EPA criteria documents; or
>
> (B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information . . . .[104]

The Regional Board determined that an AMEL for aluminum is necessary because the discharge may cause or contribute to an excursion above the narrative toxicity objective.[105] Accordingly,

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[100] See Permit, p. F-54. In its reference to footnotes from U.S. EPA's *Ambient Water Quality Criteria for Aluminum*, the Permit erroneously identifies low hardness levels as below 50 mg/L as $CaCO_3$. The correct low hardness level from U.S. EPA's *Ambient Water Quality Criteria for Aluminum* is actually <10 mg/L as $CaCO_3$–not 50 mg/L. (See also Staff Response to Comments, p. 143.)

[101] Permit, p. F-54.

[102] Permit, p. F-54.

[103] 40 Code of Federal Regulations section 122.44(d)(vi).

[104] 40 Code of Federal Regulations section 122.44(d)(1)(vi)(A)-(B), emphasis added; see also Permit, pp. F-15, F-18.

[105] Permit, p. F-54.

when setting the effluent limitation for aluminum, the Regional Board must comply with sub-section A, sub-section B, or both. The process used by the Regional Board here is consistent with both applicable sub-sections.

With respect to sub-section 122.44(d)(1)(vi)(A) of Title 40 of the Code of Federal Regulations, the Basin Plan contains an explicit policy or regulation for interpreting narrative water quality criterion (i.e., narrative water quality objective under state law). The Regional Board's regulation/policy directs the Regional Board to consider, on a case-by-case basis, all relevant information submitted by the discharger and other parties, and relevant numerical criteria and guidelines developed and/or published by other agencies, including U.S. EPA.[106] When considering such criteria, the Regional Board is required to determine if the criteria are relevant and appropriate to the situation at hand.[107] Here, the Regional Board identified U.S. EPA's *Ambient Water Quality Criteria for Aluminum* for the protection of freshwater aquatic life as potentially relevant for interpreting compliance with the narrative toxicity objective.[108] To determine if the criteria were appropriate, the Regional Board evaluated both the chronic and acute criteria and the information contained in U.S. EPA's criteria document.[109] Based on the information in U.S. EPA's criteria document, site-specific information associated with discharges from the SRWTP, and the receiving water, the Regional Board found that the chronic criterion of 87 µg/L was overly stringent and not necessary to "protect aquatic life in the Sacramento River in the vicinity of the discharge."[110] Instead, the Regional Board used the acute criterion of 750 µg/L to set effluent limitations to protect aquatic life. The Regional Board's process in setting the relevant effluent limitations for aluminum in this manner is consistent with its "state regulation," and in turn is consistent with subsection 122.44(d)(1)(vi)(A) of Title 40 of the Code of Federal Regulations.

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[106] *Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin* (4th ed. 1998) (Basin Plan), pp. IV-16.00-IV-17.00, "Policy for Application of Water Quality Objectives."

[107] Basin Plan, p. IV-17.00.

[108] Permit, pp. F-53 to F-54.

[109] The chronic criterion of 87 µg/L is footnoted; Permit, pp. F-53 to F-54.

[110] Permit, p. F-54; see Staff Response to Comments, p. 143.

The Regional Board's approach is also consistent with sub-section 122.44(d)(1)(vi)(B) of Title 40 of the Code of Federal Regulations. As indicated previously, when using U.S. EPA water quality criteria to calculate WQBELs, the federal regulations specifically allow for the consideration of other relevant information.[111] The U.S. EPA *Ambient Water Quality Criteria for Aluminum* are published pursuant to section 304(a)(1) of the Clean Water Act (CWA).[112] In using the non-binding criteria, the Regional Board considered other relevant information including, for example, typical pH and hardness levels of the Sacramento River. After considering "other relevant information," the Regional Board found that only the acute criterion of 750 µg/L applied.[113] Moreover, U.S. EPA Region 9 did *not* comment on the Regional Board's approach for selecting the appropriate chronic aluminum criterion.[114] Thus, the Regional Board's approach for setting effluents for aluminum to protect aquatic life is consistent with applicable state and federal regulatory requirements. CSPA has failed to provide any information or evidence that indicates otherwise.

CSPA's Petition also alleges that the Regional Board's reference to Utah's approach in the Fact Sheet results in the de facto creation of illegal water quality objectives.[115] The Regional Board's reference to Utah's standards does not rise to the level of adopting an illegal water quality objective. Further, the U.S. EPA *Ambient Water Quality Criteria for Aluminum* advocated by CSPA are also not adopted water quality objectives. In any event, in this case, the Regional Board references the state of Utah's aluminum criteria for informational purposes.[116] The Regional Board did not use Utah's criteria; the Regional Board made use of U.S. EPA's *Ambient Water Quality Criteria for Aluminum* and considered other relevant information.

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[111] 40 Code of Federal Regulations section 122.44(d)(1)(vi)(B).

[112] See 53 Federal Register 33177 (Aug. 30, 1988).

[113] Permit, p. F-54; see also Staff Response to Comments, p. 143.

[114] See Letter to Pamela Creedon, Central Valley Regional Water Quality Control Board, from Alexis Strauss, U.S. EPA Region 9 on Tentative Order/Draft NPDES Permit for Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant (Oct. 7, 2010) (U.S. EPA October 2010 Comments). U.S. EPA commented on other Permit provisions but did not raise any concerns with respect to aluminum or the Regional's determination to not apply the chronic criterion of 87 µg/L.

[115] CSPA Petition, pp. 25-26.

[116] Permit, p. F-54; Staff Response to Comments, p. 143.

The Regional Board's action to *not* apply the 87 µg/L chronic criterion for aluminum is supported by the evidence in the record and is consistent with federal regulatory requirements. Thus, the State Board should dismiss CSPA's claims with regard to aluminum.

G. Hardness

CSPA, once again, has filed a petition that challenges the Regional Board's selection of the appropriate hardness value for calculating metals criteria.[117] CSPA continues to argue that *only* upstream ambient hardness should be used for calculating metals criteria. As clearly indicated by the applicable regulations, evidence in the record, and prior State Board orders, CSPA's contention is wrong and should be dismissed. Further, unlike the Regional Board's approach, CSPA's proposed approach would not ensure protection of aquatic life in the receiving water under all design (i.e., flow) conditions.

The California Toxics Rule (CTR) contains water quality criteria for 126 priority "toxic" pollutants, including seven heavy metals.[118] For most of the water quality criteria, the CTR lists the specific numeric value for the constituent.[119] Metals criteria for the seven heavy metals, however, are calculated based on a number of site-specific factors that affect the relative toxicity. Most importantly, in freshwater the metals criteria are considered to be "hardness-dependent." Thus, the numeric criteria values vary as a function of hardness.[120]

In order to provide the method to determine reasonable potential and calculate WQBELs based on CTR criteria, the state adopted the SIP. The SIP, like the CTR, states that regional boards shall properly adjust criteria for hardness, if applicable.[121]

[117] CSPA Petition, pp. 26-33; see, e.g., Davis Order p. 8.

[118] 40 Code of Federal Regulations section 131.38(b)(1).

[119] See 40 Code of Federal Regulations section 131.38(b)(1).

[120] 40 Code of Federal Regulations section 131.38(b)(2).

[121] SIP, p. 5.

With respect to the use of hardness values, the CTR requires:

> For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.[122]

The CTR also requires that the hardness values used "be consistent with the design discharge conditions established in paragraph (c)(2) of this section for design flows and mixing zones."[123] The SIP requires that the hardness of the receiving water be used.[124]

What constitutes "ambient" or "receiving water" hardness is an issue that was previously before the State Board.[125] The State Board found that the requirement of the CTR and SIP "are somewhat conflicting for selection of hardness."[126] Accordingly, the State Board properly determined that the regional boards have considerable discretion in the selection of hardness, and, more importantly, "[r]egardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which a particular hardness exists."[127] In addition to evaluating upstream hardness values, the State Board also indicated that representative downstream receiving water mixed (i.e., presumably, mixture of effluent and the receiving water) hardness data, if substantive and reliable, could be used to calculate CTR heavy metals criteria.[128]

As indicated by CSPA, the selection of hardness values has also recently been evaluated in the Superior Court of Sacramento County.[129] The Superior Court agreed that regional boards

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[122] 40 Code of Federal Regulations section 131.38(c)(4)(i).

[123] 40 Code of Federal Regulations section 131.38(c)(4)(ii).

[124] SIP, p. 5.

[125] See Davis Order, p. 8 (CSPA argued that the Regional Board should have used "hardness value in upstream receiving water").

[126] Davis Order, p. 10.

[127] Davis Order, p. 10.

[128] Davis Order, p. 11.

[129] *CSPA v. California Regional Water Quality Control Board* (Superior Ct. Sacramento County, 2009, Case No. 34-2009-80000309). The Superior Court's Final Statement of Decision, which evaluated a regional board order renewing the NPDES permit for El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant, was issued by Judge Frawley on January 26, 2011 (EID Final Statement of Decision). This is well beyond the close of the Regional Board's administrative record and therefore it is not part of the record before the State Board. Nor is it

have considerable discretion in selecting hardness.[130] It also stated that the term "ambient" as used in the CTR means the surface water surrounding the aquatic life.[131] Ultimately, the Superior Court found that the Regional Board "has the discretion to use either the upstream receiving water hardness values or the hardness values of the downstream mixture of the effluent and the receiving water, whichever is most protective."[132] However, the court found that the Regional Board could not calculate hardness-dependent metals criteria based only on the hardness of the effluent.[133]

The approach used by the Regional Board in the District's Permit is consistent with both the State Board's Davis Order as well as the EID Final Statement of Decision that was issued after the Permit was adopted.[134] In the Permit formulation, the Regional Board used "reasonable worst-case ambient hardness" to establish CTR criteria for hardness-based metals and to conduct its reasonable potential analysis (RPA).[135] Specifically, the Regional Board used the reasonable worst-case downstream hardness to calculate the criterion to compare to the maximum effluent concentration (MEC), and the reasonable worst-case upstream hardness to calculate the criterion to compare with the maximum ambient background concentration.[136] Comparisons to the MEC and the maximum ambient background are steps required by the SIP.[137] Based on the results of these comparisons, the Regional Board then determines if the discharge has reasonable potential to cause or contribute to a violation of a water quality standard. Ultimately, the Regional Board

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binding on the State Board. However, to the extent that the State Board may take official notice of and consider the EID Final Statement of Decision, SRCSD addresses it here.

[130] EID Final Statement of Decision, p. 14.

[131] EID Final Statement of Decision, p. 14.

[132] EID Final Statement of Decision, p. 14.

[133] EID Final Statement of Decision, p. 15.

[134] In the EID Final Statement of Decision, the Superior Court noted some discrepancies in the 2006 Emerick Report relied on by the Regional Board. Discrepancies in the 2006 Emerick Report have recently been resolved, and do not affect the validity of the Regional Board's approach here.

[135] Permit, pp. F-20 to F-21.

[136] Permit, p. F-21.

[137] SIP, p. 6.

found that effluent discharged from the SRWTP did not have reasonable potential for lead, silver, and zinc.[138] The Regional Board did find reasonable potential for copper.[139]

For constituents in the effluent with reasonable potential, the Regional Board must then calculate effluent limitations pursuant to the procedures outlined in the SIP.[140] The SIP allows use of either the dynamic model or steady state modeling approach to develop effluent limitations. Even though the Regional Board approved use of the dynamic modeling approach (see section R, *post*), which would have avoided the hardness-selection debate here, the Regional Board opted to use the steady-state modeling approach for derivation of effluent limits for copper. To calculate effluent limitations using the steady-state approach, the SIP requires that an effluent concentration allowance (ECA) be calculated from applicable water quality criteria.[141] For ECA calculations, the Regional Board uses a methodology referred to as the "curve method," which is documented in the 2006 Emerick paper. The methodology is derived from the hardness-based formulas that are contained in the CTR and relies on the shape of the resulting criterion versus hardness curves. Some of the curves generated by the hardness based formulas are convex functions with 'concave down' shaped curves (chronic cadmium, chromium III, copper, nickel, and zinc). Others are concave functions with 'concave up' shaped curves (acute cadmium, lead, and acute silver). The curve-based methodology, as described below, can be used to demonstrate the proper selection of hardness values to calculate criteria that are protective of aquatic life at the point of discharge as well as downstream of the discharge.[142]

Hardness-dependent criteria maximum concentrations (CMC) and continuous criteria concentrations (CCC) for metals are calculated using Equations (1) and (2), respectively.[143] The values for m_A, b_A, m_C, and b_C have been determined by U.S. EPA through the criteria derivation

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[138] Permit, pp. F-51, F-52.

[139] Permit, p. F-65; see also Permit, Attachment G.

[140] SIP, p. 7.

[141] SIP, p. 8.

[142] Permit, pp. F-22 to F-23.

[143] 40 Code of Federal Regulations section 131.38(b)(2).

process, and are specific for each of the trace metals.[144] The CTR specifies that lesser of 400 mg/L as $CaCO_3$ or the measured hardness of the water being evaluated is used for "hardness" in Equations (1) and (2).[145]

$$CMC = exp\{m_A \cdot ln(\text{hardness}) + b_A\} \quad (1)$$

$$CCC = exp\{m_C \cdot ln(\text{hardness}) + b_C\} \quad (2)$$

Because the hardness-dependent metals criteria form a log-log relationship with hardness, the criteria have special mathematical properties. If m_C is less than 1.0 and the CCC curve is drawn between any two hardness values, a straight line connecting the endpoints of the CCC curve will always be less than the corresponding CCC curve because of the shape of the curve (negative curvature). For CCC with positive curvature, i.e., m_C greater than 1.0, a straight line connecting the endpoints between any two values of hardness will always be above the CCC curve (positive curvature). For example, the CCC for copper is concave down (m_C=0.8545, negative curvature) and the CCC for lead is concave up (m_C=1.273, positive curvature). The CCC for copper and lead are plotted in Figure 1 for hardness ranging from 26 to 80 mg/L as $CaCO_3$ to illustrate positive (i.e., for lead) and negative (i.e., for copper) curvature.

All concentrations of the metals less than the CCC are protective of the aquatic life in the receiving water. For the example displayed in Figure 1, if the upstream receiving water copper concentration equaled the copper CCC calculated with the upstream receiving water hardness and the effluent copper concentration equaled the copper CCC calculated with the effluent hardness, any possible mixture of receiving water and effluent would have a copper concentration below the criterion for copper calculated with the corresponding hardness of the receiving water-effluent mixture. If upstream receiving water and effluent lead concentrations are calculated in the same manner as for copper, any possible blend of receiving water and effluent would have a lead concentration[146] above the criterion calculated with the corresponding blended hardness, resulting

[144] 40 Code of Federal Regulations section 131.38(b)(2).

[145] 40 Code of Federal Regulations section 131.38(b)(2).

[146] As indicated previously, the Regional Board did not find reasonable potential. However, lead is referred to here for illustrative purposes, just as it was by the Regional Board in the Permit. (Permit, pp. F-24 to F-28.)

in exceedance of the criterion throughout the receiving water. The District also notes that the effluent could be at the lower hardness and the upstream receiving water at the higher value, and the results would be the same. Therefore, the hardness selection approach taken for metals with concave up and concave down curves must be different in order to yield effluent limits that are always protective.

For copper in Figure 1, the CCC calculated from the hardness of the mixture of receiving water and effluent is always greater than the copper concentration of the mixture. For example, if the effluent has a hardness of 80 mg/L and copper concentration of 7.56 μg/L and the receiving water has a hardness of 26 mg/L and copper concentration of 2.91 μg/L, the curves generated for copper would be those shown in Figure 1. A criterion calculated using the effluent hardness would be the same as the copper concentration in the effluent. The curve approach shows that as the effluent mixes with the receiving water, the hardness will decrease (resulting in a lower corresponding criterion value) but the resulting copper concentration of the mixture will decrease more rapidly, and always be lower than the criterion value that exists at hardness of the mixture. Therefore for the copper CCC (and other concave down metals criteria), if the effluent hardness is used to calculate a criterion for the effluent quality, it will ensure that the effluent will never cause the copper to be present in the receiving water downstream from the discharge at a concentration that would exceed the criterion value.

