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**FILED/ENDORSED**  
AUG 18 2014  
By S. Lee, Deputy Clerk

SUPERIOR COURT OF CALIFORNIA  
COUNTY OF SACRAMENTO

**CALIFORNIA SPORTFISHING PROTECTION ALLIANCE, a non-profit corporation,**

**Petitioner,**

**v.**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY REGION, a public agency; CALIFORNIA WATER RESOURCES CONTROL BOARD, a public agency,**

**Respondents.**

**SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT, a public agency,**

**Real Party in Interest.**

**CENTRAL VALLEY CLEAN WATER ASSOCIATION,**

**Intervenor.**

**Case No. 34-2013-80001358-CU-WM-GDS**

**RULING ON SUBMITTED MATTER: PETITION FOR PEREMPTORY WRIT OF MANDATE (CODE OF CIVIL PROCEDURE § 1094.5)**

**I. Introduction and Procedural Background**

This is one of two independent cases involving the issuance of wastewater discharge requirements, which serve as a National Pollutant Discharge Elimination System permit, to the Sacramento Regional

1 County Sanitation District (SRCSD). The permit allows for the discharge of treated wastewater from the  
2 Sacramento Regional Wastewater Treatment Plant into the Sacramento River.

3 The California Regional Water Quality Control Board, Central Valley Region (Regional Board),  
4 issued the permit on December 9, 2010, through its Order No. R5-2010-0114. The permit essentially was  
5 a renewal of a permit previously issued in 2000. On January 5, 2011, the California Sportfishing  
6 Protection Alliance (CSPA, the petitioner in this case), filed a timely petition for review with the  
7 California State Water Resources Control Board (State Board) pursuant to Water Code section 13320.  
8 SRCSD also filed a timely petition for review with the State Board.

9 The State Board consolidated the two petitions for review on March 28, 2011. Nearly six months  
10 later, on September 19, 2011, the State Board notified CSPA and SRCSD that it would review the permit  
11 on its own motion.

12 SRCSD filed a petition for writ of mandate in this Court on December 30, 2011, entitled  
13 *Sacramento Regional County Sanitation District v. State Water Resources Control Board*, Case No. 34-  
14 2011-80001028. That writ proceeding subsequently was stayed by stipulation of the parties and an order  
15 of the Court entered on January 23, 2012.<sup>1</sup>

16 On December 4, 2012, the State Board issued Order No. WQ-2012-0013, which approved an  
17 amended permit and essentially dismissed the issues that CSPA had raised in its petition for review.

18 CSPA filed the present writ proceeding on January 3, 2013. The Regional Board and the State  
19 Board have filed a joint opposition brief to the petition. SRCSD, named as the real party in interest, also  
20 has filed an opposition brief. The Central Valley Clean Water Association (CVCWA), which previously  
21 was granted leave to intervene in this case, also has filed an opposition brief.

22 Respondent Board lodged an extensive administrative record with the Court, consisting of  
23  
24

25 <sup>1</sup> On May 27, 2014, the parties in SRCSD's writ proceeding filed a Stipulation and Proposed Order in that case  
26 indicating that they had reached agreement regarding the remaining issues in that proceeding. However, final  
27 resolution of the case was dependent upon "the occurrence or non-occurrence of certain events over the next few  
28 months." The Stipulation and Order thus provides for a hearing on the merits in that case on December 12, 2014 if  
certain events described as "triggering dismissal" have not occurred by September 15, 2014. This proceeding has not  
been stayed, and no party in this proceeding has asserted that the issues in this proceeding are related to the issues in  
SRCSD's writ proceeding.

1 documents from the Regional Board's proceedings (numbered RB000001-RB182548) and from the State  
2 Board's proceedings (numbered SB00001-SB06788).<sup>2</sup>

3 The Court heard oral argument in this matter on April 11, 2014. At the close of the hearing, the  
4 Court granted respondents' unopposed oral motion to dismiss the State Board with prejudice.<sup>3</sup> The Court  
5 also directed the parties to file supplemental briefing on specified issues. The Court received the  
6 supplemental briefing and the matter was deemed submitted as of May 22, 2014.

## 7 **II. Summary of Petitioner's Contentions and Court's Ruling**

8 Petitioner CSPA makes six discrete contentions in this proceeding, which may be summarized as  
9 follows:

- 10 1. Respondent Board failed to include freshwater aquatic life criteria for hardness-dependent  
11 metals in the permit that were calculated in the manner required by applicable regulatory law.
- 12 2. Respondent Board failed to evaluate the additive or interactive toxicity of multiple pollutants  
13 as required under the applicable Basin Plan.
- 14 3. Respondent Board failed to impose an adequate effluent limitation for aluminum.
- 15 4. Respondent Board failed to establish a weekly effluent limitation for aluminum as required by  
16 applicable regulatory law.
- 17 5. Respondent Board granted SRCSD an exemption from the applicable Thermal Plan that is not  
18 supported by the evidence regarding potential harm to aquatic life.
- 19 6. Respondent Board failed to include mass-based effluent limitations as required by applicable  
20 regulatory law.<sup>4</sup>

21  
22 For the reasons set forth below, the Court grants the petition as to issues 1, 4 and 5, and denies the  
23 petition as to issues 2, 3 and 6.

24 \_\_\_\_\_  
25 <sup>2</sup> All references to the record in this ruling will use those page numbers.

26 <sup>3</sup> Because the Regional Board is the only remaining respondent, this ruling refers to it as "respondent Board".

27 <sup>4</sup> The petition contains nineteen causes of action, only six of which, as described above, are addressed in petitioner's  
28 briefing. Prior to the hearing in this matter on April 11, 2014, the Court issued a tentative ruling dismissing with  
prejudice the remaining thirteen causes of action (specifically, the 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 17<sup>th</sup>,  
18<sup>th</sup> and 19<sup>th</sup>). The Court now confirms that tentative ruling. The Court also confirms its tentative ruling regarding  
requests for judicial notice.

1 **III. Standard of Review**

2 All parties agree that Water Code section 13330(e) governs the standard of review applicable to  
3 this proceeding. The statute provides: “Except as otherwise provided herein, Section 1094.5 of the Code  
4 of Civil Procedure shall govern proceedings for which petitions are filed pursuant to this section. For the  
5 purposes of subdivision (c) of Section 1094.5 of the Code of Civil Procedure, the court shall exercise its  
6 independent judgment on the evidence in any case involving the judicial review of a decision or order of  
7 the state board issued under Section 13320, or a decision or order of a regional board for which the state  
8 board denies review under Section 13320, other than a decision or order issued under Section 13323.”

9 As provided in Code of Civil Procedure section 1094.5(b), the Court’s inquiry “...shall extend to  
10 the questions whether the respondent has proceeded without, or in excess of, jurisdiction; whether there  
11 was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is  
12 established if the respondent has not proceeded in the manner required by law; the order or decision is not  
13 supported by the findings; or the findings are not supported by the evidence.”

14 Because the Court is authorized by law to exercise its independent judgment on the evidence in  
15 this case, Code of Civil Procedure section 1094.5(c) provides that “...abuse of discretion is established if  
16 the court determines that the findings are not supported by the weight of the evidence.”

17 The standard of review applicable to issues of law is also independent judgment, giving deference  
18 to the determination of the agency appropriate to the circumstances of agency action. (See, *Yamaha*  
19 *Corporation of America v. State Board of Equalization* (1998) 19 Cal. 4<sup>th</sup> 1, 8.) The court should extend  
20 appropriate deference to the technical expertise of administrative agencies, and give considerable weight to  
21 the findings of experienced administrative bodies made after a full and formal hearing, especially in cases  
22 involving technical and scientific evidence. (See, *Communities for a Better Environment v. State Water*  
23 *Resources Control Board* (2003) 109 Cal. App. 4<sup>th</sup> 1089, 1103-1104.)

