



May 7, 2018
180163:BLS:EC

Mr. Glenn Meeks
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Sent via email to Glenn.Meeks@waterboards.ca.gov

Subject: Sacramento River Source Water Protection Program Comments on the Proposed Amendments to the Basin Plan for a Central Valley-Wide Salt and Nitrate Control Program – Staff Report and Related Documents

Dear Mr. Glenn Meeks:

The purpose of this letter is to provide comments from the Sacramento River Source Water Protection Program (SRSWPP) on the Proposed Basin Plan Amendment (BPA) for a Central Valley-Wide Salt and Nitrate Control Program. The SRSWPP is sponsored by the Cities of Sacramento and West Sacramento, East Bay Municipal Utility District (EBMUD), and the Sacramento County Department of Water Resources, protecting Sacramento River source water quality for over two million customers. The SRSWPP seeks to maintain the high quality of the Sacramento River drinking water supply for the current and future generations. The comments provided in this letter also relate to protection of the high quality of the American River water supply. It is our responsibility as water utilities to ensure that our water is both healthful and free of any unpleasant taste, odor, or other aesthetic effects. Protecting the quality of the raw water supply is crucial to ensuring that treated water quality not only meets the primary and secondary drinking water standards, as required by the Division of Drinking Water (DDW), but moreover is the best quality that we can reasonably provide to protect public health and welfare.

The SRSWPP has been tracking and participating in the Salt and Nitrate Management Program (SNMP) development since the CEQA Scoping was published in 2013. We have provided formal and informal written comments, attended and participated in Central Valley Regional Water Quality Control Board (Regional Board) and CV-Salts meetings, and submitted constructive input and suggestions for solutions related to non-salinity Secondary Maximum Contaminant Levels (SMCLs). We would like to note that Resolution R5-2017-0031 specifically directed Regional Board staff to initiate basin planning actions “considering, where appropriate, those recommended by the SNMP, along with the written and oral testimony received by the Board at

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the 9 March 2017 hearing.” We request that the Draft Staff Report acknowledge this (Section 1: Introduction [Draft Staff Report, p. 130] or Executive Summary [Draft Staff Report, p.5]). The SRSWPP provided written comments to Regional Board in February 2017, as well as oral comments at the March 2017 Regional Board hearing. We are submitting comments on this Proposed BPA as our continued effort to work with Regional Board and CV-Salts toward a regional solution, while ensuring long-term protection of our drinking water supplies.

The focus of our comments is related to proposed changes affecting the non-salinity Secondary Maximum Contaminant Levels (Secondary MCLs). We are concerned that some aspects of the Proposed BPA related to Secondary MCLs may result in unintended consequences to the quality of the Sacramento River and American River surface water that we use for our municipal drinking water supplies. We appreciate that Regional Board staff has worked to acknowledge some of our concerns, including coordination with the DDW and affirmation of the continued applicability of existing policies. Although we appreciate the Regional Board staff and CV-Salts considering some of our comments and requests, we do not believe our key areas of concern have been addressed. We believe that new concepts and language in the Proposed BPA related to the MUN beneficial use water quality objectives, developed subsequent to the most recent public review opportunity at the January 2018 Regional Board workshop, have resulted in significant changes that have taken away from the balance previously achieved.

Source water protection is the first step in a "multi-barrier" approach to providing safe drinking water. This approach is acknowledged and supported in the Regional Board's Central Valley Drinking Water Policy for Surface Waters of the Delta and its Upstream Tributaries (Drinking Water Policy). It states, "While source water protection is the first barrier, it is not intended to provide pristine water that does not require treatment but rather, to prevent source degradation from requiring additional treatment and placing more reliance on the treatment process. High quality source waters minimize public health risk if there is a breakdown in the treatment process." The Sacramento River watershed, including the American River watershed, is nearly 25,000 square miles and includes many types of activities and dischargers, most of which are regulated by permits from the Regional Board. We rely on Regional Board management programs as an essential part of preventing degradation of the high quality of the Sacramento and American River watersheds.

The SRSWPP supports a multi-barrier approach to protecting the MUN beneficial use and believes that any changes to the Basin Plan should be based on sound science related to the risk to the MUN beneficial use. All fractions of a constituent discharged into receiving waters contribute to the total loading of the constituent to the source water. Many constituents, including some with non-salinity Secondary MCLs, have the potential to change physical characteristics once they enter the ambient waters and can also be impacted by in-stream fate and transportation factors such as transformation and accumulation. The impacts of total loading to surface waters should be considered in any process to assess the risk to the MUN beneficial use. MUN designated surface water supplies are treated by water suppliers for the total load of a constituent in the water supply, based on analysis of the total concentration of a constituent. If total loading

increases, then the water treatment must be increased to ensure removal and minimize the potential for breakthrough. Conventional drinking water treatment reduction rates are constituent-specific, highly variable between constituents, and do not provide particle removal to a specific size. If source water protection does not prevent increases in total loading, then community water systems will be required to implement additional treatment to provide the same level of protection to its consumers. The proposed Amendment Language changes the existing standard to monitor only the dissolved portion (as represented by a filter size of 0.45 microns [um]) of the discharge concentration for Secondary MCL compliance in an attempt to compare it to some representation of treated drinking water, and subsequently increases the risk to the MUN beneficial use. Insufficient technical information has been presented, related to the exclusion of total loading and the use of dissolved analysis to represent treated drinking water quality, to make a scientifically sound determination that this proposed change in methodology is justifiable. We do not support the approach as presented.

The Regional Board articulates three main goals for the Salt and Nitrate Control Program, including: to ensure a safe drinking water supply. This is described further as a "...safe, reliable drinking water supply..."(Draft Staff Report, p.201). Secondary MCLs are a critical aspect of safe, reliable water, as they affect community water system's ability to treat water affordably to meet standards and ensure public confidence in the quality of drinking water provided. In addition, Secondary MCL constituents can impact human health, as well as welfare. Eight of the 12 non-salinity SMCLs have an associated human health threshold, including primary MCLs and Action Levels, California Notification Levels, and USEPA Health Advisories. Increases in the total concentration of any Secondary MCL constituents may result in an increase of human health risk from these constituents. Any proposed changes to the Basin Plan should ensure that long-term degradation of Secondary MCL constituents in the MUN source waters is prevented.

Our comments on the Proposed BPA and related documents fall under seven general categories of concern. We are presenting our concerns by subject matter, including references to Amendment Language, the Draft Staff Report, and supporting documents. Our categories of concern are:

- Recognition of the values of Secondary MCL constituents,
- Data errors and insufficiency related to non-salinity Secondary MCL constituents,
- New language in Chapter 3 related to other MCL constituents,
- Use of dissolved analysis for compliance determination for non-salinity Secondary MCLs,
- New language in Chapter 4 related to implementation of Secondary MCLs,
- Surveillance and monitoring of non-salinity Secondary MCL constituents to track cumulative and long-term impacts of the proposed BPA, and
- Adequacy of the Substitute Environmental Document related to proposed changes for non-salinity Secondary MCLs and other MCLs.

Attached to this letter are the specific comments and concerns we have regarding each category. We are also providing specific markup of Appendix G, similar to the comments we have submitted

previously. We believe that the Regional Board should consider our comments and make modifications to the Proposed Basin Plan Amendment to ensure the long-term protection of the MUN beneficial use in the Central Valley.

Thank you for considering the SRSWPP comments. We appreciate the opportunity to share our stakeholder perspectives with the Regional Board and CV-Salts. Please do not hesitate to contact Elissa Callman at 916-808-1424 if you have any questions or would like to discuss our comments.