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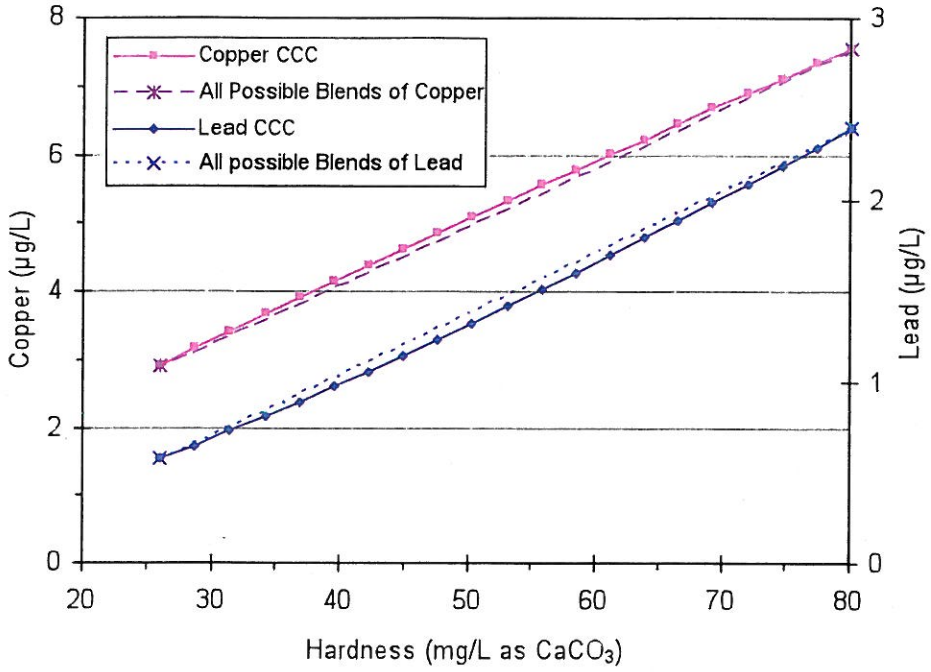

Figure 1: Lead and Copper CCC Endpoints Represent R1 and Effluent.

From Figure 1, it is clear that a discharge containing lead concentrations at the effluent CCC would not be protective of the receiving water, as all possible blends of effluent and upstream receiving water would exceed the lead criteria calculated with the corresponding hardness of the mixture. However, calculating WQBELs based on the upstream receiving water hardness alone would be overly stringent, as a higher concentration in the effluent could be discharged without exceeding the criteria in the receiving water based on the hardness of the receiving water-effluent mixture. For criteria with concave up curves (m_C or m_A greater than 1.0), "tangential alternate criteria" have been employed by U.S. EPA to account for the positive curvature in determining the concentration that is allowable in the discharge so that all blends of effluent and receiving water satisfy the criteria downstream of the discharge. A line tangent to the criterion curve at the upstream receiving water hardness projected to the effluent hardness, determines the maximum safe discharge concentration. The tangent line, representing any blend of effluent and receiving water, will always have a metal concentration below the criterion calculated from the hardness of the receiving water-effluent mixture, thereby guaranteeing that the criterion are met for any mixture of the effluent and receiving water.

As an example, the tangential alternate criteria approach is used to calculate the maximum effluent lead concentration for the scenario presented above and the result is plotted in Figure 2. The lead chronic (CCC) criterion at 80 mg/L as $CaCO_3$ is 2.39 μg/L. For lead, if the effluent hardness is 80 mg/L as $CaCO_3$ and the receiving water hardness is 26 mg/L as $CaCO_3$, the tangential line is used to determine that the protective criterion is 2.09 μg/L, as shown in Figure 2. If the effluent concentration of lead is never greater than 2.09 μg/L, any resulting mixture of effluent and receiving water will always have a lead concentration that is less than the criterion value that exists for that mixture of receiving water and effluent.

All possible blends of both copper and lead (and other CTR trace metals) are always less than the criteria when the curve approach is used (i.e., setting criteria based on effluent hardness for the concave down metals and the tangential alternative criteria approach for concave up metals), ensuring that aquatic life are protected using the hardness values as described above. The results are independent of whether upstream receiving water hardness levels are greater than or less than the effluent hardness levels. Additionally, in the case where the upstream receiving water exceeds a CTR metals criterion, if effluent criteria are calculated using the curve method the analysis can be used to demonstrate that all mixtures of effluent and receiving water will have better water quality than the pure upstream receiving water. Thus, the curve method should continue to be employed to calculate metals criteria for the ECA to ensure that resulting WQBELs will not cause or contribute to a receiving water exceedance below the point of discharge.

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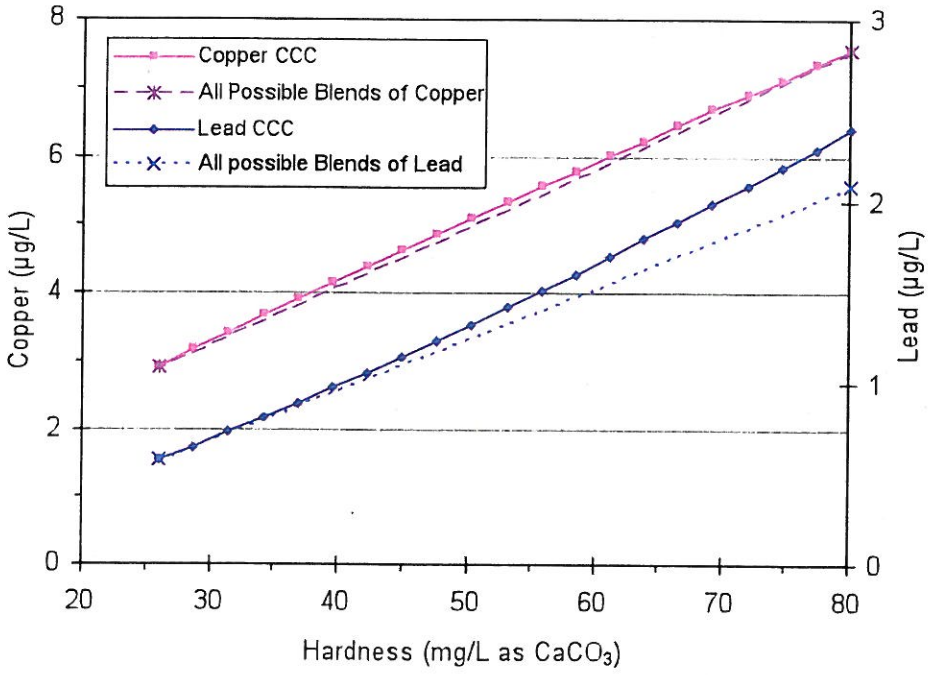

Figure 2: Lead and Copper CCC Endpoints Represent Effluent and R1, Tangential Alternate Criteria Employed for Allowable Effluent Lead Concentration.

The Regional Board's approach is consistent with the State Board's Davis Order because the resulting effluent limits are always protective of applicable water quality criteria under all flow conditions.[147] With respect to the EID Final Statement of-Decision, the curve method does not rely on effluent hardness alone. As explained above, the curve method incorporates an evaluation of both effluent and receiving water hardness to determine the mixed downstream ambient concentration.[148] When the effluent hardness is higher than the upstream ambient hardness, the percentage of effluent increases hardness in the downstream receiving water in corresponding fashion.[149] When the effluent hardness is less than upstream ambient hardness, the percentage of effluent in the downstream receiving water decreases hardness.[150] Accordingly, the curve method carefully evaluates the resulting downstream hardness for all potential mixes of effluent to ambient water to ensure that the calculated effluent limits are protective for all

[147] Permit, pp. F-23 to F-27.

[148] Permit, p. F-24, Table F-6.

[149] Permit, p. F-26, Table F-7.

[150] Permit, p. F-27, Table F-8.

hardness-based water quality criteria that may occur downstream. If the EID Final Statement of Decision were interpreted and applied narrowly such that only ambient receiving water hardness downstream of the discharge were used, after full mixing, the resulting effluent limits may not be protective for all flow conditions. Specifically, using hardness after full mixing fails to protect the receiving water from the point of discharge to the point where full mixing does occur. This approach would be inconsistent with the CTR, which requires that the hardness values used be consistent with the design discharge conditions of the receiving water.[151] Further, the CTR states that, "[f]or all waters with mixing zone regulations or implementing procedures, the criteria apply at appropriate locations within or at the boundary of the mixing zones; otherwise the criteria apply throughout the water body including at the point of discharge into the water body."[152] Although the SRWTP's Permit includes mixing zones for some constituents, the Regional Board declined to grant a mixing zone and associated dilution credits for copper, the only metal with reasonable potential.[153] Thus, based on the CTR and the permitting approach used by the Regional Board, the copper criterion applies (and therefore must be calculated) at the point of discharge as well.

CSPA's Petition fails to identify any evidence that indicates the curve method is *not* protective of all flow conditions. Instead, CSPA references a biological opinion issued by the U.S. Fish and Wildlife Service and National Marine Fisheries Service (collectively, Services) in connection with the promulgation of the CTR.[154] While the biological opinion reflects the analysis and opinion of the Services at the time of its issuance, it is not evidence of what U.S. EPA intended with the promulgation of the CTR. To the contrary, CSPA provides no evidence that U.S. EPA changed the CTR with respect to hardness in response to any statement contained in the biological opinion.[155] Further, CSPA faults the Regional Board for not

[151] 40 Code of Federal Regulations section 131.38(c)(4)(ii).

[152] 40 Code of Federal Regulations section 131.38(c)(2)(i).

[153] Permit, pp. F-41, F-65.

[154] CSPA Petition, pp. 29-31. The biological opinion is not properly within the administrative record. However, to the extent that the State Board may take official notice of the biological opinion, SRCSD addresses it here.

[155] See 65 Federal Register 31682, 31705, 31709 (May 18, 2000).

addressing the biological opinion issued by the Services. The Regional Board is required to comply with the SIP, the CTR, and relevant administrative and judicial orders, which it has. There is no requirement for the Regional Board "to address" the biological opinion of the Services. Rather, the opinion relates only to U.S. EPA's action when it promulgated the CTR in the year 2000, and U.S. EPA was obliged to take the opinion into consideration prior to adopting the CTR.[156]

CSPA also argues that the Permit identifies an inappropriate lowest, upstream ambient hardness value. Based on data from June 2005 to July 2008, the Permit identified a range of upstream ambient hardness values from 26 mg/L to 100 mg/L. The minimum observed upstream receiving water hardness value of 26 mg/L was then used to calculate the CTR criteria for comparing the maximum background ambient concentration.[157] Objecting to the hardness value of 26 mg/L, CSPA identifies a hardness value of 19 mg/L that was measured on January 6, 1997, as the appropriate lowest hardness value to be used for calculating criteria. CSPA's approach would suggest that the lowest hardness value ever reported should be used. Such an approach is inconsistent with the SIP, and fails to recognize the Regional Board's discretion. The SIP states that the Regional Board "shall ensure that criteria/objectives are properly adjusted for hardness . . . using the hardness . . . for the receiving water . . . ."[158] The SIP also states that the Regional Board has the discretion to consider if any data are inappropriate.[159] Here, the Regional Board determined that the appropriate range of data was from June 2005 to July 2008, the same period used for effluent water quality.[160] Using this data set, the Regional Board then selected the lowest upstream ambient hardness value of 26 mg/L. With respect to its advocated value of 19 mg/L, CSPA fails to include other relevant information related to the one day that value was measured.

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[156] See 50 Code of Federal Regulations section 402.15(a) (after receipt of a biological opinion, federal action agency notifies services of how it intends to proceed); see also Staff Response to Comments, p. 146; see also 65 Federal Register 31709 (May 18, 2000).

[157] Permit, p. F-21.

[158] SIP, p. 5.

[159] SIP, p. 5; see also Davis Order, p. 10 ("regional water boards have considerable discretion in the selection of hardness").

[160] Permit, pp. F-21, F-65.

Most importantly, the value advocated by CSPA was measured on one day where the Sacramento River was flowing at over 93,000 cubic feet per second (cfs),[161] which was an extremely high flow event. In contrast, typical flows in the Sacramento River range from 10,000 cfs to 70,000 cfs.[162] Selecting an ambient upstream hardness value from such high flow conditions is inconsistent with the State Board's direction with respect to hardness selection. The State Board has previously advised as follows: "Because high flow conditions may deviate from the design flow conditions for selection of hardness as specified in the CTR, it may not be necessary, in some circumstances, to select the lowest hardness values from high flow or storm event conditions."[163]

Accordingly, the Regional Board properly used its discretion to select appropriate hardness values and CSPA's claims must be dismissed.

H. Copper Criteria

CSPA argues that the Regional Board should have used the Biotic Ligand Model (BLM) to calculate water quality criteria for copper.[164] The BLM is a relatively new method for quantifying copper toxicity and is included in U.S. EPA's updated, recommended aquatic life criteria for copper (2007). The CTR provides the applicable water quality criteria for the Sacramento River. The BLM approach is *not* included in the CTR, or in the Basin Plan. To legally use the BLM to adjust water quality criteria for calculating WQBELs, the Regional Board would need to amend the Basin Plan, or U.S. EPA would need to amend the CTR.[165] Unless such amendments occur, the Regional Board cannot use the BLM by itself to adjust water quality criteria for copper. Thus, CSPA's claim has no merit.

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[161] Pursuant to section 648.2 of Title 23 of the California Code of Regulations, the District requests that the State Board take official notice of the flow data from the U.S.G.S. database for January 6, 1997. See http://waterdata.usgs.gov/ca/nwis/dv?cb_all_00010_00060_80154_80155_72137=on&cb_00060=on&cb_72137=on&format=html&begin_date=1997-01-06&end_date=1997-01-06&site_no=11447650&referred_module=sw (as of May 3, 2011).

[162] Permit, p. F-31.

[163] Davis Order, p. 11.

[164] CSPA Petition, pp. 33-34.

[165] See Staff Response to Comments, p. 147.

I. Copper Effluent Limitations

CSPA argues that the effluent limitations for copper violate state and federal policy because they were *not* calculated from the lowest observed ambient hardness of 26 mg/L.[166] As already thoroughly addressed in subsection G above, the SIP and the CTR do not mandate that only the lowest observed ambient hardness may be used to calculate CTR hardness-dependent metals criteria. Although the District contends that the Regional Board should have used the District's dynamic model for copper,[167] the approach used by the Regional Board to evaluate reasonable potential and calculate effluent limits considers and uses ambient hardness for all flow conditions, and is fully protective of the receiving water. CSPA's claim should be dismissed.

J. Lead

CSPA objects to the Regional Board's finding that there is no reasonable potential for lead. CSPA's objection is again based on the argument that the Regional Board should only use worst-case ambient upstream hardness to calculate CTR metals criteria. CSPA further argues that the Regional Board improperly used effluent hardness in its RPA. However, as explained thoroughly in subsection G above, the Regional Board used reasonable worst-case downstream hardness and reasonable worst-case upstream hardness to calculate water quality criteria for the RPA.[168] Based on the Regional Board's approach, the maximum effluent concentration (1.19 µg/L) was below the criterion calculated from the reasonable worst-case downstream hardness value, which would be 100% effluent at the immediate point of discharge.[169] Likewise, the maximum observed upstream total lead concentration (0.12 µg/L) was below the criterion calculated from the reasonable worst-case upstream hardness value of 26 µg/L. Because the lead concentrations in the effluent and the ambient upstream receiving water were both below the relevant, applicable criteria, the Regional Board properly determined that there was no reasonable potential. CSPA's claim should be dismissed accordingly.

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[166] CSPA Petition, p. 34.

[167] District's October 2010 Comments and Evidence Letter, pp. 97-98, 168-170.

[168] Permit, pp. F-21, F-51.

[169] Permit, p. F-51.

K. Zinc

As with lead, CSPA objects to the Regional Board's finding of no reasonable potential for zinc.[170] To reach this conclusion, CSPA must also argue that a hardness value of 19 mg/L must be used to calculate upstream ambient hardness. Otherwise, at a hardness value of 26 mg/L, the resulting acute and chronic criteria are both equal to 38 µg/L,[171] which is above the MEC of 33.5 µg/L for zinc. Because the MEC is below the criteria, there is no reasonable potential and effluent limitations are not required. As explained previously,[172] the hardness value of 19 mg/L was properly excluded by the Regional Board because it was outside the appropriate data range used by the Regional Board, and because it was taken during an extreme flow condition that does not represent typical or design flow conditions. CSPA's claim should be dismissed.

L. Additive Toxicity

CSPA offers various arguments with respect to additive toxicity.[173] Here, CSPA argues that the Regional Board has violated the Basin Plan,[174] referring to Basin Plan language that is contained in the Implementation Plan Chapter.[175] CSPA states that the Regional Board is required to use the additive toxicity formula contained in the Basin Plan for NPDES permit development, which requires the concentration of each toxic substance to be divided by its toxicological limit. The resulting ratios are then to be added for substances having similar toxicologic effects (e.g., metals). If the sum of the ratios is less than one, an additive toxicity problem is assumed to not exist pursuant to the Basin Plan.[176] CSPA's Petition mischaracterizes the Basin Plan language.

First, the additive toxicity language in the Basin Plan is not an adopted water quality objective. As indicated, it is fully contained in the implementation chapter and is part of the

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[170] CSPA Petition, p. 36-37.