24 The findings of the respondent come before the court with a strong presumption of their  
25 correctness, and the burden rests on the complaining party to convince the court that its decision is  
26 contrary to the weight of the evidence. (See, *Fukuda v. City of Angels* (1999) 20 Cal. App. 4<sup>th</sup> 805, 812.)  
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1 **IV. Discussion**

2 **A. Hardness-Dependent Metals Criteria**

3 Petitioner's first contention is that respondent Board prejudicially abused its discretion by failing  
4 to calculate freshwater aquatic life criteria for hardness-dependent metals in the manner required by law.  
5 The permit in this case regulates seven hardness-dependent metals: cadmium, copper, chromium III, lead,  
6 nickel, silver and zinc.<sup>5</sup>

7 All parties agree that the establishment of water quality criteria for hardness-dependent metals is  
8 governed by a regulation promulgated by the U.S. Environmental Protection Agency (USEPA) commonly  
9 referred to as the "California Toxics Rule" (CTR). The CTR is found in Title 40 of the Code of Federal  
10 Regulations, Part 131, § 131.38, formally entitled "Establishment of Numeric Criteria for Priority Toxic  
11 Pollutants for the State of California".<sup>6</sup>

12 The CTR applies to numerous pollutants that can cause toxicity to aquatic life organisms when  
13 present in sufficiently high concentrations. For most of those pollutants, the CTR sets forth criteria in the  
14 form of specific numerical values.<sup>7</sup> However, "[f]reshwater aquatic life criteria for certain metals are  
15 expressed as a function of hardness because hardness and/or water quality characteristics that are usually  
16 correlated with hardness can reduce or increase the toxicities of some metals. [...] Increasing hardness  
17 has the effect of decreasing the toxicity of metals. Water quality criteria to protect aquatic life may be  
18 calculated at different concentrations of hardnesses measured in milligrams per liter (mg/l) as calcium  
19 carbonate (CaCO<sub>3</sub>)."<sup>8</sup>

20 In other words, for a number of hardness-dependent metals, the criteria set forth in the regulation  
21 must be adjusted for hardness to match the circumstances of the particular regulated discharge. Section  
22 131.38(b)(2) of the CTR presents two hardness-dependent equations for freshwater metals criteria.<sup>9</sup>

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24  
25 <sup>5</sup> See, RB0072396.

26 <sup>6</sup> A complete copy of the regulation and all introductory and explanatory material published with the regulation in the  
27 Federal Register is found in the record at RB0058496-58548.

28 <sup>7</sup> See, RB0058527-58530.

<sup>8</sup> See, RB0058507.

<sup>9</sup> See, RB0058532.

1 The first of the two equations addresses calculation of the “Criteria Maximum Concentration”  
2 (CMC), which is defined as “the water quality criteria to protect against acute effects in aquatic life and is  
3 the highest instream concentration of a priority toxic pollutant consisting of a short-term average not to be  
4 exceeded more than once every three years on the average.”<sup>10</sup>

5 The second of the two equations addresses calculation of the “Continuous Criteria Concentration”  
6 (CCC), which is defined as “the water quality criteria to protect against chronic effects in aquatic life and  
7 is the highest in stream [sic] concentration of a priority toxic pollutant consisting of a 4-day average not to  
8 be exceeded more than once every three years on the average.”<sup>11</sup>

9 Each equation includes a factor for hardness. Section 131.38(c)(4) contains directions as to how  
10 to establish this factor. It states: “For purposes of calculating freshwater aquatic life criteria for metals  
11 from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/l or less as  
12 calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.”<sup>12</sup>

13  
14 In the permit, respondent Board divided the analysis of hardness-dependent metals into two parts:  
15 one for so-called “concave down metals” (chronic cadmium, chromium III, copper, nickel and zinc); and  
16 one for so-called “concave up metals” (acute cadmium, lead and acute silver).<sup>13</sup> “Concave down” and  
17 “concave up” are not terms used in the CTR, but are apparently well-accepted shorthand terms that  
18 describe the curves that result when the equations for various metals are plotted on a graph.<sup>14</sup>

19 Petitioner contends that respondent Board failed to follow the mandate of the CTR in this analysis.  
20 In the case of “concave down” metals, petitioner argues, respondent Board erred by using the hardness of  
21 the treatment plant’s effluent in the equation set forth in Section 131.38(b)(2), rather than the “actual  
22 ambient hardness of the surface water”, i.e., the hardness of the river upstream from the point at which  
23 effluent enters the river. In the case of “concave up” metals, petitioner argues, respondent Board erred in

24 \_\_\_\_\_  
<sup>10</sup> See, RB0058533.

25 <sup>11</sup> *Id.*

26 <sup>12</sup> *Id.*

27 <sup>13</sup> See, RB0072399-72403.

28 <sup>14</sup> See, respondent Board’s opposition brief, page 14:14-16. The meaning of these terms does not appear to be a  
disputed issue in this case.

1 two ways: by using an equation other than the equation specified in Section 131.38(b)(2); and by using the  
2 hardness of the effluent in that equation in addition to the hardness of the upstream water in the river.

3 It is apparent from the face of the permit that respondent Board did perform the calculations as  
4 petitioner contends.<sup>15</sup> Indeed, no party asserts otherwise.

5 With regard to the calculation for “concave up” metals, the Court is compelled to conclude that  
6 respondent Board abused its discretion by failing to use the equation set forth in the applicable regulation.  
7 The regulation clearly sets forth the equations to be used. It is undisputed that respondent Board did not  
8 use the required equation for “concave up” metals, and therefore did not comply with the law. The failure  
9 to proceed in the manner required by law is, by definition, an abuse of discretion under Code of Civil  
10 Procedure section 1094.5(b).

11 A writ of mandate therefore will issue directing respondent Board to recalculate water quality  
12 criteria for “concave up” hardness-dependent metals using the equations set forth in the CTR.

13 The remaining issue is the use of the hardness value of the effluent as one of the elements in the  
14 calculation for all hardness-dependent metals.

15 For purposes of this case, it is undisputed that the hardness of the Sacramento River is less than  
16 400 mg/L as calcium carbonate.<sup>16</sup> Thus, respondent Board was required to use the “actual ambient  
17 hardness of the surface water” in calculating freshwater aquatic life criteria for hardness-dependent metals  
18 through the equations set out in the CTR. The dispute in this case centers on the meaning of that term.

19 The Court concludes that, under the facts and circumstances of this case, respondent Board abused  
20 its discretion by using the hardness value of the effluent in its calculations. The regulation requires the  
21 Board to use the actual ambient hardness value of the “surface water”. The regulation does not define that  
22 term, but the ordinary meaning of the term “surface water” suggests a body of water of natural origin that  
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24  
25 <sup>15</sup> See, RB0072399-72404.

26 <sup>16</sup> See, for example, real party in interest SRCSD’s opposition brief, page 11, footnote 9: “The equations present in  
27 the CTR are considered to be most accurate when the hardness values of the ambient waters are between 25 mg/l and  
28 400 mg/l of hardness. [...] There is no dispute that the Sacramento River falls within this range and that the  
hardness-dependent equations are therefore applicable.” The permit itself states that “upstream receiving water  
hardness varied from 26 mg/L to 100 mg/L (as CaCO<sub>3</sub>), based on 100 samples from June 2005 to July 2008.” (See,  
RB0072399). Sampling data in the record supports this statement. (See, RB0009857-9863.)

1 is present on the surface of the earth, such as a river, a lake, a bay or an estuary, rather than treated waste  
2 water that is discharged into such waters. The regulation itself supports this interpretation by including the  
3 term “surface waters” in its introductory description of the types of water bodies it is intended to protect.<sup>17</sup>  
4 Thus, the regulation highlights a fundamental distinction between “surface water” (which is to be  
5 protected) and “effluent” (which is to be regulated).

6 Similarly, the ordinary meaning of “effluent”, as used in the context of wastewater treatment  
7 plants, is “waste material...discharged into the environment”<sup>18</sup>, i.e., something distinct from the waters  
8 into which the effluent is discharged (which represent the environment). Moreover, in this case, at least,  
9 the effluent from SRCSD’s treatment plant may not reasonably be characterized factually as “surface  
10 water” because it does not originate naturally or flow on the surface. Instead, it is produced by the  
11 treatment plant and transported through a system of pipes to be discharged into the river from a submerged  
12 diffuser.