Sincerely,



Elissa Callman
Senior Engineer

- Attachment 1. DWR Sacramento River CMP Selected Data
- Attachment 2. Example for Proposed Language in Chapter 4 of the Basin Plan Related to the Use of a Translator – Clean Version
- Attachment 3. Example for Proposed Language in Chapter 4 of the Basin Plan Related to the Use of a Translator – Edited Version
- Attachment 4. Comments on Appendix G

Cc: Darrin Polhemus, California Division of Drinking Water
Jeanne Chilcott, Central Valley Water Board
Anne Littlejohn, Central Valley Water Board
Bill Busath, City of Sacramento
Dan Sherry, City of Sacramento
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Tom Pasterski, Sacramento County Department of Water Resources
Aaron Robertson, Sacramento County Department of Water Resources
Carlos Smith, Sacramento County Department of Water Resources
Tim Busch, Woodland-Davis Clean Water Agency
Daniel Cozad, CV-Salts
Bonny Starr, Starr Consulting

SRSWPP Specific Comments – By Area of Concern

Recognition of the Values of Secondary MCL Constituents

The Proposed BPA, Draft Staff Report, and associated appendices do not specifically recognize the overall value of constituents with Secondary MCLs for protecting both human welfare and health. Secondary MCLs are in place to protect public welfare and apply to all community water systems, regardless of size, source type, and the treatment design and processes. The concentrations of the Secondary MCLs are set to protect against aesthetic and organoleptic impacts, and are based on the total concentration of each constituent. Although secondary MCLs are intended to protect public welfare in the water served, source water levels are important to identify treatment necessary to ensure a supply of pure, wholesome, and potable water for current and future use. Degradation of source waters may result in increased public health risk as well as risk of impacts to the drinking water’s aesthetics.

There is no acknowledgement in the Proposed BPA of the associated human health thresholds for 8 of the 12 constituents on Table 64449-A of Title 22, Section 64449: Secondary Maximum Contaminant Levels and Compliance – see table below. The constituents that also have primary MCLs and applicable Notification Levels (which will apply under Title 22 Section 64449.2) must continue to be enforced in accordance with those water quality objectives, based on total analysis (Aluminum, Copper, Manganese, MTBE, Thiobencarb). The Proposed BPA needs to more fairly represent that the non-salinity SMCLs not only protect human welfare, but that many of them have additional values that are intended to protect human health and reaffirm that those other water quality objectives continue to apply. This could be clarified and explained further in the Draft Staff Report (Subsection 4.2.10.2, p.311 and p.313, Subsection 5.4, p.342), as well as other supporting documents.

Chemical/Constituent	Units	SMCL	Health Level	Health Level Notes
Aluminum	mg/L	0.2	1	Primary MCL
Copper	mg/L	1.0	1.3	Action Level at the tap, CTR
Manganese	mg/L	0.05	0.5/0.3	CA Notification Level/USEPA Health Advisory Lifetime
MTBE	mg/L	0.005	0.013	Primary MCL
Silver	mg/L	0.1	0.2	USEPA Health Advisory Acute Child
Thiobencarb	mg/L	0.001	0.07	Primary MCL
Turbidity	Units	5	0.3/1.0	Primary MCL Treatment Technique for Surface Water
Zinc	mg/L	5.0	2	USEPA Health Advisory Lifetime

The Draft Staff Report (Subsection 6.1.3, p.352) discusses consistency with the Water Code Section 106.3, including the proposed revisions to the Secondary MCLs. Similar to other sections

of the report, there is no acknowledgement that many of the constituents with Secondary MCLs also have an associated threshold for the protection of human health. The potential impact to the constituents that also represent risk to human health should be evaluated and discussed to ensure that there will be no impact to human health.

The Draft Staff Report (Subsection 6.2.12, p.360) evaluates the proposed Amendment Language consistency with the SIP, but it does not include the consideration of the impact to the copper Secondary MCL. Copper is a priority pollutant under the California Toxics Rule, listed for human health impact, as well as a Secondary MCL. This should be considered and evaluated to identify if these changes to the Secondary MCL result in any impacts to human health.

The Draft Staff Report (Section 4.2.10.3, p.319) presents recommendations regarding the language to clarify Secondary MCL use, including: “The proposed changes apply only for the purpose of interpreting and implementing the SMCLs. Some SMCL constituents (e.g., priority pollutants) have separate water quality objectives intended to protect aquatic life. The proposed change would not change these other objectives or the manner in which compliance with these objectives is currently assessed.” It is essential that the above language be modified to include that there are primary drinking water standards for several of the Secondary MCL constituents. The text should be revised to state, “Some SMCL constituents (e.g., priority pollutants and primary MCLs) have separate water quality objectives intended to protect aquatic life and human health.” The text should also clarify that the permitting process must include all objectives that apply to the MUN beneficial use, and their designated method for compliance. The text should be revised to state, “The proposed change would not change these other objectives or the manner in which they are evaluated for permit inclusion and compliance with these objectives is currently assessed.”

The Regional Board declares that the revisions to the Water Quality Objectives in Chapter 3 and implementation in Chapter 4 are intended to “clarify the intent and use of applying SMCLs in permitting actions by staff” (Draft Staff Report, Executive Summary, p.25). There is no specific definition in the Proposed BPA of what the Regional Board believes is the “intent and use [purpose] of SMCLs”. The text of the Draft Staff Report should clearly articulate the value and applicability of Secondary MCLs as protecting the MUN beneficial use.

Section 2 of the Draft Staff Report describes the Basin Plans, including the MUN water quality objectives. The text (Subsection 2.2.1, p.166) presents the need for explanatory language related to the SMCLs. This text, as well as in other places of the Draft Staff Report (Subsection 4.2.10.1.1, p. 303, Subsection 5.4, p.342), implies that the constituents in Table 64449-A need additional context for implementation, which is not accurate. For the non-salinity constituents in Title 22, Section 64449, Table 64449-A there is a single MCL listed and there is no need to further interpret the levels. Adding new contextual text from Title 22, Section 64449 relates to interpreting the Table 64449-B salinity constituent ranges presented (Draft Staff Report, Executive Summary, p.25). Subsection 2.3 of the Draft Staff Report (p. 183) presents a discussion of the Implementation of the Secondary MCLs to protect MUN beneficial use. The first paragraph of this subsection is totally focused on salinity Secondary MCLs and the text should be modified to

be clear. The first sentence should be clarified to add salinity, "Lack of guidance or policy in the Basin Plans for implementation of salinity secondary MCL-based objectives..." The Draft Staff Report (Section 4.2.10.3, p.319) presents recommendations regarding the language to clarify Secondary MCL use, including: "The Basin Plans should be amended to incorporate implementation provisions recognizing the contextual information in Title 22, Division 4, Chapter 15, Article 16, especially §64449 and §64449.2 and clarify consideration of natural background conditions, compliance assessment time period, and sample type – as appropriate to clarify use of SMCLs." It is necessary to revise the first part of the statement to explain that contextual text of Section 64449 is related only to Table 64449-B. The Draft Staff Report should be clarified throughout to explain that contextual language is specific to interpreting the data ranges of salinity constituents in Table 64449-B.

Finally, incorporation of Title 22, Section 64449.2 prohibits the exceedence of the California Notification Levels for iron and manganese as part of water quality objectives. These Notification Levels are based on total concentrations, and the Draft Staff Report should make clear how Regional Board will incorporate these numbers into the permitting process.