[171] Permit, p. F-52.

[172] See section G, *ante*.

[173] CSPA Petition, p. 37-38, 66-67, 85; see also sections R.11 and V.1, *post*.

[174] CSPA Petition, pp. 37-38.

[175] CSPA Petition, pp. 37-38.

[176] CSPA Petition, p. 38 ("Basin Plan . . . clearly requires that additive toxicity be evaluated by the methodology prescribed.").

Regional Board's *Policy for Application of Water Quality Objectives*, which sets forth the Regional Board's process for interpreting narrative water quality objectives.[177] The Basin Plan states that on a "case-by-case basis," the Regional Board will evaluate available effluent and receiving water data to determine if there is reasonable potential for additive toxicity.[178] While the Regional Board staff identified that in general there is potential for additive toxicity, there were insufficient data available to actually determine if effluent discharged from the SRWTP exhibits additive toxicity.[179] Instead, it relied on pollutant specific WQBELs and whole effluent toxicity (WET) testing in developing the proposed permit.[180] In other words, the Regional Board considered additive toxicity on a case-by-case basis—consistent with the Basin Plan.

Second, the Basin Plan states that the "formula will be used to assist the Regional Water Board in making determinations."[181] The Basin Plan language does not mandate or require the Regional Board to use the formula for making permit determinations with respect to additive toxicity. Further, the Basin Plan language clearly indicates that at the time of its adoption, the use of additive toxicity for permitting purposes was still an open question. "For permitting purposes, it is important to clearly define how compliance with the narrative toxicity objectives will be measured. Staff is currently working with the State Water Board to develop guidance on this issue."[182] No further guidance currently exists on the issue of additive toxicity and its use in permitting decisions.

Next, evidence in the record indicates that the actual trace metal levels in the Sacramento River are not expected to cause additive toxicity.[183] As part of its EIR that was submitted with the Report of Waste Discharge, the District evaluated potential impacts that might be caused by

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[177] Basin Plan, p. IV-16.00 - 18.00.

[178] Basin Plan, p. IV-17.00.

[179] Staff Response to Comments, p. 148.

[180] Staff Response to Comments, pp. 148-149.

[181] Basin Plan, p. IV-18.00.

[182] Basin Plan, p. IV-18.00.

[183] See Draft Environmental Impact Report for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant 2020 Master Plan (Aug. 2003), Attachment J. This text of the Draft EIR became part of the final EIR.

additive toxicity.[184] Based on studies and available literature, the District found that acute toxicity of trace metals mixtures may be higher than toxicity of individual metals when the concentrations are *significantly elevated*.[185] For example, increased acute toxicity was observed for mixtures of copper, cadmium and zinc where the concentrations were at least 50 times greater than the maximum concentrations for these metals in the Sacramento River. Thus, although trace metals may exhibit additive toxicity, the actual concentrations of trace metals in the Sacramento River are significantly lower than at levels where additive toxicity is expected to occur.[186]

Thus, the Regional Board has not violated the Basin Plan and CSPA's claim should be dismissed.

M. Reasonable Potential Calculation and Statistical Multipliers

CSPA objects to the Regional Board's RPA because it fails to consider statistical variability of data and analyses.[187] However, the fundamental objection articulated by CSPA goes to the procedures established in the SIP.[188] CSPA's allegations are related to the SIP itself, not the action of the Regional Board in applying the SIP. Challenges to the SIP are not proper subjects of a petition under Water Code section 13320.

For priority toxic pollutants identified in the CTR, the National Toxics Rule (40 C.F.R. § 131.36) (NTR), and the Basin Plan, the Regional Board is required to follow the procedures in the SIP.[189] For non-priority toxic pollutants, the Regional Board has the discretion to use the procedures outlined in the SIP or to use another procedure, such as the RPA procedures established in U.S. EPA's TSD.[190] CSPA claims that the Regional Board has violated federal law

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[184] See Draft Environmental Impact Report for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant 2020 Master Plan (Aug. 2003), Attachment J.

[185] See Draft Environmental Impact Report for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant 2020 Master Plan (Aug. 2003), Attachment J.

[186] See Draft Environmental Impact Report for the Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant 2020 Master Plan (Aug. 2003), Attachment J.

[187] CSPA Petition, p. 38.

[188] CSPA Petition, p. 39.

[189] SIP, p. 3; see also, e.g., *In the Matter of the Petition of Yuba City*, State Board Order WQO 2004-0013 (July 22, 2004) (Yuba City Order), p. 6.

[190] Yuba City Order, p. 6.

by using the SIP's RPA procedures because such procedures are inconsistent with applicable federal regulations.[191] Specifically, CSPA argues that the SIP fails to "use procedures which account for . . . the variability of the pollutant or pollutant parameter in the effluent."[192]

CSPA's claims must be dismissed because (1) the Regional Board has properly followed the SIP as it is required to do, or has the express discretion to do, and (2) because the SIP is not inconsistent with federal regulatory requirements. First, as indicated above, the Regional Board is required to comply with the SIP for priority toxic pollutants, and may use the SIP for non-priority toxic pollutants. Any challenge to the SIP itself is a quasi-legislative challenge that CSPA would need to bring directly against the State Board. Such a challenge is improper here with respect to the Regional Board's application of the SIP, which has been occurring for over a decade.

Second, in determining what is a proper procedure for accounting for pollutant variability, CSPA refers to U.S. EPA's TSD, a non-binding, guidance document, to argue that a statistical analysis is required to be used.[193] The federal regulations do not provide specificity as to how a permitting entity is required to account for the variability of the pollutant, and do not require a statistical analysis.[194] The SIP requires regional boards to identify all relevant and representative effluent data, and to then select the observed maximum pollutant concentration for the effluent.[195] While this process may not include a statistical analysis, it does require the regional boards to account for variability by evaluating all relevant and representative effluent data. Thus, the SIP is consistent with federal regulatory requirements. Furthermore, the SIP was approved by the U.S. EPA as a proper procedure for determining reasonable potential and calculating effluent limitations. If U.S. EPA had not considered the SIP to be consistent with federal regulations, it would not have approved the SIP.

Accordingly, CSPA's objections are improper and should be dismissed.

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[191] CSPA Petition, p. 39.

[192] 40 Code of Federal Regulations section 122.44(d)(1)(ii).

[193] CSPA Petition, p. 39.

[194] See 40 Code of Federal Regulations section 122.44(d)(1)(ii).

[195] SIP, p. 6.

N. Compliance Time Schedules

CSPA objects to compliance schedules in the Permit for certain new effluent limitations.[196] CSPA's objections are based on errors of fact, errors of law, and disregard of actual evidence.

CSPA argues that the Permit allows ten years for compliance with effluent limitations for chlorpyrifos.[197] This is not true. There is no compliance schedule in the Permit for chlorpyrifos.

CSPA argues that compliance schedules for WQBELs based on the NTR and CTR are improper.[198] But the Permit *has no* compliance schedules for NTR or CTR constituents.

CSPA also appears to argue that in-Permit compliance schedules are never permissible.[199] If so, this is plainly wrong. The Regional Board has the authority to establish compliance schedules in permits of up to ten years for WQBELs based on new[200] water quality objectives or newly interpreted narrative water quality objectives.[201] The Permit recognizes this authority.[202] The Permit compliance schedules are related to new interpretation of the Basin Plan narrative toxicity objective or new water quality objectives applied in the Permit.[203] CSPA does not dispute

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[196] CSPA Petition, p. 43.

[197] CSPA Petition, p. 39.

[198] CSPA Petition, pp. 39-42.

[199] CSPA Petition, pp. 40-42.

[200] CSPA cites various federal cases to support its argument that permits may not allow compliance schedules beyond the date of July 1, 1977, as stated in section 301(b)(1)(C) of the CWA. None of these authorities relate to water quality standards, or interpretation of narrative standards, adopted after 1977.

[201] Basin Plan, p. III-2.00; SWRCB Resolution No. 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination Permits* (April 15, 2008); *Communities for a Better Environment v. State Water Resources Control Board* (2005) 132 Cal.App.4th 1313, 1334-1335; see also *In the Matter of the Petitions of Napa Sanitation District, et al.*, Order WQO 2001-16 (Dec. 5, 2001), p. 15.

[202] Permit, section II.K, pp. 9-10.

[203] "Newly interpreted water quality objective or criterion in a water quality standard" means a narrative water quality objective or criterion that, when interpreted during NPDES permit development (using appropriate scientific information and consistent with state and federal law) to determine the permit limitations necessary to implement the objective, results in a numeric permit limitation more stringent than the limit in the prior NPDES permit issued to the discharger. (SWRCB Resolution No. 2008-0025, ¶ 1(e), p 3.)

New effluent limitations that are the subject of in-Permit compliance schedules include limitations that are based on the newly interpreted Basin Plan narrative water quality objective. (See, e.g., Permit, pp. F-54 to F-58, F-102.) While the Permit suggests that the new effluent limitations for total coliform, turbidity, and total suspended solids relate to new interpretations of a narrative water quality objective, SRCSD believes these new limitations are appropriately characterized as being based on a water quality objective adopted on a case-by-case basis in connection

that the conditions necessary to receive a compliance schedule were established.[204]

Finally, CSPA objects to the duration of the compliance schedules, citing the Basin Plan provision which prescribes that compliance schedules will require compliance in the "shortest practicable" period of time.[205] However, CSPA provides no evidence that the allowed schedules are inappropriate. CSPA merely contends, "[b]ased on our routine review of NPDES permits from the Central Valley Region it is typical that a 5-year compliance schedule is granted for planning, design and construction of tertiary wastewater treatment systems."[206] Regardless of whether CSPA is correct as to what is "typical" in the Central Valley region, a schedule of five years is not required; nor is there a uniform practice. Schedules are appropriately determined on a case-by-case basis.[207]

In this instance, the necessary compliance project or projects would be an extraordinary undertaking. SRCSD, once aware of the potential that new requirements were to be proposed, provided *evidence* justifying the requested time schedules.[208] CSPA has not refuted this evidence at all, or even acknowledged it. CSPA thus lacks any basis to challenge the specific schedules established in the Permit.

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with adoption of the Permit. (See Permit, pp. F-79 to F-80; Memorandum dated January 4, 1994, to Regional Water Board Executive Officers, from William R. Attwater, Chief Counsel of the State Board, re: Guidance on Consideration of Economics in the Adoption of Water Quality Objectives (Attwater Memorandum); *In the Matter of the Petition of City and County of San Francisco, et al.*, State Board Order No. WQ 95-4 (Sept. 21, 1995), p. 13; see also *In the Matter of the Petitions of Napa Sanitation District, et al.*, State Board Order WQ 2001-16 (Dec. 5, 2001), p. 24; *In the Matter of the Petition of the Cities of Palo Alto, Sunnyvale and San Jose*, State Board Order No. WQ 94-8 (Sept. 22, 1994), p. 11; *In the Matter of the Review on Own Motion of Waste Discharge Requirements Order No. 5-01-044 for Vacaville's Easterly Wastewater Treatment Plant*, State Board Order WQO 2002-0015 (Oct. 3, 2002), p. 35.)

[204] See, e.g., Permit, pp. F-117 to F-118 and F-102 to F-103.

[205] Basin Plan, p. III-2.00; CSPA Petition, pp. 39, 43.

[206] CSPA Petition, p. 40.

[207] See, e.g., Order No. R5-2008-0055, section VI.C.7, pp. 32-33 (seven year schedule for City of Vacaville seasonal filtration requirements); Order No. R5-2007-0132, section C.7, p. 36 (eight year schedule for City of Davis); Order No. R5-2007-0132-01 (extending compliance schedule for Davis to ten years after initial date of permit adoption); *cf.* Water Code section 13385(j)(2)(C)(ii) (authorizing schedules up to ten years in enforcement orders providing mandatory minimum penalty protection).

[208] See Written Testimony/Comments of Robert Williams, HDR Engineering, Inc., on Estimated Schedules for Planning, Designing, and Building Six Different Wastewater Treatment Scenarios for the Sacramento Regional Wastewater Treatment Plant; see also "Sacramento Regional Wastewater Treatment Plant Infeasibility Analysis and Compliance Schedule Justifications," Larry Walker Associates (August 2010), Attachment A ("Initial Compliance Schedules for Various Treatment Scenarios") (HDR 2010).

O. Effluent Limitation for EC

CSPA adopts a "kitchen sink" approach (i.e., everything but the kitchen sink) to argue against the Permit effluent limitation for EC, which is 900 μmhos/cm as an annual average.[209] However, the crux of CSPA's argument is that CSPA objects to the RPA approach taken by the Regional Board for EC.[210] CSPA repeats this same argument again under CSPA's mixing zone section.[211] Because CSPA's argument is directly related to whether or not the Regional Board used a mixing zone for EC, responses to most of CSPA's argument for EC are discussed in section R, *post*. CSPA's other concerns are addressed here.

Primarily, CSPA claims that the EC effluent limitation fails to protect all of the applicable beneficial uses.[212] To reach its conclusion, CSPA argues that the Regional Board should have used statistical multipliers, or at the very least the SIP procedures, to calculate reasonable potential.[213] As already discussed in section M, *ante*, the federal regulation requires that the Regional Board evaluate the variability of the pollutant—but it does not require that statistical multipliers must be used.[214] Further, with respect to EC, the Regional Board did use a statistical approach as recommended in U.S. EPA's TSD.[215] After determining the MEC using the TSD's statistical procedures, the Regional Board used that information to calculate the critical downstream receiving water concentration.[216] From there, the Regional Board compared the critical downstream receiving water concentration to all applicable water quality objectives.[217] For EC, the maximum instream concentration as calculated by the Regional Board is

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[209] CSPA Petition, pp. 43-47.

[210] CSPA Petition, p. 46.

[211] CSPA Petition, pp. 62-63.

[212] CSPA Petition, p. 46.

[213] CSPA Petition, p. 47.

[214] 40 Code of Federal Regulations section 122.44(d)(1)(ii).

[215] Permit, p. F-50 ("The critical effluent pollutant concentration, C_d, was determined using statistics recommended in the TSD for statistically calculating the projected maximum effluent concentration (MEC) (i.e., Table 3-1 of the TSD using the 99% probability basis and 99% confidence level).)".

[216] Permit, p. F-49.

[217] Permit, p. F-50.

283 µmhos/cm, which is less than all of the applicable water quality objectives (including those identified by CSPA).[218] Because the maximum instream concentration was less than applicable water quality objectives, the Regional Board made a finding that there was no reasonable potential, and therefore WQBELs for EC were not required.[219]

CSPA's chief concern is that the Regional Board did not compare the MEC as derived from statistical procedures or the procedure set forth in the SIP to the applicable water quality objectives to determine reasonable potential. As discussed in further detail in section R, *post*, the Regional Board's approach to EC in this Permit, as well as the other salinity parameters, is well within accepted practices, and is consistent with State Board direction. The State Board has clearly stated that the Regional Board has the discretion to use any appropriate methodology, as long as the Regional Board clearly explains in the Fact Sheet the methodology used.[220] The Regional Board explained itself in the Fact Sheet, and, therefore, the Regional Board's approach for determining EC was lawful and appropriate. Accordingly, CSPA's claim should be dismissed.

P. Effluent Limitation for TDS

CSPA's objections and arguments with respect to TDS are identical to those for EC. Thus, the responses provided in section O, *ante*, and section R, *post*, are applicable to TDS, and it is not necessary to repeat those responses here. As with EC, the Regional Board found there to be no reasonable potential for TDS because the maximum TDS instream concentration of 192 mg/L is less than all applicable water quality objectives.[221]

However, unlike with EC, the Regional Board did not include a performance-based effluent limitation for TDS.[222] Although it is unclear, CSPA appears to imply that the Regional Board's inclusion of a performance-based effluent limitation for EC was not enough and that a

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[218] Permit, p. F-50.

[219] Permit, p. F-49.

[220] *In the Matter of Own Motion Review of Waste Discharge Requirements for the University of California, Davis*, Order WQ 2010-0005 (March 16, 2010), pp. 5, 7.

[221] Permit, pp. F-50 to F-51.

[222] Permit, p. F-51.

limitation for TDS should have also been included.[223] CSPA provides no evidence to support its claim. Further, for both measurements of salinity, there was no reasonable potential and WQBELs for EC and TDS are not required.[224] The Regional Board's regulation of EC was specifically stated to prevent the District from having an increased salt loading to the Delta considering present concerns.[225] There is no reasonable potential for TDS, and no effluent limitation is required. CSPA's claim must be dismissed.

Q. Title 27

CSPA objects to the Regional Boards findings with respect to the Emergency Storage Basins (ESBs) at the SRWTP. Specifically, CSPA argues that several of the ESBs fail to meet the pre-conditions necessary for exemption under Title 27 of the California Code of Regulations. CSPA's argument is erroneous because it mischaracterizes the exemptions under Title 27.