13  
14 The conclusion that the effluent is not surface water for purposes of the regulation is supported by  
15 the State Board’s “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed  
16 Bays, and Estuaries of California”, issued in 2005.<sup>19</sup> It states: “When implementing the provisions of this  
17 Policy, the RWQCB shall ensure that criteria/objectives are properly adjusted for hardness or pH, if  
18 applicable, using the hardness or pH values for the *receiving water*”.<sup>20</sup> The use of the term “receiving  
19 water” clearly indicates that the State Board interprets the regulatory term “surface water” as meaning the  
20 water into which the effluent is discharged, and not the effluent itself. This interpretation of the applicable  
21 regulation by the agency charged with supervising its administration is entitled to significant weight as an  
22 official interpretation of the applicable regulation. (See, *Californians for Pesticide Reform v. Department*  
23

24 <sup>17</sup> See, Section 131.38(a): “*Scope*. This section promulgates criteria for priority toxic pollutants in the State of  
25 California for inland surface waters and enclosed bays and estuaries.” (Italics in original.) Similarly, the  
26 introductory “Overview” to the regulation states: “Control of toxic pollutants in surface waters is necessary to  
achieve the CWA’s goals and objectives. Many of California’s monitored river miles, lake acres and estuarine  
waters have elevated levels of toxic pollutants.” (See, RB0058498.)

27 <sup>18</sup> See, e.g., Webster’s Ninth New Collegiate Dictionary, “effluent”, definition 2b.

28 <sup>19</sup> The Policy is frequently referred to as the “State Implementation Plan” or “SIP”.

<sup>20</sup> See, RB178860. (Emphasis supplied.)



1 of *Pesticide Regulation* (2010) 184 Cal. App. 4<sup>th</sup> 887, 898; *Yamaha Corporation of America v. State Board*  
2 of *Equalization* (1998) 19 Cal. 4<sup>th</sup> 1, 12-13.)

3 Respondent Board, supported by SRCSD and CVCWA, argues that it has considerable discretion  
4 in selecting the hardness value to be used in the hardness-dependent metals calculations, and that selecting  
5 the hardness value of the effluent in this case was within the scope of that discretion. This argument fails  
6 to persuade, principally because the hardness value of the effluent is not the “actual ambient hardness of  
7 the surface water”, as the regulation requires.

8 The argument that respondent Board has discretion to use the hardness value of the effluent is  
9 based in part on a decision of the State Water Resources Control Board issued in 2008 and referred to as  
10 the “City of Davis Order”.<sup>21</sup> The Order does state, as a general proposition, that the CTR and the State  
11 Implementation Plan are “somewhat conflicting for selection of hardness”, and that, as a result, “the  
12 regional water boards have considerable discretion in the selection of hardness.”<sup>22</sup> But the Order does not  
13 stand for the proposition that the regional water boards have discretion to select effluent hardness as a  
14 factor in the regulatory equations. Indeed, the Order did not endorse or even discuss the use of effluent  
15 hardness values in calculating effluent limitations in that particular case. Instead, the Order concluded that  
16 the Regional Board “was justified in using upstream receiving water hardness values rather than effluent  
17 hardness values”, citing the overriding principle that “[e]ffluent limitations must protect beneficial uses  
18 considering reasonable, worst-case conditions”.<sup>23</sup> At most, the Order suggested that the Regional Board,  
19 on remand, could admit and consider supplemental evidence, including “representative downstream  
20 receiving water mixed hardness data”.<sup>24</sup> This falls short of authorizing respondent Board’s use of effluent  
21 hardness in this case, or any other.  
22

23 In addition, SRCSD and CVCWA contend that a prior decision of another Department of this  
24

25 <sup>21</sup> See, State Water Resources Control Board Order WQ 2008-0008 (Corrected), *In the Matter of the Petition of*  
26 *California Sportfishing Protection Alliance for Review of Waste Discharge Requirements Order No. R5-2007-0132*  
*[NPDES No. CA0079049] for the City of Davis Wastewater Treatment Plant, Yolo County*, RB0174042-0174064.

27 <sup>22</sup> See, RB0174051.

28 <sup>23</sup> See, RB0174053-0174054.

<sup>24</sup> See, RB0174052.

1 Court supports respondent Board's approach to hardness-dependent metals in this case: *California*  
2 *Sportfishing Protection Alliance v. California Regional Water Quality Control Board, Central Valley*  
3 *Region*, Sacramento County Superior Court Case No. 34-2009-80000309.<sup>25</sup> Indeed, SRCSD goes so far as  
4 to contend that petitioner is collaterally estopped from litigating issues regarding hardness-dependent  
5 metals in this case because it was a party to the earlier action and the issue presented here was resolved  
6 adversely to petitioner there.<sup>26</sup>

7         Neither contention is persuasive, because the facts of the Deer Creek case were significantly  
8 different from the facts of this case. Specifically, Deer Creek is a stream of highly variable flow that  
9 "...is, under dry conditions, an effluent dominated stream", in which "the 'worst-case' downstream  
10 hardness happens to be the same as the effluent hardness."<sup>27</sup> In other words, under certain regularly-  
11 occurring dry conditions, the effluent is, in effect, the ambient surface water. Thus, it was reasonable to  
12 use the effluent hardness as a measure of a realistic "worst-case" scenario to ensure "that effluent  
13 limitations will be fully protective under all flow conditions."<sup>28</sup>

14         In this case, by contrast, there is no evidence that the Sacramento River is, under any existing or  
15 reasonably foreseeable conditions, an "effluent-dominated stream". Indeed, the evidence clearly indicates  
16 otherwise: the normal ratio of river flow to plant discharge is at least 20:1, and the permit specifically  
17 provides that the plant must cease discharges when the ratio falls below 14:1, which is expected to be an  
18 infrequent event of short duration.<sup>29</sup> Thus, there is no evidence in this case that the hardness value of the  
19 effluent ever is, in effect, the hardness value of the Sacramento River, or represents the "worst-case"  
20 downstream hardness of the river. The Court's ruling in the Deer Creek case is factually distinguishable  
21

22 <sup>25</sup> A copy of the Court's Final Statement of Decision, dated January 26, 2011, is attached to the Declaration of  
23 Theresa A. Dunham as Exhibit C. A copy of the Court's subsequent ruling on a return to the writ of mandate, dated  
24 February 22, 2012, is attached to the same declaration as Exhibit E. The parties have referred to these rulings  
25 collectively as the "Deer Creek decision", after the name of the waterway involved in the case.

26 <sup>26</sup> Interestingly, respondent Board does not raise collateral estoppel as an issue, and addresses the earlier case only in  
27 passing in an introductory footnote in its opposition brief. (See, respondent Board's Brief in Opposition to Petition  
28 for Writ of Mandate, page 1, footnote 2.)

<sup>27</sup> See, Declaration of Theresa A. Dunham, Exhibit E, page 8.

<sup>28</sup> *Id.*

<sup>29</sup> See, RB0072450; RB0072311. The permit also states that the average river to effluent flow ratio is 50:1. (See,  
RB0072450.) For the transient nature of 14:1 flow events, see RB0010591; RB0016973-16974.

1 and thus lacks persuasive value in this case.

2           The significant factual difference between the two cases also weighs against giving the Deer Creek  
3 decision collateral estoppel effect here. Under the doctrine of collateral estoppel, a prior judicial  
4 determination of a legal issue with respect to specific facts may be given effect in a subsequent action  
5 between the same parties. (See, *Chern v. Bank of America* (1976) 15 Cal. 3<sup>rd</sup> 866, 872; *Apartment*  
6 *Association of Greater Los Angeles v. City of Los Angeles* (2001) 90 Cal. App. 4<sup>th</sup> 1162, 1168-1169.)  
7 Even though the interpretation of the regulatory term “ambient surface water” represents a legal issue that  
8 is common to the two cases, the specific facts of the two cases are not the same.

9           Moreover, there is a well-recognized, if narrow, exception to the collateral estoppel doctrine for  
10 significant issues involving the public interest. As stated in *Sacramento County Employees’ Retirement*  
11 *System v. Superior Court* (2011) 195 Cal. App. 4<sup>th</sup> 440, 452: “[C]ollateral estoppel will not be applied to  
12 foreclose the relitigation of an issue of law covering a public agency’s ongoing obligation to administer a  
13 statute enacted for the public benefit and affecting members of the public not before the court.” It is clear  
14 that, in establishing effluent limits, respondent Board administers laws enacted for the public benefit and  
15 affecting members of the public not before the court. Cases involving potential environmental hazards  
16 have been found to be of “tremendous public significance” and thus inappropriate for application of  
17 collateral estoppel. (See, e.g., *People v. Union Pacific Railroad* (2006) 141 Cal. App. 4<sup>th</sup> 1228.<sup>30</sup>) This is  
18 such a case. Particularly given the factual differences between the two cases, the Court finds that the  
19 public interest weighs against precluding petitioner from litigating the issues it raises here.  
20

21           The Court accordingly concludes that petitioner was not precluded from litigating the issue of the  
22 proper interpretation and application of the regulatory term “ambient surface water” in this case, and that  
23 the prior administrative and judicial rulings cited by the opposing parties are not binding or persuasive  
24 given the facts of this case.