Data Errors and Insufficiency Related to Non-Salinity Secondary MCL Constituents

The SRSWPP believes that there are significant errors and insufficiencies related to the evaluation of non-salinity Secondary MCL constituents from Table 64449-A. Throughout the proposed BPA documents there is reference to Secondary MCLs, with extensive discussion and presentation of data and standards related only to salinity constituents. Consistently, there is a lack of equal presentation on the non-salinity constituents (Draft Staff Report, Executive Summary, MUN Water Quality Objectives, p.9). We believe that the supporting data provided in Appendix A is insufficient to assess impacts of the proposed changes on the MUN beneficial use. In addition, there is significant misrepresentation on the findings of our published Sacramento River Watershed Sanitary Survey 2015 Update. Our concerns on this issue were also presented in our comments from February 2017 on the CV-Salts Salt and Nitrate Management Plan. We believe that these errors and insufficiencies resulted in a significant effect on the outcome of the environmental analysis determination regarding impact to the MUN beneficial use in Appendix K, Section IX.

The Draft Staff Report (Subsection 2.1.2.1, p.151) presents a very limited discussion of surface water quality related to non-salinity Secondary MCL constituents, with Appendix A cited for additional data. Appendix A only presents a summary data table and box plot graphs for selected constituents. There is no data evaluation presented. It should be noted that Appendix A does not include presentation of any data for two Secondary MCLs: color and MTBE. The SRSWPP previously commented to Regional Board in February 2017 that the Department of Water Resources (DWR) Northern California Operations has an on-going Sacramento River Watershed Coordinated Monitoring Program (CMP) with substantial data collected on several Secondary MCL metals throughout the watershed, with quarterly frequency and including both total and dissolved analysis. This data set would have substantially supported evaluation of the risks of

these metals to the MUN beneficial use, as well as the variability in dissolved and total fractions. This data was not included in the Draft Staff Report; we are submitting selected data with this comment letter to support our concerns and be considered as part of the evaluation (**Attachment 1**).

The Draft Staff Report makes the claim that aluminum, iron, and manganese are present in particulate form (Subsection 7.1.5.1.3, p.372 and Appendix K, Section IX) and therefore will remain unchanged in most discharges due to controls for sediment. In addition, it is stated that the concentration of these metals in wastewater effluent are controlled by treatment and yet in National Pollutant Discharge Elimination System (NPDES) permits with an effluent limit for these Secondary MCL constituents, it appears to usually be a Water Quality Based Effluent Limit (WQBEL), not a Technology Based Effluent Limit (TBEL). There is insufficient information and analysis presented in the Draft Staff Report to support the statement that discharges will remain unchanged, such as a comparison of paired dissolved and total concentration samples. The data presented for metals in the Sacramento River in Appendix A is over 15 years old and does not provide paired data sets; therefore any comparison of total and dissolved is invalid. See attached DWR CMP data set for selected constituents, including aluminum, iron, and manganese. This is a large data set for locations along the Sacramento River with paired dissolved and total analysis, between 2010 and 2017. The data shows that frequently the dissolved concentrations can account for a large percentage of the total load of these constituents, and on average account for 15-25 percent. The claim in the Draft Staff Report that dissolved levels of aluminum, iron, and manganese are insignificant is directly contradicted by the DWR data. There are peaks of all of these metals above their respective Secondary MCLs, and times when the dissolved concentrations alone can exceed the Secondary MCLs for aluminum and iron. Therefore, an analysis of potential impacts from the change from total to dissolved analysis for metals on the MUN beneficial use should have been conducted.

Turbidity and color are summarily dismissed as constituents of concern in the Proposed BPA (Draft Staff Report, Subsection 7.1.5.1.3, p.372 and Appendix K, Section IX, p.K-28 to K-29) without complete analysis. These constituents serve as surrogates of overall water quality, represent risk from other measurable constituents (such as organic and inorganic matter and microbiological organisms), and have more important correlations, most significantly as indicators of the presence of pathogens in a water supply and a driver of the type and amount of drinking water treatment provided. Turbidity represents a wide spectrum of particle sizes and each particle can serve as a host for other constituents of concern to adhere to. Risk to the MUN beneficial use from turbidity is not specific to a particle size. The turbidity evaluation presented in Appendix K, Section IX only considers impacts from one type of activity in the watershed (wastewater discharges), rather than all potential sources. Color is monitored in unfiltered water related to the MUN beneficial use and considered a critical indicator of potential water quality concerns. Although other Basin Plan narrative and numerical water quality objectives exist for these constituents, it is difficult to tell how the MUN water quality objectives from the Chemical Constituents section of the Basin Plan would compare to these when determining which one is

stricter and would be applied to WDRs under the State Implementation Policy (SIP) since each receiving water has unique water quality characteristics and no evaluation was conducted in the Proposed BPA.

There is a statement in the Draft Staff Report (Subsection 2.1.2.1, p.151) regarding the ability to meet Secondary MCLs in the treated water at the Sacramento River water treatment plants, as well as discussion in the environmental analysis (Subsection 7.1.5.1.3, p.372-373). This statement is true, but we believe that it has been presented to imply that the drinking water purveyors do not identify aluminum, iron, or manganese as constituents of concern. We disagree with this implication and believe it is important to accurately characterize the findings and recommendations of the Sacramento River Watershed Sanitary Survey 2015 Update (Starr Consulting et. Al, 2015). This report included a detailed review of raw water aluminum, iron, and manganese concentrations due to their potential for discharge to the watershed, periodic elevated levels in the raw water, and potential for water treatment impacts. This included review of additional data from DWR. Although the drinking water treatment plants are able to treat water to meet the Secondary MCLs for the three metals, the evaluation identified that source water concentrations and the sources contributing to those were identified as of potentially of concern and the report recommended that the water utilities continue to monitor raw water and coordinate with DWR over concern of increasing source water levels that may lead to treatability concerns.

The Draft Staff Report (Subsection 4.2.10.2, p.312) includes a discussion of the application of Secondary MCLs when measuring compliance. The first bullet in this section states that high TDS and EC concentrations exist, and then references Table 64449-A. This statement should be corrected to remove the reference to Table 64449-A, or the Draft Staff Report needs to be expanded and revised throughout to provide basis for a statement that high background concentrations exist for the other non-salinity SMCL constituents.

The Draft Staff Report (Subsection 2.1.2.1, p.151) describes CWA 303(d) Listed Impairments and states that there are no listings of metals for the protection of MUN in the Sacramento River Hydrologic Region. Although this is true, the Draft Staff Report later clarifies (Section 7.1.5.1.3, p.372) that two creeks in the Sacramento River Hydrologic Region have a Total Maximum Daily Load (TMDL) for Copper and Zinc for the protection of aquatic life. It is more accurate to clarify throughout the Proposed BPA and associated documents that the TMDL exists, even if it is not related to the MUN beneficial use.

The Draft Staff Report also presents a review of surface water discharge types that may contribute Secondary MCL constituents. We would like to note that under industrial dischargers (Subsection 2.2.1, p.172) hatcheries should be identified as potentially contributing non-salinity Secondary MCL constituents and that other industrial dischargers, such as mines also have the potential to discharge non-salinity Secondary MCL constituents.

Related SRSWPP Previous Comments on SNMP Antidegradation Analysis by LWA: Ambient Surface Water Quality Conditions (Attachment 6 to SRSWPP Feb 2017 Comments)

- Data used for aluminum, iron, and manganese needed 10 samples to be included: 10 samples over a 27 year period are wholly insufficient to characterize the range of water year types, seasons, and trends over time. This is supported by review presented in the Sacramento River Watershed Sanitary Survey 2015 Update.
- 2 years of data is also insufficient to characterize the broad range of water quality variability. This is supported by review presented in the Sacramento River Watershed Sanitary Survey 2015 Update.
- All constituents with Secondary MCLs will be impacted and are of interest.
- The SRSWPP suggested review of the DWR Sacramento River CMP data.
- Data for aluminum, iron, and manganese was limited in time, and quite old. Evaluation should be based on total concentration since that is the standard for drinking water regulatory compliance evaluation.