Title 27 consists of land disposal regulations issued by the State Board and (formally) the Integrated Waste Management Board. Title 27 includes several exemptions, including one for sewage treatment plants. Some of the exemptions are subject to preconditions, and others are not. At issue here is the language for sewage treatment plants, which states as follows:

> The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all of the preconditions listed: (a) **Sewage** - Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants . . . .[226]

The State Board has recently addressed this issue, and has clarified the sewage treatment plant exemption language to mean the following: "The sewage treatment plant exemption is included in the Title 27 sewage exemption, which covers both (1) discharges of domestic sewage and treated effluent and (2) treatment or storage facilities associated with municipal wastewater treatment plants. The second category implements the sewage treatment plant exemption and has

[223] CSPA Petition, p. 48 ("There is no evidence in the Permit regarding the consistency of an EC to TDS relationship; therefore regulating EC may not adequately control TDS.").

[224] Permit, p. F-51.

[225] Permit, p. F-51.

[226] California Code of Regulations, title 27, section 20090(a).

no preconditions. The first [category] . . . is subject to preconditions. The principal precondition is that the discharge must be in compliance with the applicable basin plan."[227] The State Board further clarified with respect to its promulgation of Title 27, "[t]he State Water Board intended to include within the sewage treatment plant exemption treatment and storage facilities 'associated with municipal wastewater treatment.' "[228]

The SRWTP facility includes five ESBs identified as ESB-A through ESB-E that serve different functions for the SRWTP facility.[229] The Regional Board evaluated the function of each ESB to determine if it was exempt from Title 27 of the California Code of Regulations.[230] For example, ESB-A stores primary influent and effluent when necessary to maintain equipment, and during large storm events to avoid exceeding the hydraulic capacity of the SRWTP.[231] ESBs B and C are hydraulically connected to ESB-A and receive overflow from ESB-A. Influent and effluent stored in ESB-A as well as ESBs B and C when used, are returned to the SRWTP headworks for re-treatment prior to discharge to the Sacramento River.[232]

Based on its evaluation, and consistent with the direction provided by the State Board in the Lodi Order, the Regional Board found that ESBs A, B, and C are exempt from Title 27 because the "basins are integral to protecting the SRWTP treatment processes from washing out due to peak wet weather flows or for storage of diverted flow. . . ."[233] In other words, ESB-A, ESB-B, and ESB-C are part of and associated with the municipal wastewater treatment, and therefore are exempt from Title 27 with no preconditions.

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[227] *In the Matter of Own Motion Review City of Lodi Wastewater Discharge Requirements and Master Reclamation Permit*, Order WQ 2009-0005 (Lodi Order), p. 8, emphasis added.

[228] Lodi Order, p. 9.

[229] Permit, p. F-14; see also Memorandum to Kenneth Landau from Theresa A. Dunham, "Application of Title 27 to Facilities at the Sacramento Regional Wastewater Treatment Plant" (Jan. 24, 2010) (Title 27 Memorandum), pp. 3-5.

[230] Permit, p. F-14; Staff Response to Comments, p. 151.

[231] Title 27 Memorandum, p. 3, and Memorandum to Robert Seyfried from Vyomini Pandya, "Operations of SRWTP emergency storage basins" (Jan. 25, 2010), attached to Title 27 Memorandum.

[232] Title 27 Memorandum, p. 3.

[233] Permit, p. F-14; Staff Response to Comments, p. 151.

ESB-D is used to store chlorinated effluent for various purposes, and chlorinated effluent from ESB-D is returned to the SRWTP for dechlorination prior to discharge.[234] ESB-D is also lined and therefore provides a minimal threat to groundwater quality. The Regional Board found ESB-D to be exempt from Title 27. However, the Regional Board did not specify if the finding of exemption was because it met the preconditions associated with category (1), or because it is associated with "municipal wastewater treatment." Regardless, the distinction between which category was used for ESB-D is irrelevant because ESB-D is exempt under both categories.[235] ESB-E is used as part of the surge relief mechanism, and is designed to relieve water hammer effects in the influent conduit.[236] Accordingly, the ESB is associated with municipal wastewater treatment and is subject to exemption from Title 27 with no preconditions.

Ignoring the Regional Board's findings as well as the State Board's findings in the Lodi Order, CSPA broadly claims that no exemption from Title 27 can be granted for ESB-B, ESB-C, and ESB-E because they must first meet the preconditions established in category (1).[237] CSPA provides no analysis or evidence to support its claims that ESB-B, ESB-C, and ESB-E must meet the preconditions of Title 27.[238] CSPA's position is not supported by the language of Title 27, or the State Board's interpretation thereof. Thus, CSPA's claims with respect to Title 27 must be dismissed.

R. Mixing Zones[239]

In general, CSPA claims that the Permit's inclusion of mixing zones, and by extension dilution credits for various constituents, was unlawful and violated state and federal law and

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[234] Permit, p. F-14; see also Title 27 Memorandum, p. 5.

[235] Permit, p. F-14; Title 27 Memorandum, p. 5.

[236] Permit, p. F-14.

[237] CSPA Petition, pp. 51-52.

[238] CSPA Petition, p. 52 ("A waiver from Title 27 requirements cannot be granted if the wastewater treatment system, or any of its individual parts, cannot be shown to maintain compliance with water quality standards.").

[239] In its separate Petition, the District challenges the Regional Board's denial of a mixing zone for acute aquatic life criteria, as well as its denial of dilution credits for ammonia and nitrate. The District does not concede that such denials are appropriate, but responds to CSPA's claims in order to explain that for those mixing zones and dilution credits that were granted, such Regional Board action was appropriate and consistent with state and federal policies.

policies.[240] CSPA's arguments range from claiming that the CWA does not allow for mixing zones to allegations that the Regional Board failed to consider a number of issues, including, for example, impacts to irrigated agriculture, fish passage, and additive toxicity.[241] For the reasons expressed below, CSPA's claims have no merit.

1. The Allowance of Mixing Zones Is Consistent With the CWA

As an initial matter, CSPA appears to argue that mixing zones are not authorized by the CWA. However, U.S. EPA's acceptance of mixing zones as evidenced by federal regulations, and numerous guidance documents published discussing how such mixing zones should be established demonstrate otherwise. Specifically, U.S. EPA recognizes that mixing zones may be a part of a state's water quality standards program.[242] As part of its TSD, U.S. EPA provides substantial guidance with respect to the establishment of mixing zones.[243] Further, and as suggested by CSPA, there is no federal jurisprudence to the effect that the CWA prohibits the use of mixing zones in setting WQBELs in NPDES permits. Moreover, U.S. EPA's long-standing interpretation that the CWA does allow for the use of mixing zones would be given significant deference in any legal challenge, and it is unlikely that a federal court would find U.S. EPA's interpretation unlawful.[244]

In California, mixing zones are part of the state's water quality standards through the SIP as well as the Basin Plan.[245] Both were subject to and obtained U.S. EPA approval. Further, the State Board has recognized and upheld the inclusion of mixing zones and dilution credits in NPDES permits for a number of years.[246]

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[240] CSPA Petition, pp. 52-67.

[241] CSPA Petition, pp. 52-67.

[242] 40 Code of Federal Regulations section 131.13 ("States may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones . . . .").

[243] TSD, pp. 33-34, 69-89; see also U.S. EPA Region VIII *Mixing Zones and Dilution Policy* (Dec. 1994; Updated Sept. 1995).

[244] See, e.g., *Chevron v. Natural Resources Defense Council* (1984) 467 U.S. 837.

[245] SIP, pp. 15-18; Basin Plan, p. IV-16.00.

[246] See, e.g., Yuba City Order p. 11.

Considering U.S. EPA's long-standing interpretation and the State Board's long-standing acceptance of the use of mixing zones, the State Board should summarily reject CSPA's claim that mixing zones are not authorized by the CWA.

2. The Regional Board Is Not Required to Make a Finding That a Mixing Zone Is to the Maximum Benefit To the People of the State

Although not clearly stated, CSPA appears to allege that the Regional Board was required to make, and failed to make, a requisite finding with respect to complying with the state's antidegradation policy[247] when allowing mixing zones. CSPA's claim should be dismissed because antidegradation policies are not applicable here. But even if the policies are applicable, the Regional Board considered the antidegradation policies when adopting the Permit.

First, application of the antidegradation policy is triggered when a regional or state board action will lower existing high quality water.[248] Before approving any reduction in water quality, or any activity that would result in a reduction in water quality, "the Regional Board must first determine that the change in water quality would not be in violation of State Board Resolution No. 68-16 or the federal antidegradation policy."[249] This includes consideration of changes that have already occurred *if they have not previously been reviewed for consistency with those policies*.[250]

Further, State Board guidance clarifies that the policy does not require "antidegradation" analysis when existing water quality will not be reduced by the proposed action.[251] Existing water quality includes water quality *already permitted or authorized*, even if the permitted degradation has yet to occur.[252]

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[247] State Board Resolution No. 68-16.

[248] *In the Matter of Petitions of the County of Santa Clara, et al.*, Order No. WQ 86-8 (May 5, 1986) (Resolution No. 68-16 "sets forth the circumstances under which *change* to existing high quality water will be allowed"), p. 28, emphasis added; see also SRCSD Petition, pp. 133-134.

[249] *In the Matter of the Petition of Rimmon C. Fay*, Order No. WQ 86-17 (Nov. 20, 1986), p. 17.

[250] *In the Matter of Petitions for Reconsideration of Water Quality Certification for the Re-operation of Pyramid Dam, etc.*, Order WQ 2009-0007 (Aug. 4, 2009), p. 12.

[251] Antidegradation Policy Implementation for NPDES Permitting, Administrative Procedures Update 90-004 (APU 90-004), p. 2.

[252] APU 90-004, p. 4; see also SRCSD Petition, pp. 133-134.

With respect to the federal antidegradation policy, "[t]he first step in any antidegradation analysis is to determine whether or not the proposed action will lower water quality . . . . If the action will not lower water quality, no further analysis is needed and EPA considers 40 CFR 131.12 to be satisfied."[253] State guidance confirms this approach: "The three-part test set forth in the federal antidegradation policy is triggered by reduction in surface water quality. The first-step in analyzing the requirements of the federal antidegradation policy as applied to a particular activity is to determine if the activity will lower surface water quality; only if there is reduction in water quality must the three-part test be applied to determine if the activity may be permitted."[254]

Antidegradation analyses were completed in the past, prior to the original granting of the 181 mgd discharge capacity.[255] The Permit, and the allowance of mixing zones specifically, does not allow for an increase in flow or mass for any constituent of concern, except cyanide.[256] Because compliance with the policies was previously considered, and the allowance of mixing zones does not allow for a reduction in water quality, the requirement of an antidegradation analysis under the state and federal antidegradation policies has not been triggered.[257]

Second, even if such policies were triggered, the Regional Board considered and applied antidegradation to the Permit, including the allowance of mixing zones.[258] Although the District disagrees with the Regional Board's findings as to what properly constitutes best practical treatment or control (BPTC) for the SRWTP, it is underniable that the Regional Board considered

[253] Guidance on Implementing the Antidegradation Provisions of 40 Code of Federal Regulations section 131.12 (June 3, 1987), p. 4.

[254] Memorandum to Regional Board Executive Officers from William R. Attwater, Chief Counsel, Federal Antidegradation Policy (Oct. 7, 1987) (Attwater Memo re: Federal Antidegradation Policy), p. 3. It is unlawful for the Regional Board to apply or use a policy as a basis of regulation unless the policy has first been proposed, adopted, and approved in accordance with the Administrative Procedures Act (APA). (Gov. Code, § 11340.5.) The antidegradation policies have not been adopted to require analysis for an existing discharge, and application for that purpose would require compliance with the APA.

[255] Permit, p. F-93.

[256] Permit, p. F-93. With respect to cyanide, the District performed and submitted a dynamic model, which represents a more accurate picture of mixing zone concentration and therefore supports adoption of the specific Permit limit. (Permit, pp. F-41 to F-42.) The District also provided an antidegradation analysis which considered the impacts of increased cyanide discharges at 181 and 218 mgd. That analysis determined that the minor incremental change in cyanide, even at 218 mgd, was consistent with state and federal antidegradation policies.

[257] See SRCSD Petition, pp. 133-135.

[258] See Permit, pp. F-93 to F-98.

BPTC in its adoption of the Permit.[259] Thus, the Regional Board considered antidegradation policies in its adoption of the Permit.

3. The Allowance of Mixing Zones Is Not Contrary to the California Constitution

CSPA claims that mixing zones do not serve beneficial uses of water and therefore the allowance thereof is contrary to the California Constitution, article X, section 2.[260] CSPA misconstrues application of the California Constitution and its claim here must be dismissed.

Article X, Water, section 2 of the California Constitution generally requires that water resources of the state be put to beneficial use "to the fullest extent of which they are capable." Further, article X limits the scope of water rights to reasonable beneficial use.[261] It is not designed or intended to control the regulation of discharges to protect water quality. California's water quality laws are contained exclusively in Porter-Cologne. Porter-Cologne recognizes and allows for mixing zones in the issuance of waste discharge requirements.[262] Further, as indicated previously, the state has included mixing zones in its water quality standards, which have been approved by U.S. EPA. Thus, there is nothing in the California Constitution that prohibits the allowance of mixing zones in state waste discharge requirements (including NPDES permits). Accordingly, CSPA's claim should be dismissed.

4. The Mixing Zone for Chronic Toxicity Is Appropriate and Consistent With State and Federal Law

As indicated in the Permit, the Regional Board found it appropriate to allow a mixing zone for chronic aquatic life criteria because the mixing zones met the SIP requirements for granting a mixing zone.[263] The allowed chronic aquatic life mixing zone is 400 feet wide and

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[259] See section V, *post*.

[260] CSPA Petition, p. 56.

[261] See Hutchins, The California Laws of Water Rights (1956), pp. 13-14.

[262] Water Code section 13263(b) ("A regional board, in prescribing requirements, need not authorize the utilization of the full waste assimilation capacities of the receiving waters.").

[263] Permit, pp. F-36 to F-38.

extends 350 feet downstream of the diffuser.[264] Although the chronic aquatic life mixing zone was allowed, the Regional Board only used the available dilution to calculate WQBELs for cyanide.[265] For reasons that were improper, as addressed in the District's Petition, the chronic aquatic life mixing zone and its available dilution were not used to calculate WQBELs for copper, ammonia, or any other constituents.[266]

CSPA objects to the limited chronic aquatic life mixing zone that *was* allowed, and argues that it is inconsistent with the Basin Plan.[267] (CSPA does not appear to object to the Regional Board's finding that it complies with the SIP.) CSPA's spurious argument is based solely on one sentence that has been taken out of context. Specifically, CSPA refers to the sentence from the Basin Plan that states, "[a]dditional treatment beyond minimum federal requirements will be imposed on dischargers to Water Quality Limited Segments."[268] Because the Sacramento-San Joaquin Delta is listed as impaired for unknown toxicity, CSPA somehow concludes that this sentence in the Basin Plan prohibits the Regional Board from granting a chronic aquatic life mixing zone. Clearly, the Basin Plan language referenced by CPSA states no such thing, and the remaining Basin Plan provisions that accompany this sentence make no reference to mixing zones at all.[269]

The allowance of mixing zones for chronic aquatic life criteria are governed by the SIP, relevant Basin Plan provisions, and precedential State Board orders.[270] Listings of impairment under section 303(d) of the CWA are not determinative with respect to the availability of assimilative capacity.[271] Dilution credits are granted on a pollutant-by-pollutant basis and only if assimilative capacity is available for the individual pollutant.[272] The availability of assimilative

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[264] Permit, p. F-36.

[265] Permit, pp. F-36, F-41.

[266] Permit, pp. F-40 to F-41; see SRCSD Petition, pp. 57-66, 165-172.

[267] CSPA Petition, p. 58.

[268] Basin Plan, p. IV-15.00.

[269] See Basin Plan, p. IV-15.00.

[270] SIP, pp. 15-18; Basin Plan, p. IV-16.00; see also, e.g., Yuba City Order, pp. 9-12.

[271] See, e.g., Yuba City Order, p. 14.

[272] Permit, p. F-40.

capacity means, of course, that the receiving water is in compliance with the applicable water quality objective for the individual pollutant upstream of the point of discharge and after the effluent mixes with the receiving water even if the receiving water is listed as impaired. Exceedance of the objective, if any at all, would be short in nature and in duration, and cannot adversely impact aquatic life.[273] In other words, contrary to CSPA's assertions, the allowance of a chronic aquatic life mixing zone does not give the District a blanket pass to discharge effluent that will cause widespread chronic toxicity. The Regional Board's allowance for a chronic aquatic life mixing zone is lawful, and CSPA's argument has no merit. CSPA's claim should be dismissed.