25           Finally, the Court notes that in adopting an approach to establishing criteria for hardness-  
26

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27 <sup>30</sup> This case also points out that heightened concerns of potential injustice arise when collateral estoppel is invoked by  
28 a non-party to the prior litigation. As noted above, SRCSD raises collateral estoppel as an issue here, but respondent  
Board does not. SRCSD was not a party to the Deer Creek case, which involved the El Dorado Irrigation District.

1 dependent metals that did not strictly follow the requirements of the CTR, respondent Board relied heavily  
2 on a 2006 study entitled “California and National Toxics Rule Implementation and Development of  
3 Hardness Based Metal Effluent Limitations”.<sup>31</sup> The permit explicitly states that this study “...provides a  
4 reliable method for calculating protective hardness-dependent CTR criteria, considering all discharge  
5 conditions. This methodology produces criteria that ensure these metals do not cause receiving water  
6 toxicity, while avoiding criteria that are unnecessarily stringent.”<sup>32</sup> The study itself states that its purpose  
7 is to describe a methodology for establishing effluent limitations for hardness-based metals “...that will be  
8 protective under all dilution conditions when the final mixed receiving water/effluent hardness is less than  
9 400mg/L, without being overly restrictive.”<sup>33</sup>

10  
11 From these statements, it is evident that respondent Board departed from the letter of the  
12 regulatory requirements based on a concern that those requirements are stricter than really necessary, and  
13 that they are not supported by at least some recent scientific opinion. It may or may not be true that the  
14 regulation, as it currently exists, represents the most current scientific thinking. It also may or may not  
15 result in unnecessarily strict limitations. This is not, however, a question that the Court needs to resolve.<sup>34</sup>  
16 If the regulation is indeed outdated, perhaps it needs to be changed. Until it is changed, however,  
17 respondent Board is obligated to comply with it. Respondent Board did not do so, and thereby abused its  
18 discretion.

19 A writ of mandate therefore shall be issued to direct respondent Board to reconsider the  
20 calculation of effluent limits for hardness-dependent metals using the equations set forth in the CTR, but  
21 without using the hardness value of the effluent in those equations.  
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25 <sup>31</sup> See, RB0086615-86626. This study has been referred to, in this case and elsewhere, as the “Emerick Study”, after  
the name of one of its principal authors.

26 <sup>32</sup> See, RB0072396-72397.

27 <sup>33</sup> See, RB0086616.

28 <sup>34</sup> The Court does note that the ruling in the Deer Creek case expressed concerns regarding the Emerick Study’s  
conclusions. (See, Declaration of Theresa A. Dunham, Exhibit C, page 15.)

1           **B. Analysis of Additive / Interactive Toxicity**

2           Petitioner’s second contention is that respondent Board failed to evaluate the additive or  
3 interactive toxicity of multiple pollutants as required by the applicable Basin Plan. In particular, petitioner  
4 argues that there is a reasonable potential for additive or interactive toxicity to certain organisms from the  
5 combination of ammonia and copper, both of which are pollutants present in the treated wastewater from  
6 the SRCSD plant. Petitioner asserts that respondent Board failed to address this possibility in the permit.

7           Petitioner’s contention is based on the Fourth Edition of the Water Quality Control Plan (Basin  
8 Plan) for the Sacramento River and San Joaquin River Basins.<sup>35</sup>

9           Under the heading “Water Quality Objectives for Inland Surface Waters” and the subheading  
10 “Toxicity”, the Basin Plan states the following general objective: “All waters shall be maintained free of  
11 toxic substances in concentrations that produce detrimental physical responses in human, plant, animal, or  
12 aquatic life.” This objective applies “regardless of whether the toxicity is caused by a single substance or  
13 the interactive effect of multiple substances.”<sup>36</sup>

14           Under the heading “Policy for Application of Water Quality Objectives”, the Basin Plan states:

15           “Where multiple toxic pollutants exist together in water the potential for toxicologic interactions  
16 exists. On a case by case basis, the Regional Water Board will evaluate available receiving water and  
17 effluent data to determine whether there is a reasonable potential for interactive toxicity. Pollutants which  
18 are carcinogens or which manifest their toxic effects on the same organ systems or through similar  
19 mechanisms will generally be considered to have potentially additive toxicity.”<sup>37</sup>

20           The Basin Plan sets forth a formula for analyzing the potential for additive or interactive toxicity:

21           “The concentration of each toxic substance is divided by its toxicologic limit. The resulting ratios  
22 are added for substances having similar toxicologic effects and, separately, for carcinogens. If such a sum  
23 of ratios is less than one an additive toxicity problem is assumed not to exist. If the summation is equal to  
24 or greater than one, the combination of chemicals is assumed to present an unacceptable level of  
25

26 \_\_\_\_\_  
<sup>35</sup> The Basin Plan is found in the record at RB179519.

27 <sup>36</sup> See, RB179554.

28 <sup>37</sup> See, RB179583-179584.

1 toxicologic risk.”<sup>38</sup>

2 Any analysis of additive or interactive toxicity is governed by the following general policy  
3 contained in the Basin Plan:

4 “The Regional Board will also consider all material and relevant information submitted by the  
5 discharger and other interested parties and numerical criteria and guidelines for toxic substances developed  
6 by [the State Board and other listed agencies] and other appropriate organizations to evaluate compliance  
7 with this objective.”<sup>39</sup>

8 The three opposition briefs adopt differing (and sometimes inconsistent) approaches to petitioner’s  
9 claim regarding additive or interactive toxicity. Respondent Board argues that the appropriate analysis  
10 was done for ammonia and copper. SRCSD does not argue that respondent Board did an additive or  
11 interactive toxicity analysis for ammonia and copper, but argues instead that it was not required to perform  
12 such an analysis in this case, and that there is no mandate to evaluate “infinite theoretical additive toxicity  
13 combinations”.<sup>40</sup> SRCSD further argues that respondent Board appropriately addressed the issue of  
14 potential additive or interactive toxicity by adopting narrative toxicity objectives, requiring whole effluent  
15 toxicity testing<sup>41</sup>, and providing for the “reopening” of the permit if such toxicity were to be found.<sup>42</sup>  
16 Intervenor CVCWA argues that petitioner’s claim regarding the potential additive or interactive toxicity of  
17 ammonia in combination with other pollutants lies outside the scope of its comments at the administrative  
18 level and the allegations of its petition in this case. CVCWA also echoes SRCDS’s argument that the  
19 permit appropriately addressed the potential for additive or interactive toxicity through narrative toxicity  
20 objectives, whole effluent toxicity testing, and the “reopener” provision.  
21

22 Based on its review of the permit, the Court concludes that respondent Board’s argument that an  
23 additive or interactive toxicity analysis was done for ammonia and copper cannot be sustained. The  
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25 <sup>38</sup> *Id.*

26 <sup>39</sup> See, RB179554-179555.

27 <sup>40</sup> See, SRCSD opposition brief, page 26:13-14.

28 <sup>41</sup> See, RB0072359-72362.

<sup>42</sup> See, RB0072322-72323.

1 portion of the permit to which respondent Board cites contains a discussion of whether dilution credits  
2 should be allowed for specific pollutants, including ammonia and copper, but there is no discussion of the  
3 additive or interactive toxicity of those substances, or of any others.<sup>43</sup> Indeed, the only discussion of  
4 additive or interactive toxicity that the Court can locate in the permit is in a separate section relating to the  
5 pesticides chlorpyrifos and diazinon, which are not at issue in this case.<sup>44</sup>

6           Nevertheless, the Court does not conclude that respondent Board abused its discretion by not  
7 performing additional additive or interactive toxicity analyses for ammonia and copper, or for other  
8 substances present in the treated wastewater discharge. The Basin Plan does not require the Board to  
9 analyze all potential combinations of pollutants for potential additive or interactive toxicity. Such a task  
10 likely would be extremely difficult, if not virtually impossible, in situations involving multiple pollutants.  
11 Instead, the Basin Plan directs the Board to focus on pollutants which are carcinogens or which manifest  
12 their toxic effects on the same organ systems or through similar mechanisms. As the Basin Plan states,  
13 such pollutants are “generally...considered to have potentially additive toxicity.”