Related SRSWPP Previous Comments on SNMP Substitute Environmental Documentation by LWA: Water Quality – Surface Water (Attachment 4 to SRSWPP Feb 2017 comments)

- Median values are not sufficient for evaluation of SMCL issues. In addition, ranges and averages and annual, possibly running annual averages should be included. [with regard to summary of Secondary MCL constituents, now Appendix A, Table A-1]
- The evaluation does not represent all constituents with secondary MCL. Missing color, MTBE, Odor, TDS, EC.

The SRSWPP believes that insufficient data analysis was conducted to evaluate the potential for increased loading to the MUN designated water bodies if compliance with the water quality objectives for the Secondary MCL constituents is revised from total analysis to dissolved analysis. We request that additional data, factors, and conditions be included in the evaluation as described above.

New Language in Chapter 3 Related to Other MCL Constituents

Chapter 3 of the Basin Plan presents the water quality objectives associated with various beneficial uses, which are part of the water quality standards to protect the beneficial uses. The SRSWPP began participating in this program when the CEQA Scoping identified potential changes to the Salinity Water Quality Objectives. During our participation in this process over the past five years, there was no discussion of a plan to expand the scoping of this program to include any constituents with Primary MCLs or to clarify or quantify the efficacy of drinking water treatment.

The Proposed BPA includes new language in the first paragraph of Chemical Constituents in Chapter 3 (Amendment Language, p. 29-30) that will apply to all MCLs, duplicate existing policies already in Basin Plan (the SIP), and make scientific determination regarding drinking water treatment efficacy without supporting information. Proposed changes to the first paragraph of Chemical Constituents in Chapter 3 are more than editorial and have the potential to have

significant impact on all MCLs as currently written. The deletion of “~~At a minimum,...~~” removes a protection related to all the MCLs, including primary MCLs that are protective of human health. The addition of new text after this, “...As set forth herein, unless there is an approved site specific objective...”, again applies to all MCLs and is duplicative of the existing implementation policies already located in the Basin Plan and therefore unnecessary. Finally, the text added after the Regional Board acknowledgement of treatment requirements significantly alters the statement from one of fact to one of scientific determination. “The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances such that some MCLs may not be appropriate as an untreated surface water objective without filtration or consideration of site-specific factors.” This new text makes a scientific determination regarding the efficacy of drinking water treatment related to all MUN water quality objectives, including primary and secondary MCLs, without any presentation of scientific facts to support such statement. Numerous locations of the Draft Staff Report address this proposed new language related to expansion of the statement of fact regarding drinking water treatment (Subsection 2.2.1, p.166, Subsection 2.3, p. 183, Subsection 4.2.10, p. 301, Subsection 4.2.10.2, p.312, and others). Any revision or expansion of this statement would require sound science to translate it to a representation of the efficacy of drinking water treatment related to all MCLs. We believe this revision goes against the CV-SALTS guiding principal to, “Base decisions on sound science.” (Subsection 4.1.2, p.196). We request that all the proposed changes to the first paragraph in the Chemical Constituents subsection of the Chapter 3 in the Basin Plan be removed.

The new paragraph focused on Secondary MCLs includes the term “natural background concentration”. However, this term is not defined in the Definitions and Terminology of the Draft Staff Report (p.83-86). There is a similar term “Naturally-Occurring Background Concentration”, but this is only related to groundwater. Since this is a significant addition to the water quality objectives, we believe a clear definition is necessary. If it cannot be provided in this Proposed BPA, then the Regional Board should consider including it in the next Triennial Review.

The Draft Staff Report includes recommendations for Secondary MCLs in Subsection 4.2.10.3 (p.320). An important recommendation is, ‘It may be appropriate to develop guidelines in conjunction with the Division of Drinking Water and affected stakeholders in the future to support the Basin Plans to further describe how the following existing Basin Plan language would be considered when developing WDRs for discharges to inland surface waters: “The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances.”’ We support development of guidelines to more consistently and scientifically implement Secondary MCLs in discharge permits to ensure protection of the MUN beneficial use. The SRSWPP concurs with this recommendation and suggests that it be implemented prior to adding any new text to the water quality objectives in the Basin Plan.

The Draft Staff Report (Subsection 6.1.1.1, p. 346) provides a review of the Clean Water Act Federal Requirements for Review of Water Quality Standards. Standards are defined as the

beneficial uses and their associated water quality criteria. The Draft Staff Report indicates that no changes are made to beneficial uses; therefore the federal requirements do not apply. There is no consideration of the proposed revisions to the water quality objectives for the Secondary MCLs (including changes in the text for Basin Plan Chapters 3 and 4), which are identified throughout the Draft Staff Report. This appears to be an error in determination and that federal requirements should apply. The Draft Staff Report should be revised to address the proposed revisions to the water quality standards related to Secondary MCL constituents and the potential impacts to the MUN beneficial use.

Use of Dissolved Analysis for Compliance Determination for Non-Salinity Secondary MCLs

Chapter 4 of the Basin Plan presents the program of implementation to achieve water quality objectives, including surveillance to determine compliance with objectives. Revisions or additions to Chapter 4 should not revise the objectives identified in Chapter 3. The Proposed BPA includes language in Chapter 4 that will prescribe "...the use of dissolved metal to set and measure compliance with metal constituents (aluminum, copper, iron, manganese, silver and zinc) in Table 64449-A as well as turbidity and color." (Amendment Language, p.111).

The SRSWPP strongly opposes the use of dissolved analysis (using analytical methods with a 0.45um filter) to set and measure compliance with the Secondary MCL water quality objectives and believes that this is a de facto change in the water quality objectives. We believe this text effectively revises the water quality objectives from Chapter 3 to be represented only by the dissolved concentration of these constituents, which is technically inaccurate since community water system compliance with MCLs is determined based on total analysis and filtration at 0.45um does not represent conventional drinking water treatment, therefore underestimating the risk to the MUN beneficial use. By providing flexibility to determine compliance using the dissolved fraction (Draft Staff Report, Executive Summary, Table ES-1, p.16), the Regional Board has essentially changed the water quality objectives. We recommend continuing the current use of total analysis for compliance determination for all Secondary MCLs, until an alternate analytical method or process can be scientifically supported.

Subsection 4.2.10.2 of the Draft Staff Report includes a discussion of the application of Secondary MCLs when measuring compliance. The third bullet (p.312-313) presents a discussion on measuring compliance with Secondary MCLs. The text implies that drinking water suppliers' use of total metals analysis for compliance is inconsistent with federal law; this is incorrect and should be revised or removed because we use the total analytical method to measure the concentration of constituents in drinking water. There is a critical statement regarding water treatment requirements on p.313, but no reference is provided for footnote 97. A reference should be provided. The second paragraph (p.316) does not accurately represent monitoring requirements for surface water supplies. We would like to clarify that many source waters have levels of Secondary MCL constituents below the associated limit, and therefore specific treatment is not required to be implemented for those constituents. We suggest that the exact text of Title 22 Section 64449 (b) be inserted as follows: "Each community water system shall monitor its

groundwater sources or distribution system entry points representative of the effluent of source treatment every three years and its approved surface water sources or distribution system entry points representative of the effluent of source treatment annually for the following:...”.