5. The Allowance of a Mixing Zone for Bis(2-ethylhexyl)phthalate Is Proper and Consistent With the SIP

CSPA argues that the mixing zone for bis(2-ethylhexyl)phthalate compromises the integrity of the watershed in violation of the SIP.[274] CSPA's argument appears to be directly linked to the fact that water from the Delta is diverted downstream for drinking water purposes, and because fish from the Sacramento River are ingested.[275] The Regional Board properly considered and allowed a mixing zone for bis(2-ethylhexyl)phthalate.

The Permit clearly indicates that the Regional Board considered all of the required factors for granting a mixing zone for bis(2-ethylhexyl)phthalate pursuant to the SIP.[276] Specifically, the Regional Board considered if the human health mixing zone would "*compromise the integrity of the entire waterbody*."[277] The Regional Board determined that "[t]he Sacramento River is a very large waterbody . . . Except as noted for nitrate [. . .], the human health mixing zone does not compromise the integrity of the entire waterbody."[278] Further, with respect to drinking water

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[273] SIP, pp. 17 (to comply with the SIP, the mixing zone must comply with a number of factors that are protective of aquatic life).

[274] CSPA Petition, p. 62.

[275] CSPA Petition, pp. 61-62.

[276] Permit, pp. F-38 to F-40.

[277] SIP, p. 17.

[278] Permit, p. F-39.

intakes, the Regional Board found that "[t]here are no drinking water intakes within the human health mixing zone," and the nearest downstream drinking water intake is 40 miles from the point of discharge.[279] Thus, the Regional Board has properly considered all of the required factors in the SIP, and the allowance of a mixing zone for bis(2-ethylhexyl)phthalate is appropriate.

With respect to the issue of fish ingestion, the applicable water quality criterion for bis(2-ethylhexyl)phthalate as applicable here is for the protection of human health, including exposure to the pollutant through the ingestion of water and potentially contaminated fish and shellfish.[280] In determining the appropriate criterion, U.S. EPA assumed exposure pathways of two liters per day of water, and consumption of 6.5 grams per day of contaminated fish and shellfish for a person who weighs 70 kilograms, and is exposed daily for their lifetime.[281] In determining the criterion in this manner, U.S. EPA accounted for the chronic, or lifetime health effect. The State Board's mixing zone policy as contained in the SIP accounts for this long-term exposure by requiring that mixing zones for human health criteria (i.e., bis(2-ethylhexyl)phthalate) be calculated using the critical receiving water flow for the harmonic mean. The use of the harmonic mean for human health criteria is appropriate because it accounts for a chronic, long-time exposure versus short exposure periods related to aquatic life. Pursuant to the SIP, the Regional Board determined that the dilution credit for human carcinogen criteria is 56:1.[282] The Regional Board also properly found that assimilative capacity exists for bis(2-ethylhexyl)phthalate in the receiving water.[283] However, the Regional Board determined that a WQBEL for bis(2-ethylhexyl)phthalate calculated with the dilution credit of 56:1 would allocate a large portion of the assimilative capacity of the receiving water and instead calculated a performance-based effluent limitation of 13 µg/L.[284] Thus, by limiting the discharge of bis(2-ethylhexyl)phthalate to

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[279] Permit, p. F-40.

[280] 40 Code of Federal Regulations section 131.38(b)(1); see also 65 Federal Register 31682, 31693 (May 18, 2000).

[281] 65 Federal Register 31682, 31693 (May 18, 2000).

[282] Permit, p. F-38.

[283] Permit, p. F-58.

[284] Permit, p. F-58.

the current, performance-based limit, the Regional Board acted conservatively, and ensured that all beneficial uses of the receiving water are protected, including the beneficial use for sport fishing.[285]

6. The Regional Board's Determination of No Reasonable Potential for EC Is Appropriate

CSPA claims that the Regional Board has inappropriately granted a mixing zone for EC by determining reasonable potential with the mass-balance approach described in the Permit.[286] CSPA further claims that the proposed mixing zone for salinity does not comply with the SIP or the Basin Plan.[287]

The Regional Board's approach to determining reasonable potential for EC, total dissolved solids (TDS), chloride, and sulfate is clearly explained in the Permit Fact Sheet.[288] The Permit explains that "[d]ue to site-specific conditions of the discharge, the Central Valley Water Board has used best professional judgment in determining the appropriate method for conducting the RPA for these non-priority pollutant salinity constituents."[289] Following U.S. EPA recommendations described in the TSD, the Regional Board determined it appropriate to use a mass-balance approach to determine critical downstream receiving water concentration.[290] The Regional Board's approach is well within accepted practices, and is consistent with direction from the State Board. In a precedential order, the State Board has found that for non-priority pollutants, "such as EC, the Regional Water Quality Control Boards (Regional Water Boards) are not restricted to one particular method. Instead, the Regional Water Boards can use the procedures described in United State Environmental Protection Agency's (U.S. EPA) Technical Support Document (TSD), the SIP procedures as guidance, or any other appropriate

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[285] See Basin Plan, p. II-2.00 (commercial and sport fishing beneficial use defined to mean, "[u]ses of water for commercial or recreational collection of fish, shellfish, or other organisms, including, but not limited to, uses involving organisms intended for human consumption or bait purposes.").

[286] CSPA Petition, p. 62.

[287] CSPA Petition, p. 63.

[288] Permit, p. F-49.

[289] Permit, p. F-49.

[290] Permit, p. F-49; see TSD, p. 78-81.

methodology."[291] When using alternative procedures instead of the SIP, the Regional Board is required to "clearly explain the methodology used to assess reasonable potential and document the conclusions."[292]

As indicated, the Regional Board clearly explained the methodology it used to determine reasonable potential for the parameters in question, including the equation it used to calculate the critical downstream receiving water concentration. The equation uses the critical stream flow of 30Q5 to determine the instream water concentration considering the maximum permitted effluent, the critical upstream concentration and the effluent concentration.[293] Using the equation, the Regional Board found that the maximum receiving water EC concentration would be 283 μmhos/cm, which is less than all applicable water quality objectives or criteria for EC.[294] For TDS, the Regional Board found that the maximum receiving water concentration would be 192 mg/L, which is less than all applicable objectives or criteria.[295] Accordingly, the Regional Board failed to find reasonable potential. However, to protect the Delta from increased salinity loads prior to establishment of a long-term salt management plan for the Central Valley, the Regional Board adopted a performance-based effluent limit of 900 μmhos/cm and adopted a salinity evaluation and minimization plan requirement.[296]

Because the Regional Board determined reasonable potential in the manner described, it was not necessary for the Regional Board to establish or adopt a mixing zone pursuant to the SIP or the Basin Plan. As indicated in the UC Davis Order, the SIP does not apply to salinity constituents and the Regional Board is not required to follow the SIP for non-priority pollutants.[297] The Basin Plan does not prevent the Regional Board from determining reasonable

[291] *In the Matter of Own Motion Review of Waste Discharge Requirements for the University of California, Davis*, Order WQ 2010-0005 (March 16, 2010), p. 5.

[292] *In the Matter of Own Motion Review of Waste Discharge Requirements for the University of California, Davis*, Order WQ 2010-0005 (March 15, 2010), p. 7.

[293] Permit, p. F-49.

[294] Permit, p. F-50.

[295] Permit, pp. F-50 to F-51.

[296] Permit, pp. F-49 to F-50.

[297] *In the Matter of Own Motion Review of Waste Discharge Requirements for the University of California, Davis*, Order WQ 2010-0005 (March 16, 2010), p. 5; see also Yuba City Order, p. 6.

potential as it did in the Permit for salinity constituents. Further, the Basin Plan does not indicate that a mixing zone must be established through a study as is required for constituents subject to the SIP, or that dilution cannot be considered as part of the RPA pursuant to the TSD approach. Accordingly, the Regional Board's methodology for determining reasonable potential for salinity constituents is proper, and, therefore, CSPA's claim must be dismissed.

7. The Regional Board Considered All Required Factors in Allowing Mixing Zones

CSPA's Petition includes several novel arguments with respect to the Regional Board's allowance of mixing zones and food safety. Specifically, CSPA claims that mixing zones may result in plant uptake and associated human health impacts from the irrigation of crops with water extracted from within the mixing zone.[298] CSPA also implies that the granting of mixing zones caused nuisance by compromising food safety. CSPA's claims here must be dismissed because the Regional Board made appropriate findings with respect to nuisance, and allegations of adverse impacts are unfounded speculation. In any event, the evidence demonstrates that significant dilution exists at the agricultural intakes along the river banks, thereby disputing CSPA's food safety nuisance claims.

As discussed previously, the Regional Board considered all of the required conditions in granting mixing zones for acute aquatic life, chronic aquatic life, and human health, even when not required.[299] To comply with the SIP conditions, the Regional Board needed to determine that the mixing zones allowed would not, among other things, cause nuisance.[300] For all three mixing zones, the Regional Board made the requisite findings, based on the significant and extensive modeling and dilution study information submitted by the District and approved by the Regional

[298] CSPA Petition, p. 64.

[299] The Regional Board applied the conditions specified in the SIP to both priority and non-priority pollutants, except for salinity constituents as explained in sections O and R, *ante*. The District has challenged the Regional Board's application of the SIP mixing zone conditions to nitrate in its Petition.

[300] SIP, p. 17.

Board, that mixing zones for acute aquatic life, chronic aquatic life, and human health would not cause nuisance.[301]

With respect to the issue of food safety and the emerging contaminants referred to by CSPA, the area of research dedicated to the study of the relationship between plant uptake and these types of chemicals in irrigation water is nascent. As CSPA admits, most of this discussion revolves around the use of reclaimed water to irrigate crops and not to effluents that have been highly mixed with river water prior to use.[302] Thus, there is no evidence in the record that connects the use of irrigation water from within the mixing zone to concerns with food safety.

Further, the evidence shows that up to 700 feet downstream of the discharge, no effluent is present in the river within 100 feet of the riverbank—on both sides of the river. The withdrawal of river water for agricultural irrigation purposes is most likely to occur along the riverbank.[303] Daily dilution of the SRWTP effluent is always greater than 20:1, and ordinarily it is considerably greater.[304] Also, due to the physical attributes of the pumps situated near the banks of the river, it is clear that undiluted effluent will not be drawn into any agricultural intake pumps.[305]

Considering that CSPA provides no evidence to suggest that there are food safety concerns associated with using highly diluted effluent as irrigation water, and because there is in any event significant dilution at a point where irrigation water is likely removed from the river for irrigation purposes, CSPA's claim must be dismissed.

[301] Permit, pp. F-35, F-37, F-39; see section R.12, *post*.

[302] CSPA Petition, p. 63.

[303] See Permit, p. F-78 ("Irrigation water intakes in the immediate vicinity of the discharge are not an issue because the irrigation water is drawn from the sides of the river outside of the SRCSD mixing zone, so those agricultural irrigation diversions contain no SRCSD wastewater."); see also SRCSD Petition, pp. 46-47.

[304] See SRCSD Petition, pp. 29-30; District's October 2010 Comments and Evidence Letter, pp. 8, 12.

[305] See Permit, p. F-74 ("It appears that undiluted effluent will not be drawn into the agricultural intakes, but varying mixtures of effluent and river water will be diverted from the partially mixed discharge plume."); see also District's October 2010 Comments and Evidence Letter, p. 8; SRCSD Petition, pp. 46-47.

8. The Mixing Zones Properly Considered That Aquatic Life Pass Through the Mixing Zone in a Time That Prevents Toxicity

CSPA claims that the "Permit does not show that aquatic life passes through the mixing zone in a time to prevent toxicity, such is required by the TSD, which in turn is required by the Basin Plan."[306] CSPA's claim must be dismissed because the Permit clearly indicates that the Regional Board properly considered and evaluated float times for aquatic life passing through the proposed aquatic life mixing zone. (The Regional Board denied an acute mixing zone for aquatic life due to other reasons.) "The acute mixing zone proposed by the Discharger extends 60 feet downstream from the outfall. Based on a minimum river velocity of 0.35 feet/sec, the minimum float time is 2.8 minutes."[307]

The float time of 2.8 minutes is well below the 15 minute guidance provided in the TSD.[308] Further, the calculated float time is conservative because it is based only on the velocity flow relationship of the river and does not account for the increase in velocity due to discharge of effluent through the diffuser ports. Additionally, the proposed acute mixing zone is within the zone of initial dilution, complying with the Basin Plan, which states that there shall be ". . . small zone of initial dilution in the immediate vicinity of the discharge."[309] Due to the limited duration of exposure over the short distance that defines the acute mixing zone boundary, an organism floating through the acute mixing zone would not be subjected to acutely toxic conditions.

In light of the overwhelming evidence in the record, CSPA's claim is false and must be dismissed.

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[306] CSPA Petition, p. 65.

[307] Permit, p. F-34 (referencing Memorandum from Larry Walker Associates to SRCSD, Mixing Zones and Prevention of Acutely Toxic Conditions (July 13, 2009)).

[308] TSD, p. 33 (in many situations, travel time through the acute mixing zone must be less than roughly 15 minutes if a 1-hour average exposure is not to exceed the acute criterion); District's October 2010 Comments and Evidence Letter, p. 79.

[309] Basin Plan, p. IV-16.00.

9. The Chronic Mixing Zone Does Not Restrict Passage for Aquatic Life

Next, CSPA claims that the "zone of passage for critical habitat is unacceptably small and the proposal for an allowance for a chronic mixing zone should be prohibited."[310] CSPA further claims that the dye studies conducted by the District and as reviewed by Tetra Tech indicate that there is no area on the east bank for the bypass of fish. CSPA's claims are unsupported and must be dismissed. The administrative record supports the Regional Board's finding that the chronic mixing zone (as well as the acute mixing zone) does not restrict passage for aquatic life.

Studies supporting the fact that the chronic mixing zone does not restrict aquatic life passage include, but are not limited to, the Thermal Plan Exception Report, Dynamic Model studies, as well as numerous dye studies.[311] The studies collectively support the Regional Board's finding that ". . . the zone of passage at the surface of the river is generally at least 100 feet on both sides of the river, while the zone of passage at the bottom of the river is greater than 40 feet from both sides of the river."[312]

Specifically, the width of the river is approximately 600 feet across the surface of the water and approximately 400 feet across the bottom. The outfall diffuser is approximately 300 feet long with 74 ports and placed perpendicular to the river's flow. Based on dynamic near- and far-field modeling conducted by the District, there is a minimum 100-foot zone of passage on either side of the river, and the zone of passage at the bottom of the river is greater than 40 feet from both sides of the river. These physical parameters have been verified by dye studies, including specifically the dye studies that were conducted after the District closed 25 diffuser ports on the east side of the river (reducing the total number of ports from 99 to 74).[313]

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[310] CSPA Petition, p. 65.

[311] See Robertson-Bryan, Inc., *Thermal Plan Exception Justification for the Sacramento Regional County Sanitation District* (Robertson-Bryan, Inc., *Thermal Plan Report*); see also District's October 2010 Comments and Evidence Letter, pp. 75-84.

[312] Permit, p. F-37.

[313] Brown and Caldwell, *November 2007 Data Report, Effluent Discharge Dilution and Velocity Profiling Field Study in the Sacramento River*. Prepared for Flow Science, Inc. (May 2008); see also Flow Science, Inc. (FSI), *Results of November 2007 Dye Study of Effluent Discharge to the Sacramento River at Freeport, California*. Prepared for the Sacramento Regional County Sanitation District (June 9, 2008).

CSPA speculates that the mixing zone would take the full width of the bottom of the river. The diffuser is 300 feet long, and is oriented perpendicular to the flow of the river. Dye studies have shown that there is slow horizontal diffusion compared to vertical diffusion. For instance, a dye study conducted in November 2007 confirmed this information. Following the closure of the eastern-most 25 ports on the diffuser, the dye study confirmed that the effluent plume is confined to the center of the channel near the diffuser, and covers approximately the same width of the channel cross-section as the open ports of the diffuser.[314]

CSPA incorrectly assumes that the effluent plume fully utilizes the allowed chronic mixing zone (400 feet wide by 350 feet long), and incorrectly concludes that the effluent plume in the mixing zone takes up the whole area in-between the surface and the bottom of the river. In reality, and as shown by significant modeling studies and dye studies, as the flow of the river encounters the diffusers, the water slowly rises as it mixes vertically. At 700 feet downstream of the diffuser, approximately one-third of the upper water column is "unaffected or negligibly affected by the effluent plume."[315] The majority of fish migrating through this section of the river would also prefer the colder zones of passages next to the effluent plume.[316] The estimated time for adult salmonids and other fish that prefer the "upper half" of the river to transverse the mixing zone is approximately 5-10 minutes.[317] This is well below the U.S. EPA recommended 15-minute float time.