14  
15           Here, petitioner has not demonstrated that ammonia and copper (or any other pollutants present in  
16 the treated wastewater discharge) are carcinogens or manifest their toxic effects on the same organ systems  
17 or through similar mechanisms. At most, petitioner has shown that there are studies that suggest that some  
18 aquatic organisms may be sensitive to combined concentrations of ammonia and copper. The record  
19 shows that respondent Board was aware of these studies and considered them, as they are referred to in an  
20 attachment to the permit discussing “Ammonia-Related Issues”.<sup>45</sup> However, these studies (at least as  
21 described in the cited portions of the record) do not establish that ammonia and copper manifest their toxic  
22 effects on aquatic organisms through the same organ systems or through similar mechanisms. Thus, there  
23 was no clear signal that the additive or interactive toxicity analysis was required in this case.

24           The Court accordingly concludes that respondent Board did not abuse its discretion by failing to  
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26 <sup>43</sup> See, RB0072416-72417.

27 <sup>44</sup> See, RB0072444-72445. The permit contains an analysis of these pollutants using the equation set forth in the  
Basin Plan. (See, RB0072313.)

28 <sup>45</sup> See, RB0072503.

1 perform an additive or interactive toxicity analysis in this case.<sup>46</sup>

2 **C. Effluent Limitation for Aluminum**

3 Petitioner's third contention is that respondent Board failed to impose an adequate effluent  
4 limitation for aluminum. The permit contains a final annual average effluent limitation for aluminum of  
5 200 µg/L, as well as an average monthly effluent limit of 503 µg/L and a maximum daily effluent limit of  
6 750 µg/L.<sup>47</sup> Petitioner contends that respondent Board should have imposed an effluent limit for  
7 aluminum based on criteria published by USEPA in 1988 and re-published in 1999.

8 In those criteria, USEPA stated: "The procedures described in the 'Guidelines for Deriving  
9 Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses'  
10 indicate that, except possibly where a locally important species is very sensitive, freshwater aquatic  
11 organisms and their uses should not be affected unacceptably, when the pH is between 6.5 and 9.0, if the  
12 four-day average concentration of aluminum does not exceed 87 µg/L more than once every three years on  
13 the average and if the one-hour average concentration does not exceed 750 µg/L more than one every three  
14 years on the average."<sup>48</sup>

15  
16 Petitioner's contention is based on provisions of the applicable Basin Plan which call for  
17 consideration of USEPA's numerical guidelines where, as here, a narrative water quality objective has  
18 been imposed.

19 The Basin Plan applicable to the Sacramento River contains a narrative water quality objective for  
20 toxicity that states: "All waters shall be maintained free of toxic substances that produce detrimental  
21 physiological responses in human, plant, animal and aquatic life."<sup>49</sup> It is undisputed for purposes of this  
22 proceeding that aluminum is a toxic substance within the meaning of this objective.

23 The Basin Plan makes this narrative water quality objective applicable to aquatic life beneficial  
24

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25 <sup>46</sup> In light of this ruling, the Court finds it unnecessary to address CVCWA's contention that petitioner failed to raise  
this issue at the administrative level or in its petition.

26 <sup>47</sup> See, RB0072430.

27 <sup>48</sup> See, "Ambient Water Quality Criteria for Aluminum – 1988" (RB0174303); and "National Recommended Water  
Quality Criteria – Correction" (RB0175540), published in 1999, in which the 1988 criteria are unchanged.

28 <sup>49</sup> See, RB0179554.



1 uses.<sup>50</sup> However, the Basin Plan also provides that where narrative water quality objectives are applicable  
2 to protect a beneficial use, “the Regional Board will, on a case-by-case basis, adopt numerical limitations  
3 in orders which will implement the narrative objectives.”<sup>51</sup> In doing so, the Regional Board “considers,  
4 on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information  
5 submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines  
6 developed and/or published by other agencies and organizations”, including USEPA.<sup>52</sup> “In considering  
7 such criteria, the Board evaluates whether the specific numerical criteria, which are available through these  
8 sources and through other information supplied to the Board, are relevant and appropriate to the situation  
9 at hand and, therefore, should be used in determining compliance with the narrative objective.”<sup>53</sup>

10 It is undisputed that the State Board repeatedly has held that National Recommended Ambient  
11 Water Quality Criteria published by USEPA are appropriate information to be considered by Regional  
12 Boards in issuing waste discharge permits.<sup>54</sup> The issue in this case is whether respondent Board was  
13 required to use the USEPA numbers for aluminum in the SRCSD permit.  
14

15 The permit recognized USEPA’s recommended criteria, but found that they should not be applied  
16 in the specific case of SRCSD’s discharges into the Sacramento River. The permit expressed the rationale  
17 for this conclusion as follows:

18 “[I]nformation contained in the footnotes to the [USEPA’s published criteria] indicate that the  
19 development of the chronic criterion was based on specific receiving water conditions where there is low  
20 pH (below 6.5) and low hardness levels (below 50mg/L as CaCO<sub>3</sub>). The Sacramento River (SR) has been  
21 measured to have hardness values – typically between 26 and 100 mg/L as CaCO<sub>3</sub>. The SR has been  
22 measured above the discharge to have a pH between 6.4 to 8.8. Thus, it is unlikely that application of the  
23 chronic criterion of 87 µg/L is necessary to protect aquatic life in the Sacramento River in the vicinity of  
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25 <sup>50</sup> See, RB0179583.

26 <sup>51</sup> *Id.*

27 <sup>52</sup> *Id.*

28 <sup>53</sup> *Id.*

<sup>54</sup> See the citations contained in petitioner’s opening brief at page 20:14-23.

1 the discharge. For similar reasons, the Utah Department of Environmental Quality (Department) only  
2 applies the 87 µg/L chronic criterion for aluminum where the pH is less than 7.0 and the hardness is less  
3 than 50 mg/L as CaCO<sub>3</sub> [in] the receiving water after mixing. For conditions where the pH equals or  
4 exceeds 7.0 and the hardness is equal to or exceeds 50 mg/L as CaCO<sub>3</sub>, the Department regulates  
5 aluminum based on the 750 µg/L acute criterion. In this site-specific case it is likely that application of  
6 the stringent chronic criteria (87 µg/L) is overly protective.”<sup>55</sup>

7 The footnote referred to in the permit is found in USEPA’s 1999 republication of the  
8 recommended water quality criteria (also referred to in its title as a “correction”). As mentioned above,  
9 the aluminum criteria in the 1999 republication were unchanged from those stated in the 1988 publication.  
10 However, footnote L to the aluminum criteria appeared to cast some doubt on those criteria.

11 At the outset, the footnote states: “There are three major reasons why the use of Water-Effect  
12 Ratios might be appropriate.”<sup>56</sup> A Water-Effect Ratio is “...an appropriate measure of the toxicity of a  
13 material obtained in water from a site water divided by the same measure of the toxicity of the same  
14 material obtained simultaneously in a laboratory dilution water.”<sup>57</sup> This statement suggests that the  
15 aluminum criteria are not necessarily appropriate for all site-specific water conditions.

16 Two of the reasons stated in the footnote to support this statement are potentially relevant here.

17 The first is that “[t]he value of 87 µg/L is based on a toxicity test with the striped bass in water  
18 with pH = 6.5.6.6 and hardness < 10 mg/L.” However, as the footnote goes on to point out, data from a  
19 1994 study involving aluminum water-effect ratio for discharges from a plant in West Virginia “indicate  
20 that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are  
21 not well quantified at this time.”<sup>58</sup>

22 The second is that “EPA is aware of field data indicating that many high quality waters in the U.S.  
23  
24

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25 <sup>55</sup> See, RB0072430.

26 <sup>56</sup> See, RB0175543.

27 <sup>57</sup> See, Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of  
California, issued by the State Board in 2005, page Appendix 1-5 (RB0178894).

28 <sup>58</sup> See, RB0175543.