Subsection 4.2.10.2 of the Draft Staff Report (p.313) also presents limited information on drinking water particle removal. We disagree with the text identified in the second paragraph of the third bullet in this discussion regarding the stakeholder input on particle size range and we request that it be revised. The SRSWPP provided Figure 4-10 (p.315) to the Regional Board and CV-Salts as an example of how the use of a 0.45 um pore filter analysis process would underestimate the risk to treated drinking water, not as a means to substantiate a scientifically appropriate method for compliance determination. Conventional filtration is implemented by all the SRSWPP agencies and the figure clearly shows this particle size removal range as greater than 1 um. The range in the text and on the figure must be corrected to show a minimum of 1 um particle removal. Drinking water treatment provided does not equate to filtration of samples for analysis of dissolved fraction at 0.45 um. It is clear that the use of a 0.45um filter does not represent the risk to the MUN beneficial use, if assuming that risk is only applied at the treated water quality. Subsection 6.1.3 discusses consistency with the Water Code Section 106.3, including the proposed revisions to the Secondary MCLs (p. 352). Here the text specifically states, “...compliance with the chemical constituent water quality objectives using filtered samples to reflect treatment practices prior to distribution to consumers...”. This indicates that the use of a filtered sample in the Proposed BPA is intended to represent the treatment provided by drinking water suppliers. Therefore, it is clear that a substantial range exists for particle reduction in conventional drinking water treatment and that the table in itself provides insufficient scientific determination to identify an appropriate means for compliance determination for the protection of the MUN beneficial use. The use of a filter at 0.45um in the analysis for compliance with the water quality objectives clearly under-represents the risk to the protection of the MUN beneficial use, contrary to what is presented in the Draft Staff Report (Table 1-1, p.135) and in disagreement with 40 CFR Section 131.11(a) that requires water quality criteria be based on sound scientific rationale.

The use of filtered analysis for compliance with Secondary MCLs provides an oversimplified solution, without sufficient technical justification, to the concern that total concentrations may be over conservative to dischargers. The use of filtered analysis at 0.45 um is not supportable based on comparison to drinking water treatment efficacy as a representation of the risk to the MUN beneficial use. Colloids are defined as particles ranging from 1 nanometer to 1000 nanometers (or 1 micron), and can often include metals. This would include particles that would both pass through and be rejected by a 0.45 micron filter for the dissolved metal test. There is no definitive particle size removal in conventional water treatment (it is not a physical barrier treatment process), so this is an excellent example of how the proportion of metals removed in drinking water treatment will not be well represented by the dissolved metal analysis. Secondary MCLs are set based on the effect of total levels of constituents. Impacts can be caused by either the dissolved or particulate fraction. Water utilities do not filter samples prior to analysis because

it would be a misrepresentation of the total risk of the concentrations of these constituents. If an alternate compliance strategy for contaminant compliance determination is desired beside the use of total concentrations of Secondary MCLs, such as a modified numerical objective or other translation process, then those should be proposed and thoroughly evaluated, including a peer-review since it will involve scientific basis, prior to amending Basin Plan language.

The Draft Staff Report (Subsection 4.2.10.2, p.316-317) includes the concern about the potential for over conservative measure and impact to the dischargers. However, there is little acknowledgement that the proposed change to dissolved analysis will underestimate the risk to the MUN beneficial use, as represented in treated drinking water. By converting compliance from total to dissolved analysis for constituents in Table 64449-A, the Regional Board is allowing the potential for a significant increase in the discharge of these constituents. Portions of total constituents that are larger than 0.45um will not be evaluated and considered in compliance determination or reasonable potential analysis due to filtering of samples.

Subsection 4.2.10.2 of the Draft Staff Report includes technical inaccuracies in this discussion. The fourth and fifth paragraphs (p.316) provide significant opinion on metals analysis and water and wastewater treatment with no technical references provided. These statements should be supported by scientific data and references. The eighth paragraph (p.317) provides a reference for dissolved metals analysis in accordance with 40CFR136. A review of this reference, specifically Part 136.3, does not provide any analytical method for dissolved metals. In addition, 40CFR122.45(c) states that all NPDES permit effluent limits for metals must be expressed in total analysis. These two technical points should be clarified and corrected.

Subsection 5.4 second paragraph of the Draft Staff Report (p. 342) inaccurately characterizes the proposed Amendment Language related to the use of dissolved analysis for more than Secondary MCL metals, and the text should be expanded to include turbidity and color per the proposed Amendment Language. This is important to clarify as part of the antidegradation analysis. The application of an analytical test other than total to constituents beyond metals is inconsistent with the Division of Drinking Water Memo titled, "Sampling and Compliance with MCLs When Applying Them as Objectives in Wastewater Regulatory Program – Revised", and dated December 6, 2017.

The Draft Staff Report states in several locations (including Subsection 5.4.3.1 (p. 344), Subsection 7.1.5.1.3 (p. 372-373) and others) that the "SMCL Revisions are consistent with existing permitting practices." A review of some existing NPDES permits in the Sacramento Valley indicates that some permits are currently evaluated for Secondary MCLs compliance based on total analysis, calculated on an annual average as per a WQBEL. There are a few instances when a TBEL also created a maximum daily or average monthly effluent limit for these constituents, but this was uncommon. The proposed change to dissolved analysis would not be consistent with those orders, and this should have been evaluated as part of the environmental analysis. Allowing revision to compliance based on only a portion of the total load (dissolved water concentrations) could allow a discharger to increase the total discharge to the receiving water, thus degradation could occur.

Subsection 7.1.5.1.3 (p. 372-373) of the Draft Staff Report presents an environmental analysis for additional Secondary MCL constituents. We disagree with the determination of no contribution to an adverse water quality condition if the method of compliance is revised from total to dissolved analysis. We believe that if compliance is revised to be only based on a portion of the total loading of a constituent to a receiving water, then the potential exists for a discharger to increase the dissolved concentrations up to the Secondary MCL, and particulate concentrations even higher, and subsequently increase the loading to a receiving water. We do not believe that there has been adequate evaluation and consideration of the impact of converting compliance from total to dissolved analysis to determine that no potentially significant adverse environmental impacts will occur in receiving water bodies.

New Language in Chapter 4 Related to Implementation of Secondary MCLs

Chapter 4 of the Basin Plan presents the program of implementation to achieve water quality objectives, including surveillance to determine compliance with objectives. Revisions or additions to Chapter 4 should not revise the objectives identified in Chapter 3. The Proposed BPA includes new language related to implementation of Secondary MCLs. Of primary concern to the SRSWPP is the presentation of a new process to develop a "...translator to convert the dissolved objective to effluent limitations based on total metals." [sic] (Amendment Language, p.111). Also of concern is clarity needed in the new text related to salinity constituents and implementation factors when developing WDRs.

Use of a Translator to Represent Risk to the MUN Beneficial Use

The proposed Amendment Language regarding the development of a "translator" is a recent addition and the SRSWPP has had limited time to review it; we find it vague and confusing as written (Amendment Language, p.111). It is unclear what translation is intended to be achieved (i.e. comparison of raw and treated water quality or representation of the portion of a constituent that contributes to the human welfare impact). It is unclear what purpose the translator would actually serve. Is the translator intended to define an analytical method that includes an appropriate filtration pore size to represent the risk to the MUN beneficial use in treated drinking water or is it to create ratios to convert the dissolved analysis to an equivalent concentration in treated drinking water? The use of the term "translator" immediately becomes associated with the current aquatic life translator process, which converts dissolved objectives for aquatic life to totals metals analysis based on decades of toxicity studies. If the Regional Board determines to include text related to an interpretation concept we would strongly recommend the use of a different term. Subsection 4.2.10.2 of the Draft Staff Report includes a discussion on measuring compliance with Secondary MCLs, including text on the proposed creation of a "translator" (p. 316-317). This text is also vague and ambiguous. It is unclear by whom and how the translator would be created, what purpose the translator would actually serve, and how it would be used. There is no justification or scientific basis provided for why

selected topics should be accounted for in its creation. The SRSWPP believes that there needs to be significant revision to this proposed text.