Fish that generally stay near the bottom of the river "would either move laterally within the river channel until they encounter either more tolerable temperatures or the unaffected zone of passage along one or the other shorelines, or they would move up higher in the water column (e.g., lamprey, shad, and other species, including resident fish) seeking more favorable temperatures. In doing the latter, they could continue along a mid-channel migration route that

[314] Brown and Caldwell, *November 2007 Data Report, Effluent Discharge Dilution and Velocity Profiling Field Study in the Sacramento River*. Prepared for Flow Science, Inc. (May 2008); see also Flow Science, Inc. (FSI), *Results of November 2007 Dye Study of Effluent Discharge to the Sacramento River at Freeport, California*. Prepared for the Sacramento Regional County Sanitation District (June 9, 2008).

[315] Bryan Written Testimony, p. 9; Robertson-Bryan, Inc., *Thermal Plan Report*, p. 33.

[316] Robertson-Bryan, Inc., *Thermal Plan Report*, p. 32.

[317] Robertson-Bryan, Inc., *Thermal Plan Report*, p. 33.

would expose them to temperatures less different, or even no different, from river background. In either case, should fish "drift" back toward the affected area of the plume before passing the diffuser, the same behavioral response would be repeated until the fish was past the SRWTP diffuser."[318]

CSPA's reference to passage on the east bank, and Tetra Tech's comments that CSPA suggests were related thereto, are also misplaced. Specifically, in its review of the District's dynamic model study, Tetra Tech noted that, "[s]ome phenomena were observed in the field that were not reproduced in the model, most notably a region of high dye concentration near the eastern river bank just downstream from the diffuser in the October 2005 dye release. The subsequent November 2006 dye release was conducted in an effort to further resolve this observed behavior, however the model failed in all cases to reproduce the high concentration region."[319] The observation of this phenomenon, as shown in the field dye studies for the fall 2005, fall 2006, and spring 2006, indicated that effluent surfaced at the east bank of the river at very low river flow rates immediately prior to cessation of discharge from the SRWTP. Based on these observations, the District conducted a physical inspection of the diffuser to determine if it was sound, and to determine the cause of the plume surfacing behavior. The behavior was confirmed to be due to a "separation-recirculation zone influenced by the unsteady flow conditions" that was not simulated by the model.

In response to the information, the District sealed the 25 most eastern ports so that discharge would only occur from the remaining 74 ports at the western-end of the diffuser.[320] A subsequent dye study performed in November 2007 confirmed that the diffuser modification had restored the original design function of the diffuser and eliminated the occasional anomalous

[318] Robertson-Bryan, Inc., *Thermal Plan Report*, p. 34-35.

[319] Memorandum to James D. Marshall, Regional Board from John Hamrick, Jon Butcher, Tetra Tech, "Review of the Sacramento Regional County Sanitation District's Dynamic Modeling Study for the Sacramento Regional Wastewater Treatment Plant" (June 30, 2008), pp. 9-10.

[320] District's October 2010 Comments and Evidence Letter, p. 83.

surfacing of effluent near the river's eastern bank.[321] Thus, the surfacing of effluent within the separation recirculation zone that existed at very low river flows near the eastern bank was eliminated by shortening the diffuser so that effluent is not discharged into this zone.[322] Accordingly, CSPA's allegations with respect to a lack of fish passage are not supported by the evidence in the record. Moreover, the studies conducted by the District fully support the Regional Board's finding that the allowance of a chronic mixing zone does not restrict passage for aquatic life. Thus, the CSPA's claim must be dismissed.

10. Effluent From the SRWTP Does Not "Routinely" Fail Bioassay Sampling

CSPA claims that bioassays conducted by the SRWTP are not using the most sensitive species, and that the SRWTP "has routinely failed bioassays."[323] CSPA's claims are not supported by the evidence in the record. First, the Permit requires the District to change its current species for acute toxicity testing from fathead minnow to rainbow trout.[324] Specifically, the Regional Board made the change because rainbow trout are salmonids similar to resident species, and they may be more sensitive to wastewater effluent as compared to fathead minnows.[325] Second, discharge from the SRWTP has not "routinely" failed bioassay tests. The Permit indicates that acute toxicity tests failed 15 times from 2005 through 2009.[326] Although not identified, one failure also occurred in 2010. When compared to the total number of test results (i.e., 260 single test results, 260 three consecutive test results, or 520 total results) for tests conducted from 2005 through 2010, this represents a compliance rate of 97%. A 3% failure rate does not support CSPA's statement with respect to routine failure. Further, because these are

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[321] District's October 2010 Comments and Evidence Letter, p. 83; see also Flow Science Incorporated (2008), *Model verification results for FLOWMOD simulations of SRCSD Effluent discharge to the Sacramento River at Freeport, November 2007 Field Study*, prepared for Sacramento Regional County Sanitation District (June 9, 2008).

[322] Although Tetra Tech's June 2008 Memorandum was issued after modification of the diffuser, the modeling information reviewed by Tetra Tech did not appear to include the more recent information from the November 2007 dye study, and FSI's subsequent model verification report, which was also submitted to the Regional Board in June of 2008.

[323] CSPA Petition, p. 66.

[324] Permit, p. E-9.

[325] Permit, p. F-108.

[326] Permit, p. F-8.

biological tests, there is the potential for variability and 100% compliance is unlikely. Accordingly, CSPA's claim should be dismissed.

11. The Allowance of Mixing Zones Does Not Threaten Endangered Species Via Additive Toxicity

CSPA claims that the Permit does not consider additive toxicity, and that the Permit has the potential to cause the take of endangered species within the mixing zone, and possibly beyond.[327] In response to a similar comment made by CSPA on the Tentative Permit, the Regional Board acknowledged that additive toxicity is a concern and responded accordingly. Specifically, the Regional Board states that through the adoption of WQBELs and WET testing, the Regional Board is protecting the receiving water from additive toxicity.[328]

Further, the allegation that additive toxicity in the Sacramento River is being caused by the SRWTP effluent is unsupported by evidence in the record. For example, the most thorough studies conducted to date that explore additive toxicity are related to ammonia and its contributions to additive toxicity. Dr. Inge Werner has conducted three ammonia-driven additive (synergistic) toxicity studies with the SRWTP effluent.[329] At environmentally relevant levels (i.e., <3% effluent concentration), it was found that there were no acute effects on the tested species (larval delta smelt, larval fathead minnow, and larval rainbow trout). Most importantly, the no observed effect concentration (NOEC) of effluent ammonia was 3.3-3.6 times higher than what was measured in the Sacramento River. The most recent study conducted by Dr. Werner showed high survival (greater than 80%) for species tested with 28% effluent.[330] These species

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[327] CSPA Petition, p. 67.

[328] Staff Response to Comments, pp. 148-149.

[329] See Werner, I. et al., "The Effects of Wastewater Treatment Effluent-Associated Contaminants on Delta Smelt: Final Report" (2008), Central Valley Regional Water Quality Control Board and the Sacramento Regional Wastewater Treatment Plant; see also Werner, I. et al., "Acute Toxicity of Ammonia/um and Wastewater Treatment Effluent – Associated Contaminants on Delta Smelt: Final Report" (2009), Central Valley Regional Water Quality Control Board and the Sacramento Regional Wastewater Treatment Plant; see also Werner, I. et al., "Acute Toxicity of SRWTP Effluent to Delta Smelt and Surrogate Species: Draft Final Report" (2010), Central Valley Regional Water Quality Control Board and the Sacramento Regional Wastewater Treatment Plant.

[330] Werner, I. et al., "Acute Toxicity of SRWTP Effluent to Delta Smelt and Surrogate Species: Draft Final Report," (2010), Central Valley Regional Water Quality Control Board and the Sacramento Regional Wastewater Treatment Plant. Draft Final Report.

were exposed to these elevated concentrations for 7-10 days, depending on the species studied. Viewed another way, the estimated float time for an organism floating through the length of the 350 foot mixing zone, at rarely seen critical river flow, is below 15 minutes. Additionally, the float time for an organism through the proposed, but not adopted, acute mixing zone was 2.8 minutes. These time periods are much shorter than the duration of the testing performed by Werner. Thus, in addition to the Permit provisions identified by the Regional Board, the short float time through the mixing zone protects aquatic life from additive toxicity caused by SRWTP effluent.

With respect to the additive toxicity of metals, CSPA provides no evidence that effluent from the SRWTP causes additive toxicity for metals. Moreover, as indicated by the Regional Board staff, such an impact would potentially occur only if the SRWTP simultaneously discharged the pollutants of concern (e.g., copper, lead, zinc) at levels that exceed applicable water quality objectives, during critical low flow conditions.[331] Evidence in the record exists to indicate that such simultaneous conditions are unlikely to occur.[332] Specifically, the District's 2009 Antidegradation Analysis shows that individually, exceedances of water quality objectives for copper, lead, and zinc are not expected to occur.[333]

Thus, additive toxicity from SRWTP effluent is unlikely. Nevertheless, the Regional Board adopted Permit requirements intended to protect the receiving water from additive toxicity. CSPA's claim should be dismissed.

12. The District's Models Account for Tidal Flows in the Sacramento River

CSPA claims that the Permit fails to provide for "any information that provides any documentation of the accuracy of the model and the modeled results."[334] CSPA's claim conflicts with the actual evidence in the record, which demonstrates otherwise. As the Permit indicates,

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[331] Staff Response to Comments, p. 148; see subsection L, *ante*.

[332] See subsection L, *ante*.

[333] Sacramento Regional County Sanitation District, "Antidegradation Analysis for Proposed Discharge Modification for the Sacramento Regional Wastewater Treatment Plant," Prepared by Larry Walker Associates (May 20, 2009) (District's Antidegradation Analysis), pp. 5-43 to 5-278; see also Permit, p. F-98.

[334] CSPA Petition, p. 67.

the models relied upon by the Regional Board were subject to extensive field validation as well as review by peer reviewers including modeling experts retained by the Regional Board.[335] Further, CSPA claims that the no model is capable of taking into account tidal flow reversals. This claim, like many others, is inaccurate and unsupported by the evidence in the record. As indicated in the summary and discussion of the modeling activities provided here, the District's models did directly account for tidal flow reversals.

As a preliminary matter, it is an understatement to say that the models developed by the District were thoroughly analyzed and reviewed throughout the development of the Permit. The development of the models, which the Regional Board ultimately relied on in its adoption of the Permit, was an interactive, dynamic process between the Regional Board, the District, and independent scientific consultants that spanned nearly a decade. Beginning in 2001, the District developed a work plan in response to a requirement in the District's previous permit (Order No. 5-00-188) that required the District to investigate the dilution and mixing provided by the diffuser.[336] Thereafter, an Independent Technical Review Committee (ITRC) was convened to evaluate the District's work plan and modeling approach. The ITRC, a three member independent panel comprised of national modeling experts, found that the District's modeling effort: (1) appropriately framed the water quality issues; (2) employed appropriate and extensive data handling and modeling procedures; and, (3) produced appropriate (but conservative) modeling output for evaluating receiving quality, thereby providing key information in support of the chosen level of wastewater treatment. Two of the expert panelists noted that the conservative nature of the modeling performed means that impacts would likely be less than those estimated from the modeling results.[337]

[335] Permit, pp. F-31 to F-34 ("In the period from 2005 through 2007, the Discharger performed several field validation studies to corroborate the effectiveness of the modeling tools in representing water quality conditions in the Sacramento River. . . . Tetra Tech's modeling experts concluded that the model study was conducted in a sound and scientifically defensible manner.").

[336] Order No. 5-00-188, p. 18.

[337] District's October 2010 Comments and Evidence Letter, p. 82.

The District's modeling includes a suite of mathematical models used and developed by Flow Science, Inc. (FSI), consisting of five models linked in series, with the output from some models used as inputs for the subsequent models.[338] The District's water quality modeling uses the U.S. Bureau of Reclamation's Project Simulation Model (PROSIM), which simulates monthly flow and temperature in the Sacramento River based on a 70-year period of record for meteorological conditions; the FSI longitudinal dispersion model (LDM), which is a method for solving the longitudinal equation to describe mixing in water bodies; the Fisher Delta Model (FDM), which is a model of the Sacramento-San Joaquin Delta that has been in common and widespread use for decades; FSI's computational fluid dynamics model (FLOWMOD), which provides for detailed and accurate numerical representation of fluid dynamics and, thus, accurately predicts the location and extent of the plume downstream of the diffuser; and, U.S. EPA's Dynamic Toxicity Model (DYNTOX), which is designed for use in deriving effluent limits and waste load allocations for various toxic substances.[339] The models have also been inappropriately characterized by CSPA as a series of "proprietary" models. Such a statement is not true. The PROSIM and DYNTOX models are public domain and not considered proprietary; FLOWMOD uses CFD code, which is widely regarded by scientists as providing the most detailed and accurate numerical representation of fluid dynamics; FDM is copyrighted but not proprietary; and, the LDM is the implementation of accepted scientific equations using computer code.

The models used were verified using the results of field dye studies, extensive sensitivity analyses, and comprehensive and detailed peer reviews. The results of the extensive field dye studies provided the best assessment of the differences between modeled and observed data because dye (Rhodamine WT) can be detected at very low concentrations, and with dye studies the conditions of the plume can be examined over a wide range of river and effluent flow rates. The effluent dye studies were used to validate the model results of the plume effluent concentrations. The validated model was then used to simulate conditions in the plume over a

[338] Permit, pp. F-31 to F-34.

[339] See Permit, pp. F-31 to F-33; see also, e.g., District's Antidegradation Analysis, Appendix C.

wide range of hydrologic conditions over a 70-year simulation time period.[340] As indicated by the Regional Board's expert consultant, the extent of field dye investigations used to support the water quality monitoring was unprecedented.[341]

With respect to the issue of tidal reversal, the FDM and LDM converted monthly flows to hourly flows while taking into account tidal cycle and reverse flows. The LDM model also accounts for the so-called "double-dosing" effect that can occur during tidal-driven, river flow reversals by simulating the advection and dispersion of effluent discharged to the Sacramento River, including during reverse flows. Specifically, the LDM model is used to estimate the effluent concentration in the vicinity of the diffuser following the start of a diversion event (i.e., diversion of effluent to storage when Sacramento River flows fall below that required to meet the minimum 14:1 flow ratio), which results from effluent discharged prior to that diversion event. That is, the model simulates the elevated background concentrations in the vicinity of the diffuser that are caused by the presence of previously discharged effluent. Upon resumption of the discharge to the river, the results from the LDM (elevated background concentrations) are combined with the results from the FLOWMOD model (concentrations of newly-discharged effluent in the near-field zone), thus simulating the concentrations of effluent in the near-field zone that result from the presence of both effluent discharged prior to the diversion event and effluent that is discharged following a diversion event.[342]

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[340] See Flow Science Incorporated (2006), Model Sensitivity Analysis for FLOWMOD Simulations of the SRCSD Effluent Discharge into the Sacramento River at Freeport, CA, prepared for SRCSD. Sept. 2006; see also Flow Science Incorporated (2006), Model Verification Results for FLOWMOD Simulations of the SRCSD Effluent Discharge into the Sacramento River at Freeport, CA, October 2005 Field Study; see also Flow Science Incorporated (2006), Model Verification Results for FLOWMOD Simulations of the SRCSD Effluent Discharge into the Sacramento River at Freeport, CA, June 2006 Field Study; see also Flow Science Incorporated (2006), Model Verification Results for FLOWMOD Simulations of the SRCSD Effluent Discharge into the Sacramento River at Freeport, CA, November 2006 Field Study; see also Flow Science Incorporated (2008), *Model verification results for FLOWMOD simulations of SRCSD Effluent discharge to the Sacramento River at Freeport, November 2007 Field Study*, prepared for Sacramento Regional County Sanitation District (June 9, 2008).

[341] Memorandum to James D. Marshall, Regional Board from John Hamrick, Jon Butcher, Tetra Tech, "Review of the Sacramento Regional County Sanitation District's Dynamic Modeling Study for the Sacramento Regional Wastewater Treatment Plant" (June 30, 2008).

[342] See, e.g., District's Antidegradation Analysis, Appendix C.

Further, and as indicated previously, the Regional Board contracted with an independent technical consultant to review all aspects of the District's model. The Regional Board's independent expert consultant, Tetra Tech, found that the dynamic modeling study was conducted in a sound and scientific defensible manner, and that the modeling tool is capable of providing a probabilistic representation of receiving water conditions, including the frequency and duration of periods when standards are exceeded.[343] Based on Tetra Tech's review, the Regional Board accepted the District's dynamic model for use in issuing the Permit.[344]

Considering the sophistication of the modeling effort and unprecedented amount of independent technical review and field verification studies associated with the District's model, CSPA's claims must be dismissed.