1 contain more than 87 µg/L, when either total recoverable or dissolvable is measured.”<sup>59</sup>

2           Petitioner argues that the rationale stated in the permit for deviating from the USEPA  
3 recommended criteria should be rejected because the weight of the evidence regarding site-specific  
4 conditions in the Sacramento River does not justify that deviation. In essence, petitioner argues that the  
5 site-specific conditions in this case closely match those of the studies that were used to develop the  
6 USEPA aluminum criteria. Petitioner points to a table in the 1988 published criteria showing that the  
7 criteria were based on studies using water with a range of hardness values, including values well above 50  
8 mg/L as CaCO<sub>3</sub>.<sup>60</sup> Petitioner then cites to evidence in the record regarding the river’s hardness values,  
9 with a lowest recorded value of 26 mg/L as CaCO<sub>3</sub> and the majority of 100 measurements at a level of less  
10 than 60 mg/L as CaCO<sub>3</sub>.<sup>61</sup> Similarly, petitioner points out that the USEPA criteria specifically  
11 recommend the 87 µg/L chronic criterion where the pH of receiving water is in the range of 6.5-9.0.<sup>62</sup>  
12 Petitioner then cites evidence that the pH values of the Sacramento River have been recorded in a range  
13 from 6.4 to 8.8.<sup>63</sup>

14  
15           The Court concludes that respondent Board did not abuse its discretion when it determined not to  
16 adopt the USEPA-recommended aluminum criteria. The permit demonstrates that respondent Board  
17 considered those criteria, which it was required to do. The permit also demonstrates that respondent Board  
18 appropriately considered the information contained in the 1999 USEPA footnote to the aluminum criteria  
19 as well as site-specific conditions in adopting different numerical criteria.

20           In particular, respondent Board considered the fact that that the hardness values and the pH values  
21 of the Sacramento River typically had been measured at significantly higher levels than those used to  
22 establish the USEPA-recommended 87 µg/L value. This was reasonable in light of the statement in the  
23 USEPA footnote describing study data indicating that aluminum is substantially less toxic at higher pH  
24

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25 <sup>59</sup> *Id.*

26 <sup>60</sup> See, RB 0174322-174323.

27 <sup>61</sup> See, RB0009857-9863.

28 <sup>62</sup> See, RB0174303.

<sup>63</sup> See, RB0009864-9879.

1 and hardness. It was also reasonable in light of the information in the 1988 publication showing that tests  
2 involving the effect of aluminum on young brook trout and striped bass were conducted in water at a pH of  
3 6.5 to 6.6, which is lower than the typical readings for the Sacramento River.<sup>64</sup> Such information  
4 supported respondent Board's conclusion that the site-specific conditions of the Sacramento River justified  
5 a departure from the published criteria.

6 USEPA's statement that "the effects of pH and hardness are not well quantified at this time" does  
7 not preclude respondent Board from departing from the published criteria. This statement must be viewed  
8 as a careful acknowledgement of scientific uncertainty, rather than as a restriction on the agency's  
9 discretion to adjust the criteria to local conditions. Indeed, in a 2010 comment letter to the Central Valley  
10 Regional Water Quality Control Board regarding water quality criteria for aluminum in connection with  
11 the Placer County Sewer Maintenance District's NPDES permit<sup>65</sup>, USEPA stated that although it had not  
12 changed its recommended aluminum criteria, "the appropriate aluminum criteria values for higher  
13 hardness situations remain uncertain", and that "it may be reasonable to apply a higher criterion value if  
14 the ambient hardness levels are substantially and consistently higher than the values used in deriving the  
15 existing chronic criterion value." Thus, even though USEPA ultimately recommended "the conservative  
16 approach of retaining the existing effluent limitations in the new permit" in that case, it also recognized  
17 that Regional Boards could depart from the published criteria based on site-specific conditions.<sup>66</sup>

18  
19 Respondent Board also considered information showing that the maximum observed "upstream  
20 receiving water concentration" of aluminum was 8800 µg/L.<sup>67</sup> As stated above, the 1999 USEPA footnote  
21 recognized that many high-quality waters in the U.S. contain levels of aluminum in excess of 87 µg/L.  
22 Even the 1988 publication recognized that acute testing with freshwater species in fourteen genera did not  
23

24  
25 <sup>64</sup> See, RB0174303.

26 <sup>65</sup> See, RB0036565-36566.

27 <sup>66</sup> The Court further notes that USEPA's comment letter in that case explicitly acknowledged that "[t]he 87µ/l  
28 chronic aluminum criterion is based on a toxicity test with striped bass in water at pH between 6.5 and 6.6 standard  
units and hardness less than 10 mg/l." (See, RB036565.)

<sup>67</sup> See, RB0072418, 72430.

1 invariably show adverse effects even at very high concentrations.<sup>68</sup>

2 At the same time, respondent Board also had evidence that actual discharges from the SRCSD  
3 plant made a relatively small contribution to aluminum levels in the river. Specifically, 61 samples  
4 collected by SRCSD between June 2005 and October 2009 recorded aluminum levels of 12 to 35.2 µg/L.<sup>69</sup>  
5 Given this data, it is not clear that adopting the USEPA criteria really would have been more protective,  
6 because actual discharge levels were lower than the criteria in any event.

7 The Court therefore concludes that petitioner has not demonstrated that respondent Board was  
8 precluded from departing from the USEPA published criteria for aluminum, or that the weight of the  
9 evidence establishes that respondent Board abused its discretion in doing so.

10 **D. Weekly Effluent Limitations for Aluminum**

11 Petitioner's fourth contention is that respondent Board failed to establish average weekly effluent  
12 limitations for aluminum as required by applicable regulatory law.

13 Title 40, Section 122.45(d)(2) of the Code of Federal Regulations requires that "[f]or continuous  
14 discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve  
15 water quality standards, shall unless impracticable be stated as: [...] (2) Average weekly and average  
16 monthly discharge limitations for [publicly owned treatment works]."

17 In this case, the permit established an average monthly effluent limitation for aluminum  
18 (503 µg/L), but not an average weekly limitation.<sup>70</sup> In a section entitled "Averaging Period for Effluent  
19 Limitations", the permit acknowledged that Section 122.45(d) requires average weekly discharge  
20 limitations unless impracticable, but stated that "[t]his Order utilizes maximum daily effluent limitations in  
21 lieu of average weekly effluent limitations" for a number of pollutants, including aluminum.<sup>71</sup> The  
22 rationale for doing so was stated as follows: "For effluent limitations based on Secondary MCLs, this  
23 Order includes annual average effluent limitations. The Secondary MCLs are drinking water standards  
24

25 \_\_\_\_\_  
26 <sup>68</sup> See, RB0174302.

27 <sup>69</sup> See, RB0072418.

28 <sup>70</sup> See, RB0072430.

<sup>71</sup> See, RB0072467.

1 contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these  
2 standards on an annual average basis, when sampling at least quarterly. Since it is necessary to determine  
3 compliance on an annual average basis, it is impracticable to calculate average weekly and average  
4 monthly effluent limitations.”<sup>72</sup>

5 Respondent Board relies on USEPA’s “Technical Support Document for Water Quality-based  
6 Toxics Control” in support of its contention that a weekly effluent limitation for aluminum is  
7 impracticable in this case. Section 5.2.3 of the Technical Support Document, entitled “Expression of  
8 Permit Limits”, begins by acknowledging the requirements of Section 122.45(d). However, it also states:  
9 “[I]n lieu of an [average weekly limit] for POTWs, EPA recommends establishing [a maximum daily  
10 limit] (or a maximum test result for chronic toxicity) for toxic pollutants and pollutant parameters in water  
11 quality permitting. This is appropriate for at least two reasons. First, the basis for the 7-day average for  
12 POTWs derives from the secondary treatment requirements. This basis is not related to the need for  
13 assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to  
14 seven or more daily samples, could average out peak toxic concentrations and therefore the discharge’s  
15 potential for causing acute toxic effects would be missed. A [maximum daily limit], which is measured by  
16 a grab sample, would be toxicologically protective of potential acute toxicity impacts.”<sup>73</sup> The Technical  
17 Support Document includes a section describing procedures for deriving monthly and daily limits, but not  
18 for deriving an average weekly limit.<sup>74</sup>

19  
20 In this instance, the Court concludes that respondent Board abused its discretion by not  
21 establishing average weekly discharge limitations for aluminum. The applicable federal regulation  
22 explicitly requires the establishment of weekly limitations unless it is “impracticable” to do so. Nothing  
23 that has been cited to the Court from the record indicates that it is “impracticable” to establish a weekly  
24 limitation for aluminum.