The SRSWPP continues to disagree with the use of dissolved analysis (with a 0.45 um filter) for compliance with Secondary MCLs (p.111), as discussed in the comment section above. We recognize that the Regional Board would like to pursue an alternate method to determine discharger compliance with the Secondary MCLs, but we do not see any sound science to support the current use of the existing dissolved analysis method and application of a translator. In addition, we want to continue to note that we believe in the multi-barrier approach and that the total load of a constituent from a discharger should be considered as a potential impact to the MUN beneficial use. The focus on translation of discharge water quality directly to treated drinking water quality eliminates the potential fate and transport of these constituents in the receiving waters and subsequent changes in downstream water quality. The added text states that the objectives are new and now based on the dissolved concentrations. The SRSWPP disagrees with the proposed Amendment Language, "...the dissolved objective...", that states that Secondary MCL water quality objectives are based on dissolved analysis (at 0.45 um). We also disagree with the process to translate "up" from a dissolved analytical result to represent the actual risk to MUN beneficial use. There is no science presented to support such an approach for the MUN beneficial use and it does not seem sound that the use of a filtered sample analytical result could be projected "up" to represent the risk of unknown concentrations of larger particle sizes of the Secondary MCL constituents.

The proposed Amendment Language includes, "Pursuant to the above paragraph, for a period of no more than 10 years or upon development of a translator, reasonable potential analysis will be conducted based on dissolved metals data using a 0.45-micron filter in accordance with Federal Regulations, 40 CFR Part 136. In cases where effluent limitations are required per federal NPDES regulations, the permit will allow development of a translator to covert the dissolved objective to effluent limitations based on total metals." [sic] (Amendment Language, p.111). The SRSWPP would like to note that this statement is incorrect and again clarify that the Secondary MCL water quality objectives are currently based on total analysis, unless the Regional Board is herein proposing to revise the actual water quality objective. This is significant because there is no science presented in the Proposed BPA to support revision of the Secondary MCL water quality objectives to a dissolved fraction, as no studies or analysis were conducted to determine what portion of the metals contributes to the aesthetic impact or what particle size clearly represents the risk to the MUN beneficial use.

In addition, the new text focuses only on point source discharger permits (NPDES), through the Reasonable Potential Analysis, with no explanation as to how it may apply to non-point discharge permits (other WDRs). There is no clarity on by whom or how the translator may be developed. There is no clarity on what would happen in ten years if no translator is developed. We assume that this language was developed in an attempt to create a method to implement the recommendation from the DDW in the December 2017 memorandum, regarding an "alternate

test” from total analysis; moreover, additional technical information and supporting science would be necessary to develop an appropriate method to represent treated drinking water.

Section 4.2.10.3 of the Draft Staff Report (p.319-320) presents recommendations to provide clarifying language for using Secondary MCLs. This includes: “It is appropriate for dischargers to work collaboratively with Regional Water Board staff and water purveyors to better understand natural background conditions, trends and filtration procedures that better represent area treatments systems supplying drinking water. Until translators are identified by water body segment, water body or basin, it is appropriate to utilize dissolved samples when measuring compliance with metals identified in Table 64449–A as well as turbidity and color. Volatile constituents should continue to be analyzed using total methods.” As discussed previously, the SRSWPP disagrees with the use of dissolved analysis for compliance determination at this time. It is scientifically unsupportable. We recommend that this be revised to total analysis and allow for development of either a new analytical method or a translation process to be developed for Secondary MCLs to represent the risk to the MUN beneficial use. We would note that the DDW memo only represented an opinion on the use of an alternate analytical test method related to Secondary MCL metals, and expansion of that to any other constituents or translation process would be beyond the memo’s content.

The SRSWPP believes that the approach of the January 2018 Regional Board staff draft, which utilized the concept of development of an appropriate analytical filter test method from the December 2017 DDW memo, is a better approach. Another possible approach is the use of total analysis and development of a process to translate “down” to account for the risk to the MUN beneficial use. Either way, any process to revise the method of compliance with the Secondary MCL water quality objectives should be based on and supported by science and subject to an external peer-review.

If a translator approach is used, there needs to be more clear language on the approach regarding purpose, responsibility for completion, applicability to permitting, timing, consequences if not completed, factors included in development, and scientific basis. In addition, we request confirmation from the Regional Board whether 40 CFR 131.13 applies to this policy and if it will require USEPA review and approval. We are very concerned that the Regional Board is proposing to change the methodology for compliance, and thus the water quality objectives first, while deferring the development of a scientifically based translator to support the methodology after the fact. We are providing an example of potential changes to the proposed Amendment Language for Chapter 4, Implementation, related to the translator in **Attachments 2 (Clean Version) and 3 (Edited Version)**.

Clarify Text Related to Salinity Only

The second paragraph of the proposed additions specifically discusses and addresses salinity Secondary MCLs, including those in Table 64449-B. The first sentence of the paragraph needs to be revised to clarify that these are only related to salinity Secondary MCLs (p.110). “Secondary MCLs related to salinity are identified in”.

Clarify Text Related to Implementation Factors When Developing WDRs

The third paragraph of the proposed additions mandates that the Regional Board “shall consider” site specific factors in implementing Secondary MCLs, including those from Section 4.2.10 of the Draft Staff Report (p.110). We are concerned that the mandate increases regulatory burden for Regional Board and suggest that this be revised to “...may shall consider...”. In addition, the section referenced does not contain any factors within the section and it should be more appropriately noted as 4.2.10.3, or even more specifically Appendix G (p.320).

Section 4.2.10.3 of the Draft Staff Report (p.319-320) presents recommendations to provide clarifying language for using Secondary MCLs. This includes: “To address concerns expressed related to source water protection, several considerations were identified for use during the development of WDRs. These considerations are listed in Appendix G.” The stated purpose of these considerations, or site-specific factors, in Appendix G is to address concerns related to source water protection for drinking water consumers (Draft Staff Report, Executive Summary, Table ES-1, p.16 and Chapter 4, 4.2.10.3, p.320). We appreciate the Regional Board’s inclusion of source water protection by including considerations for WDR implementation. The list of factors/considerations presented in Appendix G appear to be based on items previously proposed in the SNMP, which provide consideration to off-setting the impact of the discharge rather than source water protection, and may allow introduction of material that is inconsistent with existing policies that protect the MUN beneficial use. The SRSWPP has reviewed Appendix G and finds that most of our previously identified comments and suggestions have not been included or addressed here. We are providing a marked-up version of Appendix G for consideration to ensure source water protection concerns related to the MUN beneficial use are properly addressed, see **Attachment 4**.

Surveillance and Monitoring of Non-Salinity Secondary MCL Constituents to Track Cumulative and Long-Term Impacts of the Proposed BPA

The Proposed BPA and supporting documents do not consistently present a strategy for a cumulative and long-term surveillance and monitoring program for non-salinity Secondary MCL constituents in surface waters. The development and implementation of an assessment program for data related to these constituents is needed to adequately evaluate the potential for long-term degradation related to Central Valley-wide implementation of proposed changes to the Basin Plan. The Surveillance and Monitoring Program (SAMP) for Surface and Ground Water is designed to focus on salinity and nitrate, but is not consistent in its presentation for inclusion of non-salinity Secondary MCL constituents. The BPA Language does not include evaluation of impacts to non-salinity constituents as an overarching goal and it is not included in the management questions (Amendment Language, p.77). However, the Work Plan for Surface Water Requirements (Amendment Language, p.78) does include the possibility of including non-salinity SMCLs. Finally, the Program Assessment Report Requirements (Amendment Language, p.79) does require an assessment of water quality conditions and trends every five years, in accordance with the Work Plan.