S. Antibacksliding

CSPA objects that the Permit does not contain effluent limitations for certain pollutants, contending that because the predecessor permit included effluent limitations for these pollutants, antibacksliding requirements of the CWA (33 U.S.C. § 1342(o)) require that the limitations be retained.[345] Apparently, in CSPA's view, the limitations in the predecessor permit were adopted in perpetuity and cannot be changed even in the face of new information and even if the CWA does not require any effluent limitation at all. CSPA's position is inconsistent with the CWA, State Board precedent, and common sense.

The Regional Board found, based on monitoring data, that there is no reasonable potential for the discharge to cause or contribute to exceedances of water quality standards for chloroform, lindane, silver, lead, zinc, cyanide, or oil and grease.[346] The CWA only requires effluent limitations when there is reasonable potential to cause or contribute to exceedances of a water

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[343] See Memorandum to James D. Marshall, Regional Board from John Hamrick, Jon Butcher, Tetra Tech, "Review of the Sacramento Regional County Sanitation District's Dynamic Modeling Study for the Sacramento Regional Wastewater Treatment Plant" (June 30, 2008).

[344] See Letter from Kenneth D. Landau to Mary K. Snyder, "Acceptance of Sacramento Regional County Sanitation District's Dynamic Mathematical Model for use in NPDES Permit Renewal for the Sacramento Regional Wastewater Treatment Plant" (April 2, 2009).

[345] CSPA Petition, pp. 68-72.

[346] Permit, pp. F-92 to F-93.

quality standard.[347] And here, information was available that was not available at the time of the predecessor permit, a condition which allows a change that would otherwise be "backsliding."[348] The Regional Board's action is consistent with the State Board's Order WQ 2001-16. There, a regional board included effluent limitations for various pollutants based on the fact that the prior permit had contained such effluent limitations, even though there was no basis to find reasonable potential.[349] The State Board rejected the argument CSPA makes here, concluding that antibacksliding is *not* an absolute bar to removing limits under these circumstances.[350] The same principle applies here, and there is simply no requirement that a permit contain unnecessary effluent limitations.

The Regional Board also revised previously applicable effluent limitations for cyanide, based on a robust dynamic water quality modeling analysis not available when the prior permit was adopted.[351] This is nothing other than a straightforward application of new information, which, if available at the time of the prior permit adoption, would have justified adoption of a less stringent limit.[352]

T. Thermal Requirements

In the Permit, the Regional Board imposed temperature-related requirements like those contained in the District's predecessor permit, Order No. 5-00-188. These requirements incorporate previously-approved, partial and conditional exceptions to section 5.A(1)a and 5.A(1)b of the Thermal Plan. (As discussed previously, there is not an exception for section 5.A(1)(c) of the Thermal Plan.) Table F-15 of the Permit (p. F-84) describes the relevant provisions of the Thermal Plan, the "existing" thermal requirements (i.e., those contained in the

[347] See 40 Code of Federal Regulations section 122.44(d).

[348] Title 33 United States Code section 1342(o)(B)(i); see also Staff Response to Comments, p. 153.

[349] Order WQ 2001-16, pp. 51-52.

[350] Order WQ 2001-16, p. 52.

[351] Permit, p. F-92.

[352] Title 33 United States Code section 1342(o)(2)(B)(i). Notably, the new information would support an effluent limitation of 22.0 µg/L as a maximum daily effluent limitation (MDEL). (Permit, pp. F-41, F-92.) The Regional Board adjusted this downward based on plant performance. (Permit, p. F-66.) The net result is an MDEL of 11.0 µg/L compared to the predecessor permit daily average of 10.8 µg/L (Permit, § IV.A.1.a, Table 6, p. 13; Permit, p. F-92), an essentially non-existent difference.

predecessor permit, Order No. 5-00-188), and SRCSD's proposals for the renewal permit. As noted, the Regional Board did not accept SRCSD's proposal for revised thermal requirements, and re-adopted requirements that had applied in the predecessor permit.[353]

CSPA's Petition creates very considerable confusion. On page 73 of its Petition, CSPA purportedly quotes from "Page F-92 of the Permit" to the effect that SRCSD will be in non-compliance with effluent limitations for temperature. But this quotation *does not appear* on page F-92 of the Permit or anywhere else in the Permit.[354] CSPA goes on to quote "Page F-97" of the Permit and again there is no such language on page F-97 of the Permit, but this builds to a rhetorical flourish regarding SRCSD's non-compliance with thermal requirements.[355] Given that there is no such non-compliance, the State Board need pay no attention to this misplaced exuberance.

It does appear that CSPA objects to the application of Thermal Plan exceptions that were approved in the past.[356] But CSPA identifies no evidence other than comment letters of fishery agencies. Those agencies recommended that the Permit contain exactly what it does contain: the *same* thermal requirements as the previous permit, and study of thermal effects: "[t]he fishery agencies recommended the current Thermal Plan Exception requirements from the existing

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[353] See Permit, section IV.A.1.e, p. 14; Permit, section V.A.15.a, p. 18.

[354] In fact, the Regional Board found that SRCSD "has demonstrated continuous compliance with the effluent limitation. Therefore, based on existing performance the Facility can immediately comply with the temperature effluent limit." (Permit, p. F-86.)

[355] CSPA Petition, p. 74.

[356] The applicable exceptions to the Thermal Plan are the subject of prior resolutions (and permits have contained site-specific temperature requirements for the Thermal Plan provisions for which there exist exceptions or partial exceptions). With respect to section 5.A(1)a of the Specific Water Quality Objectives of the Thermal Plan, Regional Board Resolution No. 89-094 waived the 20°F temperature differential requirement during October through April, instead requiring that maximum effluent temperature not exceed the natural receiving water temperature by more than 25° during those specific months. The State Board concurred in this conditional exception in its Resolution No. 90-103 and it has applied to all subsequent permits. The conditional exception to section 5.A(1)b was approved in State Board Resolution No. 92-82 in 1992 and incorporated into the District's permit in Order No. 94-006. In 2002, the Regional Board adopted Resolution No. 5-00-192 restating the same conditional exceptions for both sections 5.A(1)a and 5.A(1)b. Resolution No. 90-103 with respect to section 5.A(1)a and Resolution No. 5-00-192 with respect to both sections 5.A(1)a and 5.A(1)b, have no expiration date, and Regional Board staff explained that "[s]ince the Thermal Plan exception is being carried over from the current permit, no new resolution is need[ed] from the Central Valley or State Water Board." (Staff Response to Comments, p. 71.)

NPDES permit be carried over to the tentative with the requirement for fisheries studies to confirm the requirements are protective of beneficial uses."[357]

CSPA relates, in support of revocation of Thermal Plan exceptions, that the discharge may attract fish.[358] This leads to obvious questions: if such attraction occurs, is it due to thermal characteristics of the discharge? Would such attraction or any temperature-related effects on fish be meaningfully different under the temperature allowances of the Thermal Plan than under the Permit's temperature requirements? Dr. Michael Bryan addressed these issues in detail in written testimony[359] and accompanying reports.[360]

Dr. Bryan also addressed questions relating to delta smelt:

> Adult delta smelt typically move through the upper half of the water column when immigrating to upstream spawning areas. At 60 ft downstream of the diffuser, where internal plume temperatures can show substantial differences from river background, particularly under the "worst-case" scenario assessed in the Thermal Plan Exception Report, the upper half of the water column is unaffected by the plume. Within 175 ft of the diffuser, the plume minimally affects the upper one-third of the water column. At 700 ft downstream of the diffuser (the lower boundary of the model used), a substantial portion of the water column is either unaffected or negligibly affected thermally by the effluent plume.
>
> Numerous studies have shown that fish, when presented with a range of temperatures, will seek a temperature that is preferred, and will not submit themselves to temperatures sufficiently high to cause adverse physiological effects when given options (Cherry et al. 1975, Gray et al. 1977, Biro 1998). Adult delta smelt typically move through the upper half of the water column when immigrating to upstream spawning area. Based on these facts, and the plume dynamics simulated within the river channel under the broad range of conditions, it is my opinion that adult delta smelt would be presented with an adequate zone of passage during all months of the year under the current permitted capacity of

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[357] Staff Response to Comments, pp. 107-108; see, e.g., August 18, 2010, Letter from Dan Castleberry, U.S. Fish and Wildlife Service, to Kathleen Harder, Regional Board, re "Recommendations on SRCSD State Thermal Plan exception request, NPDES permit renewal, Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant," p. 2 (District's analysis "supports the District's conclusion that their current modeled thermal discharge does not impact the beneficial use criteria for the lower Sacramento River"); *id.* at p. 4 (recommending that exception in the 2000 permit be retained and *further* exception not permitted).

[358] CSPA Petition, p. 75.

[359] It is simply not true that "even the most basic of information regarding the impacts of Sacramento County's waste discharge is unknown." (CSPA Petition, p. 75; see Testimony/Comments of Michael D. Bryan, Ph.D., Robertson-Bryan, Inc., on the Justification for Requested Thermal Plan Exceptions and Proposed Alternative Temperature Limitations, and the Need for and Utility of Fish Behavior Studies Requested By USFWS to Justify the Requested Exceptions (Bryan Written Testimony).)

[360] See Bryan Written Testimony; Robertson-Bryan, Inc., *Thermal Plan Report*.

181 mgd ADWF discharge rate and the resultant conditions that would occur under the proposed Thermal Plan exceptions.

Early life stages of delta smelt emigrating past the diffuser are expected to be passively drifting larval stages (fry). Following hatching in upstream spawning areas delta smelt larvae are typically transported downstream near the surface of the water column by currents to zones of freshwater/saltwater mixing (Wang 1986; CDWR and Reclamation 1994). The fish's ability to swim increases in the days and weeks following emergence, thereby allowing the fish the ability to maintain a preferred position in the water column. Consequently, the early life stages of delta smelt would primarily move through the zones of passage that are minimally affected or unaffected by the SRWTP discharge that exist in the upper one-third of the water column. In the event that drifting delta smelt larvae do drift through the plume, they would be exposed to a gradient of temperature differentials for less than 10 minutes. Available scientific information indicates that such an exposure would not cause adverse thermal effects to delta smelt larvae. Based on these considerations, it is my opinion that adverse effects will not occur.[361]

The fishery agencies indentified issues that the Regional Board agreed should be studied.

Thus, the Permit provides:

> **d. Temperature Study**. The Discharger shall submit a workplan and time schedule for Executive Officer approval for determining whether permitted conditions are protective of the aquatic life beneficial uses of the Sacramento River. The workplan shall be implemented upon approval by the Executive Officer. The study will include an evaluation of: (1) the existing Thermal Plan Exception and its effects on aquatic life, and (2) any proposed request for new Thermal Plan Exception(s). The Discharger must consult with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Game, to consider additional issues (such a fish attractively to mixing zone areas) in development of the workplan for the Study.
>
> | Task | | Compliance Date |
> |---|---|---|
> | i. | Submit Workplan and Time Schedule | 180 days from the Adoption Date of this Order |
> | ii. | Begin Study | To be determined in Task i. |
> | iii. | Complete Study | To be determined in Task i. |
> | iv. | Submit Study Report | To be determined in Task or by four years from the Adoption[362] |

The District has not contested the denial of the District's request for modified thermal exceptions, and it has not contested the Permit study requirements. CSPA identifies no reason the Permit should contain thermal requirements other than those it does contain.

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[361] Bryan Written Testimony, p. 9; see also Hearing Transcript, pp. 163-164; see also Robertson-Bryan, Inc., *Thermal Plan Report*, pp. 32-34.

[362] Permit, section VI.C.2.d, p. 29.

U. Receiving Water Limitation for Toxicity

CSPA attempts to argue, through the receiving water limit for toxicity, that the Regional Board is required to address constituents of emerging concern (CECs), or at the very least, should require the District to conduct a study to determine if CECs are present in the District's effluent.[363] CSPA appears to advocate that the Permit should include CEC monitoring to determine if the narrative toxicity objective for the receiving water has been violated.[364] To support its argument, CSPA references a number of studies, many of which are not part of the administrative record.[365] The issue of requiring monitoring for CECs has recently been addressed by the State Board.[366] Specifically, the State Board found that "[t]he issue of pharmaceuticals and other emerging contaminants is of concern to this Board. . . . At this point in time, however, the science is too uncertain to require each POTW to monitor for a host of materials that have the potential to be found in its discharge."[367]

As reflected by the State Board order, there currently exist practical constraints with regard to monitoring for pharmaceuticals and endocrine disrupters. For example, science regarding the potential effects of low levels of pharmaceuticals (near the limits of analytical detection) on humans and wildlife does not exist to be able to interpret the results of routine monitoring. U.S. EPA approved analytical methods for these constituents are also limited, and fate and transport of such constituents in the natural environment are not well understood.[368]

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[363] CSPA Petition, p. 79; Permit, pp. 18-19 ("The discharge shall not cause . . . [t]oxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.").

[364] CSPA Petition, p. 79.

[365] The studies referenced by CSPA that are not in the record are as follows: USGS, *Santa Ana River*, SAR sites, 2009; "Water-quality data for pharmaceuticals, hormones, and other organic wastewater contaminants in US streams, 1999-2000" (USGS Open-File Report 02-94); and US EPA, *Treating Contaminants of Emerging Concern: A Literature Review Database* (Aug. 2010) (CSPA Petition, pp. 76-79.) To the extent CSPA's arguments rely on the information contained in these studies, such claims must be dismissed.

[366] See *In the Matter of the Petitions of City of Stockton, California Sportfishing Protection Alliance, San Luis & Delta-Mendota Authority and Westlands Water District*, Order WQ 2009-0012 (Oct. 6, 2009) (Stockton Order).

[367] Stockton Order, p. 9.

[368] Central Valley Regional Water Quality Control Board, NPDES Permit Renewal Issues, Drinking Water Supply and Public Health (Dec. 14, 2009) (Drinking Water Issues Paper), p. 15 ("With the state of knowledge regarding CECs incomplete, there needs to be additional research and development of analytical methods and surrogates to determine potential environmental and public health impacts.").

Because of the existing practical constraints, and because the State Board is currently in the process of conducting studies on CECs, the Regional Board adopted a re-opener in the District's Permit, which would allow the Regional Board to modify the District's Permit at any time should the State Board complete its studies on CECs to require monitoring or special studies.[369]

Further, the Regional Board has considerable discretion in determining if monitoring beyond that required for effluent limitations is necessary. In general, NPDES permits issued pursuant to the CWA are required to include monitoring and reporting requirements to assure compliance with permit effluent limitations.[370] Accordingly, the Regional Board adopted a MRP in the Permit, in Attachment E.[371] The MRP includes monitoring requirements to assure compliance with the various Permit limitations, and establishes additional monitoring requirements that the Regional Board has determined appropriate.[372]

When adopting monitoring requirements beyond those required by federal regulation to assure compliance with permit effluent limitations, the Regional Board must comply with state law. Under state law, the Regional Board *may* require dischargers to investigate water quality and provide technical or monitoring program reports that document the water quality investigation.[373] Thus, the Regional Board's authority under Water Code section 13267 is discretionary—not mandatory. Further, there are limits to the Regional Board's discretionary authority. When requiring water quality investigations and reports pursuant to this provision, the burden of the report, including costs, must bear a reasonable relationship to the need and the benefits to be obtained from the report.[374] In short, the Regional Board is not "mandated" to require additional monitoring, and any additional monitoring requested must be reasonable as compared to the burden and cost.

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[369] Permit, p. 26 ("Upon completion of the studies and formulation of recommendations for CEC monitoring, this Order may be reopened for addition of monitoring or special studies of CECs in the treatment plant discharge.").

[370] See 40 Code of Federal Regulations section 122.44(i)(2); see also Water Code sections 13377, 13383.

[371] Permit, pp. E-1 to E-26; see Permit, pp. F-106 to F-109 for an explanation of the various monitoring requirements contained in the MRP.

[372] See Permit, pp. E-2 to E-16.

[373] Water Code section 13267.

[374] Water Code section 13267.

CSPA argues that the Regional Board should have required the District to monitor for pharmaceuticals and endocrine disrupters.[375] The Permit does not contain effluent limitations for these types of constituents.[376] The monitoring advocated by CSPA thus implicates the Regional Board's discretionary authority. The Regional Board declined to use its discretionary authority to require monitoring for pharmaceuticals and endocrine disrupters, in large part because of the existing scientific uncertainty. Such a decision is clearly within the Regional Board's purview. CSPA's claims have no merit and should be dismissed.