25 Indeed, all of the supplemental opposition briefs filed by the parties in request to the Court’s

26 <sup>72</sup> See, RB0072468.

27 <sup>73</sup> See, RB0174757. Portions of this passage are also quoted in the permit at RB0072467.

28 <sup>74</sup> See, RB0174959-174964.

1 question at oral argument essentially concede that such a limitation may be calculated without undue  
2 difficulty. In its original opposition brief, CVCWA even went so far as to admit that there has been “a  
3 technical violation of the regulations”, while arguing that a weekly limitation is not necessary to meet  
4 applicable water quality standards or offer greater protection of beneficial uses than a monthly limitation.<sup>75</sup>  
5 This was also the rationale offered in EPA’s Technical Support Document, and echoed by respondent  
6 Board and SRCSD in their opposition briefs. As a rationale for not complying with applicable law, it is  
7 not persuasive. To the extent that the applicable law actually does not represent a reasonable approach to  
8 establishing effluent limitations, the law may need to be changed. Until it is changed, however, that law  
9 unequivocally requires the establishment of a weekly limitation. Respondent Board was obligated to do  
10 what the law required, not what it, SRCSD or even EPA deemed to be a reasonable substitute.

11 A writ of mandate shall be issued directing respondent Board to comply with Title 40, Section  
12 122.45(d)(2) of the Code of Federal Regulations by establishing an average weekly limitation for  
13 aluminum.

14  
15 **E. Thermal Plan Exception**

16 Petitioner’s fifth contention is that respondent Board improperly granted SRCSD an exemption  
17 from applicable rules regarding the allowable temperature differential between discharged treated  
18 wastewater and the receiving river water.

19 The applicable rules are set forth in the State Board’s Water Quality Control Plan for Control of  
20 Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California  
21 (commonly known as the “Thermal Plan”). As relevant to this case, absent the granting of an exception,  
22 the Thermal Plan requires that the maximum effluent temperature shall not exceed the natural receiving  
23 water temperature by more than 20° F, and that elevated temperature waste discharges either individually  
24 or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°  
25 F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a  
26

27  
28 <sup>75</sup> See, CVCWA’s opposition brief, page 17:6-19.

1 main river channel at any point.<sup>76</sup>

2 The Thermal Plan permits the Regional Board, with the concurrence of the State Board, to grant  
3 an exception to the temperature requirements. The granting of such an exception is subject to applicable  
4 federal statutory and regulatory requirements.<sup>77</sup>

5 One such federal regulation, Title 40 C.F.R. § 125.73(a), provides that thermal discharge effluent  
6 limitations or standards established in permits may be less stringent than those required by applicable  
7 standards and limitations if the discharger can demonstrate “that the alternative effluent limitation desired  
8 by the discharger, considering the cumulative impact of its thermal discharge together with all other  
9 significant impacts on the species affected, ... will assure the protection and propagation of a balanced  
10 indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge  
11 is to be made.”<sup>78</sup> Subdivision (c) of the same regulation provides that an existing discharger may use the  
12 absence of prior appreciable harm of the effluent to demonstrate that the alternative effluent temperature  
13 will assure the protection and propagation of a balanced indigenous community.  
14

15 In this case, SRCSD previously had been granted certain exceptions from the Thermal Plan when  
16 its prior permit was issued in 2000. The current permit continued those exceptions.<sup>79</sup> The exceptions  
17 provide that the maximum temperature of the discharge shall not exceed the natural receiving water  
18 temperature by more than 25° F (rather than 20° F) from October 1 through April 30, and that if the natural  
19 receiving water temperature is less than 65° F, the discharge shall not create a zone, defined by water  
20 temperature of more than 2° F (rather than 1° F) above the natural receiving water temperature, which  
21 exceeds 25 percent of the cross-sectional area of the river at any point outside the zone of initial dilution.<sup>80</sup>

22 The permit itself, however, expresses clear uncertainty about the actual effect of the temperature  
23 exceptions. In the section setting forth “Reopener Provisions”, the permit requires a temperature study,  
24

25 <sup>76</sup> See, Thermal Plan, Sections 5.A(1)(a) and (b) (RB0173801).

26 <sup>77</sup> See, RB0173802.

27 <sup>78</sup> See also, Section 316(a) of the federal Clean Water Act, 33 U.S.C. § 1326(a).

28 <sup>79</sup> See, RB0072462: “The temperature effluent limitation is carried forward from the previous Order.”

<sup>80</sup> See, RB0072460.



1 with the following explanation:

2 “There are uncertainties that the discharge may impact aquatic life in the vicinity of the discharge  
3 as regulated under the existing thermal exemption conditions. This Order requires the Discharger to  
4 complete a study of temperature’s potential effect in the receiving water. This reopener provision allows  
5 the Central Valley Water Board to reopen this Order for modification of effluent limitations and receiving  
6 water limitations and requirements for temperature if after review of the study results it is determined that  
7 the discharge impacts beneficial uses.”<sup>81</sup>

8 The specific provision setting forth the parameters of the temperature study reinforces the  
9 impression of uncertainty:

10 “The Discharger shall submit a workplan and time schedule for Executive Officer approval for  
11 determining whether permitted conditions are protective of aquatic life beneficial uses in the Sacramento  
12 River. [...] The work plan shall be implemented upon approval by the Executive Officer. The study will  
13 include an evaluation of: (1) the existing Thermal Plan Exception and its effects on aquatic life, and (2)  
14 any proposed request for new Thermal Plan Exception(s). The discharger must consult with the U.S. Fish  
15 and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and  
16 Game, to consider additional issues (such as fish attractively [sic] to mixing zone areas) in development of  
17 the workplan for the Study.”<sup>82</sup>

18 In reality, the permit does not contain any finding to the effect “...that the alternative effluent  
19 limitation desired by the discharger, considering the cumulative impact of its thermal discharge together  
20 with all other significant impacts on the species affected, ...will assure the protection and propagation of a  
21 balanced indigenous community of shellfish, fish and wildlife in and on the body of water into which the  
22 discharge is to be made.”<sup>83</sup>

23 Instead, the permit may be read as concluding, at least implicitly, that no such finding could be  
24 made on the basis of the information then available to the Regional Board. The permit noted that SRCSD  
25

26 <sup>81</sup> See, RB0072485.

27 <sup>82</sup> See, RB0072492.

28 <sup>83</sup> Title 40, C.F.R., § 125.73(a).

1 previously had submitted a study in 2005 assessing the thermal impacts of its discharge, which  
2 recommended continuation of the thermal plan exceptions originally granted in 2000. The permit further  
3 noted that the 2005 study had been reviewed by the National Marine Fisheries Service, which did not  
4 indicate any concerns with the proposed thermal plan exceptions. However, the permit also stated: “Since  
5 this time, however, conditions under which the evaluation was made have changed. There has been a  
6 significant pelagic organism decline in the Delta, new species are threatened and there has been a change  
7 in the diffuser configuration.”<sup>84</sup> Thus, the permit concluded that the 2005 study could not support the  
8 finding required for a thermal plan exception.

9 The permit stated that SRCSD had submitted a revised study in July 2010. It summarized the  
10 content of that study and also described certain concerns raised by the U.S. Fish and Wildlife Service as  
11 well as that agency’s recommendation for further studies and monitoring “...to determine whether  
12 permitted conditions are protective of delta smelt and Sacramento River biota.”<sup>85</sup>

13 Having acknowledged the 2010 study and the recommendation for further studies and monitoring,  
14 respondent Board simply continued the existing thermal plan exceptions. It made no additional finding  
15 that the 2010 study addressed the concerns expressed regarding changed conditions, significant pelagic  
16 organism decline in the Delta, and new species being threatened, but did, as described above, require  
17 further temperature studies.  
18

19 The Court concludes that respondent Board abused its discretion by continuing the Thermal Plan  
20 exceptions in effect without first concluding that the permitted thermal discharge, considered cumulatively  
21 with all other significant impacts on affected species, would “assure the protection and propagation of a  
22 balanced indigenous community of shellfish, fish and wildlife in and on” the Sacramento River. The  
23 applicable regulation required that such a finding be made before granting exceptions to the Thermal Plan.  
24 The approach of the permit was to admit uncertainty regarding the actual effects of the thermal discharge,  
25 continue the exceptions anyway, and then require studies to determine whether there was any adverse  
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27 <sup>84</sup> See, RB0072459.