We are concerned that the proposed significant changes to implementation of Secondary MCLs should have required inclusion of impacts assessment as per the Basin Plan (Section 4.2.4, p. 262). There are discussions of this in other sections of the Draft Staff Report (Table 1-1, p.133, Section 4.2.4, p.262) and these present a conflicting determination of the inclusion of non-salinity Secondary MCLs. In subsection 4.2.4.1.2 (p.268-269) there is a discussion on the surface water requirements for the monitoring and surveillance program. The introductory paragraph only addresses salinity, but the bullets include other Secondary MCLs. We believe that the Basin Plan Language and Draft Staff Report need to consistently present how non-salinity Secondary MCLs will be implemented in the SAMP and consider Basin Plan requirements and the Salt and Nitrate Control Program goals, which includes a safe, reliable drinking water supply.

In addition, the Draft Staff Report (Subsection 4.2.4.2, p.271) presents an evaluation of alternatives for the SAMP. There is a discussion on the limiting of Secondary MCL constituents assessed. This incorrectly presents the proposed method for evaluating compliance with Secondary MCLs and it needs to be corrected to reflect the text from the Proposed Amendment Language.

Finally, the Draft Staff Report (Subsection 4.2.4.3, p.271-272) presents the recommendations for the SAMP. The second bullet proposes to limit the evaluation of Secondary MCLs to those that are impacted by the proposed amendments. We would like to clarify that the proposed amendments include revision to the method of compliance determination for the majority of Secondary MCLs and therefore should include any of those listed.

Adequacy of the Substitute Environmental Document (SED) Related to Proposed Changes for Non-Salinity Secondary MCLs and Other MCLs

Lack of Notice

State regulations require the Regional Board to seek early public consultation, in part to seek input on significant impacts to be analyzed. The late revisions to non-salinity Secondary MCLs and MCLs in Chapters 3 and 4 of the Basin Plan were not identified to the public prior to the Proposed BPA publication on March 23, 2018. The Draft Staff Report (Subsection 4.2.10.1.2, p.304) presents a summary of alternatives to provide additional clarity on the use of Secondary MCLs. The Draft Staff Report includes a reference to Appendix D, containing Table D-10, which presents alternatives discussed during the stakeholder process. This document was prepared to compare suggestions provided by stakeholders through the January 2018 version of the Proposed BPA. The new text in Chapter 3 and the use of dissolved analysis and a translator in Chapter 4 were never presented during those discussions and therefore this summary document does not include any alternatives related to the new topics. While the environmental regulations applicable to exempt regulatory programs note that scoping may assist in resolving concerns of affected local agencies; here the lack of scoping has contributed to SRSWPP's concerns.

Another continued concern the SRSWPP has, is the lack of problem statements for non-salinity Secondary MCL constituents in the Central Valley and wastewater treatment plant impacts identified as critical factors in the environmental analysis. The Draft Staff Report (Executive Summary, p.6) does not provide an explanation or supporting materials as to why there is a need to address non-salinity Secondary MCLs. There is no presentation of a problem existing for dischargers' compliance related to non-salinity Secondary MCL constituents. The limited ambient data presented in Appendix A shows that these constituents were not determined by Regional Board to be of concern. This lack of a problem does not support revising the water quality objective to be based on a dissolved fraction, rather than the total, without sound science to support that it represents the risk to the MUN beneficial use. The Draft Staff Report (Subsection 4.2.10.2, p.316-317) includes a discussion on measuring compliance with the Secondary MCLs. Generally, the argument presented includes the concern over the potential for over conservative measurement and impact to the dischargers. However, nowhere in the Draft Staff Report is there a description of a problem that exists with dischargers related to non-salinity SMCLs. There is little acknowledgement that the proposed change to dissolved analysis will under estimate the risk to the MUN beneficial use, as interpreted in treated drinking water.

Finally, the Draft Staff Report (Subsection 7.1.6) presents the no action alternative analysis. The fourth paragraph of this section includes a statement that wastewater discharges would require the implementation of new treatment processes to remove certain metals (p. 375), and is restated further down in this section (p. 376). There has been no evidence provided in the Draft Staff Report to indicate that wastewater treatment plants in the Central Valley are in jeopardy of compliance with Secondary MCL metal constituents or other non-salinity Secondary MCL constituents. If this line of argument is included in the environmental analysis as a potentially significant impact, a sufficient problem statement and evaluation should be included.

Clarify Implementation of Secondary MCLs is a Revision to Water Quality Objectives

Throughout the document, there is inconsistent presentation of the proposed revisions to Chapters 3 and 4 of the Basin Plan as revisions to water quality objectives. Some sections of the Draft Staff Report declare them as revisions to water quality objectives (Executive Summary, Table ES-1, p.16) while other sections declare them as clarifications to the water quality objectives (Table 1-1, p.135). The SRSWPP believes that the proposed Amendment Language in Chapters 3 and 4 of the Basin Plan related to non-salinity Secondary MCLs are all revisions to the water quality objectives. This includes specific revisions in Chapter 3 as well as the new text for implementation in Chapter 4. Implementation by the use of dissolved analysis for compliance as a revised water quality objective was discussed previously in this comment letter and is confirmed throughout the Draft Staff Report (Subsection 6.2.11, p.360, Subsection 6.3.5, p. 365, and others). The revision of the water quality objectives for MUN should incorporate consideration of the factors set forth in Water Code section 13241, should be based on sound science, should be subjected to USEPA review and approval, and include a peer review.

The Draft Staff Report (Subsection 4.2.10.2, p.313) includes a discussion on the consideration of natural background. Here, the Regional Board confirms that this text is already in the Basin Plan and is being copied from Chapter 4 - Implementation to Chapter 3 - Water Quality Objectives. The inclusion of natural background as a limit for Secondary MCLs constituents in Chapter 3 does not appear to be necessary since implementation language already exists in Chapter 4 and will be included in Appendix G. We are concerned that this constitutes a revised water quality objective in Chapter 3 (Amendment Language, p.29).

Subsection 5.4 of the Draft Staff Report presents the antidegradation analysis for Secondary MCLs. The introductory paragraph (p.342) needs to be expanded to include the Secondary MCL constituents in Table 64449-A. Also, the proposed Amendment Language represents a revision to the water quality objectives and this should be clearly stated in this section.

California Health and Safety Code Section 57004 requires the Regional Board to complete a peer review prior to adopting a final rule if that rule includes scientific basis. ““Scientific basis” and “scientific portions” mean those foundations of a rule that are premised upon, or derived from, empirical data or other scientific findings, conclusions, or assumptions establishing a regulatory level, standard, or other requirement for the protection of public health or the environment.” The Regional Board’s proposed Amendment Language to convert from its current compliance approach to dissolved analysis compliance with Secondary MCLs to represent the risk to the MUN beneficial use has been presented as the foundation of the changes in Chapters 3 and 4 of the Basin Plan. However, the assumptions that the Regional Board has relied upon are considered a “scientific basis” and should be predicated on scientific findings and a peer review should have been conducted.

As described in the Draft Staff Report, under the Clean Water Act water quality standards include both the beneficial use designations as well as the water quality criteria associated with them (Chapter 6.1.1.1, p.346). An analysis of the revisions to the water quality criteria proposed in this Proposed BPA should trigger a review of the water quality standards for these constituents and this is not evaluated in the Draft Staff Report.

Discussion of Potentially Adverse Impacts Due to Revised Water Quality Objectives

The Draft SED, as reflected by Appendix K, does not include an adequate discussion of the potentially significant adverse environmental impacts that may occur as a result of revising the technique for measuring compliance with non-salinity Secondary MCLs to a dissolved standard in Chapter 4 of the Basin Plan. This evaluation should have been completed before the development and inclusion of a placeholder for a translator in the Basin Plan, and since the evaluation wasn’t completed, the translator concept has been added to the Basin Plan without the support of any scientific study. The Regional Board’s analysis of the concept in Appendix K (p.K-27) is limited to noting that the current approach may be over conservative and acknowledging that that adopted approach of a 0.45-micron filtered sample “may not represent the level of filtration utilized by water treatment facilities drawing from the source water.” The environmental analysis dismisses the potential impacts with unsupported generalized

assumptions (see p.K-28: treatment process will not be modified to take advantage of less stringent effluent quality requirements, many wastewater service areas in the Central Valley have relatively little industry, the presence of elevated aluminum, manganese and iron in surface water is mostly related to particulates). In contrast, a significant portion of our comments are devoted to explaining out the potential for reasonably foreseeable significant adverse environmental impacts arising from the revised compliance measurement techniques.