V. Antidegradation Analysis

CSPA asserts various arguments or conclusions to the effect that the Permit's "antidegradation" analysis is inadequate.[377]

The District concurs that the Regional Board failed to comply with federal and state laws, regulations, and guidance in conducting an antidegradation analysis for the discharge. The District's Petition sets forth in detail the deficiencies in the application of antidegradation policies in this case. Most importantly, renewal of the Permit did not trigger antidegradation policies. Even if the policies were arguably triggered, the analyses and conclusions in the Permit are erroneous. The District does not repeat its arguments here, but directs the State Board to the District's Petition and points and authorities.[378]

The District takes issue, however, with CSPA's contentions regarding alleged flaws in the Regional Board's approach. Here, the District addresses the most blatant errors and misstatements of law and fact contained in CSPA's petition that have not already been addressed in the District's submittals.

1. CSPA's Petition Contains Numerous Erroneous and Unsupported Statements

CSPA's Petition is rife with bare assertions that purport to characterize either the facts or the law relevant to application of antidegradation policies to the Permit but that fail to cite to any

[375] CSPA Petition, pp. 79-80.

[376] Permit, pp. 13-15.

[377] CSPA Petition, pp. 80-91.

[378] See, e.g., SRCSD Petition, pp. 141-165.

evidence or source of authority for these conclusions. As such, these are mere unsupported contentions or positions, which cannot be the basis for a quasi-adjudicatory decision by the State Board.[379]

Without citation to any evidence, CSPA claims an "increasing number of wastewater treatment plants around the country and the state are employing reverse-osmosis (RO) or even RO-plus."[380] CSPA does not name, either here or in comments submitted to the Regional Board, even a single municipal wastewater treatment plant discharging RO-treated wastewater to surface waters. If CSPA believed there were other more comparable wastewater treatment facilities that should have been considered in the Regional Board's analysis, it had an obligation to provide this information for the record for consideration by the Regional Board.[381] While a handful of municipal water agencies are employing RO for the purpose of recharging groundwater aquifers, such technology is not remotely common for municipal wastewater treatment. Of the wastewater treatment plants purported to be "comparable" by the Regional Board, none of them employ RO for surface water discharge, nor have any plans to do so.[382]

CSPA complains the antidegradation analysis "does not address additive toxicity," yet cites to no evidence that additive toxicity is an issue.[383] In addition, the Regional Board did evaluate additive toxicity as a possible justification for requiring nitrification.[384] As noted in the District's comments on the September Tentative Permit, the Regional Board relied on certain studies to theorize that "constituents in SRWTP effluent are exerting a combined toxic effect on

[379] Petitions challenging an action of a Regional Board must include specified elements. (Cal. Code Regs., tit. 23, § 2050.) Petitions must include a "full and complete statement of the reasons the action or failure to act was inappropriate or improper" and a statement of points and authorities "in support of legal issues raised in the petition, *including citations to documents or the transcript* of the regional board hearing where appropriate." (Cal. Code Regs., tit. 23, §§ 2050(a)(4) and (a)(7), emphasis added.) Here and elsewhere, CSPA's Petition fails to meet this basic requirement.

[380] CSPA Petition, p. 84.

[381] The District took exception to the Regional Board's selective approach to identifying "comparable" facilities and provided information regarding other more similarly situated wastewater treatment plants in its comments. (District's October 2010 Comments and Evidence Letter, pp. 74-75.) This issue is also addressed in SRCSD's Petition, pp. 152-160.

[382] See Permit, pp. F-96 to F-97 and Table F-17; see also Permit, p. F-77.

[383] CSPA Petition, p. 85.

[384] Permit, Attachment J.

test organisms that is not observed when exposing the organisms to individual constituents."[385] The District has refuted this premise, demonstrating that the cited studies are not sufficient to support a theory that effluent from the SRWTP has additive and synergistic toxicity.[386] In any event, the legal authorities cited by CSPA do not support its claim. State Board guidance specifies that baseline water quality is "pollutant specific, not waterbody specific. Baseline quality should be determined for each constituent in the discharge which is likely to degrade water quality."[387]

As emphasized in the District's Petition, once the District's request for expansion of permitted discharge was withdrawn, the District's Antidegradation Analysis was no longer required for the permit renewal.[388] Despite this, the Regional Board relied upon part of this analysis to construct a case that the discharge was degrading the receiving water. In its critique of the District's analysis, CSPA cites to the *Uniform Guidelines for Wastewater Disinfection* and states "[California] DPH recommended twenty-to-one dilution were [sic] not based on surface waters receiving significant upstream wastewater discharges."[389] CSPA thus implies that the DPH dilution-based recommendations do not apply if there are other POTWs somewhere in the watershed. The DPH guidelines do not contain such a reference or support such a statement. The guidelines describe the disinfection recommendations by type of waterbody (lakes, ephemeral streams, rivers etc.).[390] The guidelines recommend the 20:1 dilution ratio for discharges to all non-effluent dominated freshwater streams and rivers, without regard to the presence or absence

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[385] District's October 2010 Comments and Evidence Letter, p. 49.

[386] "Considering the lack of statistical correlation and the demonstrated impacts to copepods caused by low conductivity, Teh's 2008 study results do not support the premise for which is it used in Attachment K [Attachment J in the Final Permit] . . . . Similarly, the study by Werner referenced in Attachment K [J] does not demonstrate the premise that the SRWTP effluent contributes to additive or synergistic toxicity in the Sacramento River." (District's October 2010 Comments and Evidence Letter, p. 49.) The Permit as adopted evaluated additive and synergistic toxicity but did not conclude that such impacts are occurring. (Permit, p. J-4.)

[387] APU 90-004, p. 4, emphasis added.

[388] SRCSD Petition, p. 136.

[389] CSPA Petition, p. 89. While CSPA cites the 1992 Uniform Guidelines, SRCSD has not located the 1992 Uniform Guidelines in the administrative record. SRCSD has provided relevant citations in the event CSPA's contentions are considered.

[390] *Uniform Guidelines for Wastewater Disinfection*, CDPH (1992), pp. 3-6.

of other wastewater discharges upstream.[391] Further, SRCSD's analysis evaluated absolute, and incremental changes in pathogen risk. The analysis shows that with or without SRCSD's discharge, the pathogen-related risk is very small and the effect of SRCSD's discharge is de minimus.[392]

2. CSPA Mis-states the Law Governing Antidegradation

CSPA reproduces large block quotations of antidegradation guidance documents followed by legal conclusions. Missing is any analysis that applies the law and guidance to the actual facts of the SRCSD discharge. For example, CSPA correctly states that implementation of the state's antidegradation policy is guided by APU 90-004.[393] However, CSPA goes on to state that any antidegradation analysis must "discuss the relative economic burden as an aggregate impact across the entire region using macroeconomics" and must evaluate social and economic impacts to those outside the service area of SRCSD.[394] This ignores the very guidance provided by APU 90-004, that a "simple" antidegradation analysis is all that is required unless the Regional Board determines there will be a significant increase in pollutant loadings.[395] Moreover, even where a complete antidegradation analysis is required, the APU provides that "the party should describe and analyze *the current state of economic and social development in the area that would be affected*. The purpose of this step is to determine the 'baseline' economic and social status of the affected community, i.e., the measure against which the effect of the water quality downgrade is judged."[396] In other words, the relevant economic impacts are those that will be borne by the community that will have to pay the costs of the required treatment upgrades.

CSPA further suggests that the Regional Board is required to consider whether the Sacramento River is a Tier III water, or Outstanding Natural Resource Water (ONRW), under the

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[391] *Uniform Guidelines for Wastewater Disinfection*, CDPH (1992), pp. 4-5; see also SRCSD Petition, pp. 29-32.

[392] See SRCSD Petition, pp. 32-43.

[393] CSPA Petition, p. 80.

[394] CSPA Petition, p. 83.

[395] APU 90-004, p. 2.

[396] APU 90-004, Appendix I-5, p. 7, emphasis added.

federal antidegradation policy.[397] CSPA cites APU 90-004 for the proposition that, if it "can be argued" that a waterbody deserves the same treatment as a formally designated ONRW, it must be treated as such. This is an example of selective quotation. The referenced passage in the APU reads, in its entirety:

> If the receiving water has been designated as an outstanding national resource water in the Region's Basin Plan, or if it can be argued that the waterbody in question deserves the same treatment (for example a wild and scenic river, an area of special biological significance, etc.), no discharge which will lower existing water quality shall be allowed. Lake Tahoe is the only water body in the State presently designated as an outstanding national resource water.[398]

One must strain to read this as guidance that each and every water body in the state must be evaluated for ONRW status on the basis that an argument, however tenuous, is put forward that the water body is "deserving." The guidance is meant to allow regional boards to consider special protections for those waters which have an unusual character. In any event, as detailed in the District's Petition, the Permit does not lower water quality. The Permit does not allow for an increase in flow or mass for any constituent of concern, except cyanide. The District performed and submitted a dynamic model, which represents a more accurate picture of mixing zone concentration and therefore supports adoption of the specific Permit limit for cyanide.[399]

While conceding that the Permit is for an existing discharger and no expansion of flow is authorized, CSPA oddly argues that the SRWTP discharge is a "new source."[400] Federal regulations define "new source" as any "building, structure, facility or installation from which there is or may be a 'discharge of pollutants,' the construction of which commenced" after the promulgation of performance standards pursuant to section 306 of the CWA.[401] A performance standard is a standard "for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through

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[397] CSPA Petition, p. 82.

[398] APU 90-004, p. 4.

[399] Permit, pp. F-41 to F-42.

[400] CSPA Petition, p. 87.

[401] 40 Code of Federal Regulations section 122.2.

application of the best available demonstrated control technology."[402] Municipal wastewater treatment plants, such as the SRWTP, are governed by the secondary treatment standard under section 301 and not subject to performance standards under this section.[403]

CSPA also implies that the Ninth Circuit's decision in the *Friends of Pinto Creek* is somehow relevant to the District's Permit.[404] That case dealt solely with the issue of whether a new discharger—which the SRWTP is not—could receive a permit to discharge into a 303(d) listed water body if the levels of an impairing pollutant in its discharge would exceed the water quality standard. The Ninth Circuit held that a new discharger may not rely on trading or offsets to demonstrate compliance with a water quality criterion where the anticipated reductions in the impairing pollutant had not yet occurred. "The requirement of § 122.4(i)(2) is simply a condition that must be met before a permit can be issued to a *new discharger* into impaired waters."[405] As admitted by CSPA, SRCSD is not a new discharger and discharges from the SRWTP are not a new source.

3. Many of CSPA's Arguments Under the Antidegradation Heading Are Actually Challenges to Specific Effluent Limitations

There is an adage that if one has neither the law nor the facts on one's side, one should argue the Constitution. CSPA has apparently taken this maxim to heart. According to CSPA's Petition, "the allowance for a human health mixing zone may be considered a violation of the State Constitution" and the grant of a human health mixing zone is a "waste and unreasonable use" of water.[406] CSPA cites to no case law, State Board order, or other authority for this novel suggestion. This is not surprising, as the waste and unreasonable use doctrine applies in the context of water rights. The rule of reasonable use stated in article X, section 2 of the California Constitution, stands for the principle that "holders of water rights must use water reasonably and

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[402] 40 Code of Federal Regulations section 401.12(e).

[403] Title 33 United States Code section 1311(b).

[404] *Friends of Pinto Creek v. EPA* (9th Cir. 2007) 504 F.3d 1007.

[405] *Friends of Pinto Creek v. EPA* (9th Cir. 2007) 504 F.3d 1007, 1015, emphasis added.

[406] CSPA Petition, p. 85.

beneficially."[407] As discussed *supra* in this response, the SIP, Basin Plan, and U.S. EPA's TSD set forth the relevant regulatory guidance for the granting of mixing zones. The constitutionality of the SIP has not been called into question.

CSPA states that the effluent limitations for the following constituents are not stringent enough to protect beneficial uses: EC, TDS, aluminum, metals, and chloroform.[408] CSPA cites no evidence to support this conclusion, other than challenging the selection of the hardness values for the application of metals criteria.[409] As best SRCSD is able to discern, CSPA's point is that since the effluent limitations were improperly calculated, the antidegradation analysis is flawed. This misses the point that the relevant issue for the antidegradation analysis is baseline water quality and any change in water quality that is being authorized by the Permit. As already noted, the Permit does not allow for an increase in the discharge of any of the constituents listed by CSPA.

As demonstrated in the District's Petition and points and authorities, the Regional Board's purported antidegradation "analysis" did not comply with applicable regulations and State Board guidance. The Regional Board's superficial findings and conclusions are inadequate and unsupported by evidence. CSPA's attempt to argue that state and federal antidegradation policies, if properly applied, would have led to even more stringent Permit requirements than those imposed, is a poorly constructed house of cards that does not survive scrutiny.

W. Effluent Limitations for Chronic Toxicity

In accordance with the prior State Board orders, the Permit includes a narrative effluent limit for chronic whole effluent toxicity.[410] The Permit also includes compliance determination language, which states "[c]ompliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a shall constitute compliance with the effluent limitation."[411] CSPA appears to

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[407] *City of Barstow v. Mojave Water Agency* (2000) 23 Cal. 4th 1224, 1242.

[408] CSPA Petition, pp. 85-86.

[409] The District's responses to CSPA's contentions related to hardness are set forth in section G of this response.

[410] Permit, p. 14; Davis Order, pp. 5-7; see also *In the Matter of the Petition of Environmental Law Foundation, et al., for Review of Waste Discharge Requirements for the City of Tracy Wastewater Treatment Plant*, Order WQ 2009-0003 (May 19, 2009), pp. 16-17.

[411] Permit, p. 36.

take issue with the effluent limit and associated compliance determination language.[412] In particular, CSPA alleges that the compliance determination language nullifies the narrative effluent limitation.[413]

The compliance determination language is consistent with prior direction provided by the State Board. In 2003, the State Board found that it was inappropriate to include final numeric effluent limitations for chronic toxicity prior to adoption of a relevant state policy.[414] The State Board is still working on that policy. In the meantime, where there is reasonable potential for chronic toxicity, permits must include a narrative limit, "numeric benchmarks for triggering accelerated monitoring, . . . rigorous toxicity reduction evaluation (TRE) / toxicity investigation evaluation (TIE) conditions, and . . . a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity."[415] The compliance determination language, in conjunction with other Permit provisions, meets all four of the requirements. The Permit contains a narrative limit for chronic toxicity;[416] the Permit contains a numeric trigger for accelerated monitoring;[417] the Permit includes rigorous TRE/TIE conditions;[418] and, the Permit includes reopener provisions.[419] Accordingly, the Permit complies with prior State Board orders and CSPA's claim must be dismissed.

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[412] CSPA Petition, p. 92.

[413] CSPA Petition, p. 92.

[414] *In the Matter of the Review of Own Motion of Waste Discharge Requirements for Los Coyotes and Long Beach Wastewater Reclamation Plants*, Order WQO 2003-0012 (Sept. 16, 2003) (Los Coyotes Order), pp. 9-10; see also Davis Order, p. 6.

[415] Los Coyotes Order, p. 10; Davis Order, pp. 6-7.

[416] Permit, p. 14.

[417] Permit, p. 27.

[418] Permit, p. 27.

[419] Permit, pp. 24-25.

II. CONCLUSION

SRCSD respectfully submits that the State Board should determine that CSPA's Petition raises no substantial issue for review. To the extent the State Board addresses any of CSPA's issues, it should reject CSPA's contentions.

SOMACH SIMMONS & DUNN
A Professional Corporation

DATED: May 4, 2011

By: _____
Paul S. Simmons
Attorneys for Petitioner
SACRAMENTO REGIONAL COUNTY
SANITATION DISTRICT

OFFICE OF THE COUNTY COUNSEL

DATED: May 4, 2011

By: _____
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PROOF OF SERVICE

I am employed in the County of Sacramento; my business address is 500 Capitol Mall, Suite 1000, Sacramento, California; I am over the age of 18 years and not a party to the foregoing action.

On May 4, 2011, I served a true and correct copy of:

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT'S RESPONSE TO CALIFORNIA SPORTFISHING PROTECTION ALLIANCE'S PETITION FOR REVIEW OF ORDER NO. R5-2010-0114

XXX (by mail) on all parties in said action, in accordance with Code of Civil Procedure §1013a(3), by placing a true copy thereof enclosed in a sealed envelope, with postage fully paid thereon, in the designated area for outgoing mail, addressed as set forth below.

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On May 4, 2011, I also provided a **courtesy copy** of:

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT'S RESPONSE TO CALIFORNIA SPORTFISHING PROTECTION ALLIANCE'S PETITION FOR REVIEW OF ORDER NO. R5-2010-0114

by mail to the following individuals/entities:

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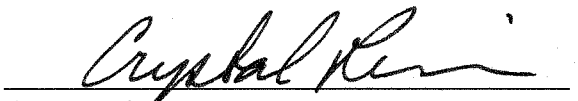
I declare under penalty of perjury that the foregoing is true and correct. Executed on May 4, 2011, at Sacramento, California.



Crystal Rivera