28 <sup>85</sup> See, RB0072462.

1 effect on aquatic life. This approach effectively stands the regulation on its head.

2 SRCSD contends that the weight of the evidence supports the granting of the exceptions, relying  
3 largely on the content of the 2010 revised study. This contention is not persuasive. Respondent Board  
4 clearly did not make a finding that the study provided the assurance required by the regulation. Moreover,  
5 the Court observes that the study focuses solely on the effects of the thermal discharge and does not  
6 analyze the cumulative impact of the thermal discharge together with all other significant impacts. The  
7 study therefore did not fulfill the regulatory requirements.

8 SRCSD also argues that respondent Board could rely on the absence of prior appreciable harm, as  
9 provided in subsection (c) of the regulation. That provision is not applicable here, because respondent  
10 Board did not make any finding of absence of prior appreciable harm from the plant's thermal discharges.  
11 To the contrary, as quoted above, the permit specifically noted that there had been a significant pelagic  
12 organism decline in the Delta and that new species were threatened since the 2005 study. Evidence of lack  
13 of prior appreciable harm is not a proper basis to support the Thermal Plan exceptions in this case.

14  
15 Citing to expert testimony in the record, SRCSD also argues that the Thermal Plan requirements  
16 are not based on the most current scientific understanding of thermal effects.<sup>86</sup> This argument is off the  
17 point. Respondent Board was not precluded, as a matter of law, from granting exceptions to those  
18 requirements if it could make the appropriate finding based on evidence in the record. Respondent Board  
19 did not make the required finding here, and indeed indicated that it could not do so based on the evidence  
20 it had before it. Whether the normal requirements are scientifically valid is essentially irrelevant to this  
21 case.

22 Finally, SRCSD argues that petitioner failed to exhaust administrative remedies by specifically  
23 challenging the language in the "Reopener Provisions" of the permit. This argument is not persuasive. In  
24 its comments in both the Regional Board and State Board proceedings in this case, petitioner specifically  
25 raised the issue of whether thermal discharges from the treatment plant under the Thermal Plan exceptions  
26

27  
28 <sup>86</sup> See, written testimony and comments of Dr. Michael D. Bryan (RB0045721-45722).

1 that had been in effect since 2000 had an adverse impact on aquatic life in the Sacramento River.<sup>87</sup> Those  
2 comments were more than adequate to preserve the issue petitioner raises here.

3 A writ of mandate therefore will be issued to require respondent Board to vacate the Thermal Plan  
4 exceptions in the permit, and to direct respondent Board to reconsider the issue of whether such exceptions  
5 may be granted under Title 40 C.F.R. § 125.73(a).

6 **F. Mass-Based Effluent Limits**

7 Petitioner's sixth, and final, contention is that respondent Board abused its discretion when it  
8 failed to adopt mass-based effluent limitations for many of the constituents of the effluent. Instead, as  
9 described above for aluminum, the permit expresses effluent limitations in terms of concentration  
10 (mg/L).<sup>88</sup>

11 The Court finds that respondent did not abuse its discretion. The governing federal regulation, 40  
12 C.F.R. § 122.45(f)(1), provides, in relevant part: "All pollutants listed in permits shall have limitations,  
13 standards or prohibitions expressed in terms of mass except: [...] (ii) When applicable standards and  
14 limitations are expressed in terms of other units of measurement."  
15

16 In this case, the permit expressed effluent limitations in terms of other units of measurement,  
17 specifically, concentration (mg/L). The permit explicitly cited the regulation as authority for doing so.<sup>89</sup>  
18 The permit complied with the letter of the regulation.

19 Petitioner cites to a 1991 USEPA document entitled "Technical Support Document for Water  
20 Quality-based Toxics Control" as authority for the proposition that effluent limitations must be expressed  
21 in terms of mass. The document states that mass limitations in terms of pounds or kilograms per day "can  
22 be calculated for all chemical-specific toxins such as chlorine or chromium", and that "EPA recommends  
23 that permit limits on both mass and concentration be specified for effluents discharging into waters with  
24

25  
26 <sup>87</sup> See, petitioner's comments to the Regional Board dated October 8, 2010 (RB0036613-36614) and its subsequent  
petition for review to the State Board (SB01115-01119).

27 <sup>88</sup> See, RB0072311-72312.

28 <sup>89</sup> See, RB0072467.

1 less than 100 fold dilution to ensure attainment of water quality standards.”<sup>90</sup> The document thus  
2 expresses a recommendation rather than a legal requirement, and does not override the language of the  
3 applicable regulation itself.

4 Finally, the Court notes that the permit regulates the SRCSD plant based on a maximum allowable  
5 flow of 181 million gallons per day.<sup>91</sup> Because there is an upper limit on discharge, the concentration  
6 limits specified in the permit effectively set mass-based limits as well.

7 The Court accordingly concludes that respondent Board acted in accordance with applicable  
8 regulatory law and did not abuse its discretion by failing to establish mass-based effluent limits for all  
9 constituents of the effluent.

#### 10 **V. Conclusion**

11 For the reasons stated above, the petition for writ of mandate is granted in part and denied in part.

12 The petition is granted with regard to petitioner’s claim arising out of the calculation of effluent  
13 limitations for hardness-dependent metals. A writ shall be issued directing respondent Board to vacate the  
14 portions of the permit establishing effluent limitations for hardness-dependent metals, and to recalculate  
15 such effluent limitations using the equations set forth in the California Toxics Rule (Title 40, CFR, §  
16 131.38), and without using the hardness value of the effluent in those equations.

17 The petition is granted with regard to petitioner’s claim arising out of the establishment of periodic  
18 effluent limitations for aluminum. A writ shall be issued directing respondent Board to establish a weekly  
19 effluent limitation for aluminum as required by Title 40, CFR, § 122.45(d)(2).

20 The petition is granted with regard to petitioner’s claim arising out of the granting of Thermal Plan  
21 exceptions. A writ shall be issued directing respondent Board to vacate the Thermal Plan exceptions in the  
22 permit and to reconsider the issue of whether Thermal Plan exceptions may be granted in this case under  
23 the standards set forth in Title 40, CFR, § 125.73(a).

24 The writ shall not otherwise control or limit respondent Board’s discretion. The writ shall provide  
25

26  
27 <sup>90</sup> See, RB0174771-174772.

28 <sup>91</sup> See, RB0072302, 72379, 72381.

1 that respondent Board shall make a return within 60 days, setting forth what it has done to comply with the  
2 writ. The Court shall retain jurisdiction over this matter to enforce compliance with the writ as necessary.

3 The petition is denied with regard to petitioner's claims involving lack of additive and interactive  
4 toxicity analysis, the establishment of effluent limitations for aluminum (except as to the average weekly  
5 limit), and lack of mass-based effluent limitations.

6 In accordance with Local Rules 2.07 and 2.15, counsel for petitioner is directed to prepare a  
7 formal order granting the petition for writ of mandate in part and denying it in part, as stated above,  
8 incorporating this ruling as an exhibit, and a separate judgment and writ of mandate; submit the order,  
9 judgment and writ to all other counsel for approval as to form in accordance with Rule of Court 3.1312(a);  
10 and thereafter submit them to the Court for signature, entry of judgment and issuance of the writ in  
11 accordance with Rule of Court 3.1312(b).  
12

13  
14 DATED: August 18, 2014

MICHAEL P. KENNY  
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Judge MICHAEL P. KENNY  
Superior Court of California,  
County of Sacramento

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**CERTIFICATE OF SERVICE BY MAILING**  
**(C.C.P. Sec. 1013a(4))**

I, the undersigned deputy clerk of the Superior Court of California, County of Sacramento, do declare under penalty of perjury that I did this date place a copy of the above-entitled **RULING ON SUBMITTED MATTER** in envelopes addressed to each of the parties, or their counsel of record as stated below, with sufficient postage affixed thereto and deposited the same in the United States Post Office at 720 9<sup>th</sup> Street, Sacramento, California.

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Superior Court of California,  
County of Sacramento

Dated: August 18, 2014

By: S. LEE  
Deputy Clerk