The Draft Staff Report Subsection 5.4.1 (p. 343) is titled “Degradation that may occur under the SMCL Revisions” and yet there is no discussion of potential degradation in this section. We believe that the potential for degradation of non-salinity Secondary MCL constituents was underestimated in the environmental analysis and that this section should be expanded to include potential impacts to these constituents.

Consideration of Factors When Establishing or Revising Water Quality Objectives

Appendix K acknowledges that in some cases, the proposed compliance approach may affect the degree to which dischargers control non-salinity SMCLs (p.K-28), but the analysis does not consider any factors that must be considered when establishing or revising water quality objectives, including the economic effect on community water systems.

Section 8 of the Draft Staff Report presents the findings of an economic analysis for the no project alternative and the proposed project alternative. The analysis related to drinking water was limited only to the safe supply of drinking water for those groundwaters impacted by nitrate (Subsection 8.1.3.1, p.384-386). There was no consideration of the potential impacts of revisions to the objectives for non-salinity SMCL constituents, which is consistent with the lack of scoping for these constituents to this process.

We are concerned that the finding of less than significant water quality impacts is based on insufficient data evaluation, technical errors, and lack of consideration of potential for long-term and cumulative impacts regarding Secondary MCL constituents. This technical error leads to other portions of the environmental review not having sufficient consideration of these impacts and lack of inclusion of sufficient alternatives.

The Draft Staff Report (Subsection 5.5, p. 345) indicates that antidegradation analysis will be performed for specific projects. There is no process identified in the Proposed BPA to complete a cumulative analysis of the Basin-wide impact of the changes to the non-salinity Secondary MCL constituents if the antidegradation analysis will be conducted permit by permit.

Appendix K, Section XVII – Utilities and Service Systems did not include potential impacts to municipal drinking water systems. We believe that this was another important omission. For example, water treatment and residual management facilities may need to be modified to address increased total loads from Secondary MCL constituents. More intensive water treatment and impacted residual management facilities can result in environmental effects that would need to be mitigated, such as increased residual waste management and higher costs.

Attachment 1. DWR Sacramento River Coordinated Monitoring Program (2010 - 2017)

Long Station Name	Collection Date	Total Mn	Dissolved Mn	% Dissolved	Total Fe	Dissolved Fe	% Dissolved	Total Al	Dissolved Al	% Dissolved
SAC A VERONA	11/2/2011 12:40	11.9	2.29	19%	76.6	37.2	49%	36.7	17.4	47%
SAC A VERONA	2/1/2012 13:10	58.2	4.86	8%	1211	661	55%	1258	450	36%
SAC A VERONA	5/9/2012 11:45	64	30.1	47%	768	196	26%	481	197	41%
SAC A VERONA	8/8/2012 11:51	8.97	0.73	8%	85	6.3	7%	44.3	2.6	6%
SAC A VERONA	11/7/2012 12:55	23.2	10.5	45%	140	72.1	52%	50.1	8.81	18%
SAC A VERONA	2/7/2013 13:05	22.5	5.98	27%	601	418	70%	401	308	77%
SAC A VERONA	11/6/2013 13:00	17.8	2.57	14%	188	59.8	32%	58.1	1.59	3%
SAC A VERONA	2/5/2014 13:05	26	0.16	1%	203	14.7	7%	40.4	0.32	1%
SAC A VERONA	5/7/2014 12:15	42.1	27.9	66%	265	47.6	18%	177	16.5	9%
SAC A VERONA	8/13/2014 12:05	10.9	2.29	21%	105	27.8	26%	42.8	2.11	5%
SAC A VERONA	11/13/2014 13:10	8.6	0.48	6%	119	33.5	28%	45.5	1.38	3%
SAC A VERONA	2/4/2015 12:30	19.3	0.32	2%	189	25	13%	72.5	2.02	3%
SAC A VERONA	5/6/2015 14:00	31.5	2.73	9%	211	34.1	16%	128	24.5	19%
SAC A VERONA	8/5/2015 13:20	9.19	0.27	3%	67.6	13.2	20%	26.4	6.35	24%
SAC A VERONA	11/10/2015 13:40	8.46	0.3	4%	149	39	26%	30.2	7.24	24%
SAC A VERONA	2/9/2016 12:45	31.8	0.8	3%	418	86.7	21%	350	65.3	19%
SAC A VERONA	5/16/2016 13:00	35.6	0.93	3%	297	40.1	14%	203	31.5	16%
SAC A VERONA	8/15/2016 13:30	10.4	0.35	3%	91.7	21.8	24%	52.4	11.9	23%
SAC A VERONA	11/14/2016 13:45	35.8	18.8	53%	194	102	53%	79.8	24.9	31%
SAC A VERONA	5/15/2017 11:45	21.8	1.46	7%	345	59.6	17%	283	50.9	18%
SAC A VERONA	8/14/2017 13:15	35.4	0.14	0%	168	4.6	3%	94.1	3.29	3%
Sac R bl Red Bluff	10/31/2011 8:05	3.86	0.83	22%	123	61.4	50%	128	85.8	67%
Sac R bl Red Bluff	1/30/2012 9:35	5.97	1.1	18%	166	74.5	45%	236	150	64%
Sac R bl Red Bluff	5/7/2012 8:30	4.09	2.07	51%	98	66.5	68%	99.7	87.5	88%
Sac R bl Red Bluff	8/6/2012 7:45	2.23	0.32	14%	31.4	8.7	28%	26.7	9.74	36%
Sac R bl Red Bluff	11/5/2012 8:50	2.99	1.81	61%	45.1	19.6	43%	24.5	22.1	90%
Sac R bl Red Bluff	2/5/2013 9:00	4.75	0.32	7%	157	11.4	7%	152	6.69	4%
Sac R bl Red Bluff	11/4/2013 8:45	3.75	0.42	11%	59.8	10.1	17%	32	1.44	5%
Sac R bl Red Bluff	2/3/2014 8:50	4.57	2.66	58%	46	31.3	68%	19.3	8.61	45%
Sac R bl Red Bluff	5/5/2014 7:55	5.4	0.41	8%	55.6	14.9	27%	36.6	4.48	12%
Sac R bl Red Bluff	8/11/2014 8:10	2.59	0.3	12%	32.6	9.9	30%	23.4	1.7	7%
Sac R bl Red Bluff	11/4/2014 8:30	5.42	0.68	13%	78.4	9.9	13%	69.7	2.28	3%
Sac R bl Red Bluff	2/3/2015 8:50	4.75	0.19	4%	207	10	5%	169	4.64	3%
Sac R bl Red Bluff	5/5/2015 9:15	3.94	0.36	9%	52.5	16.7	32%	44.6	12.3	28%
Sac R bl Red Bluff	8/10/2015 11:25	3.83	0.69	18%	55.5	21.4	39%	41.4	17.2	42%
Sac R bl Red Bluff	11/9/2015 10:30	4.94	0.19	4%	65.2	11.3	17%	32.4	7.87	24%
Sac R bl Red Bluff	2/8/2016 10:50	6.73	0.32	5%	104	23.6	23%	78.8	18.7	24%
Sac R bl Red Bluff	5/10/2016 11:30	6.03	0.84	14%	112	38	34%	110	35.7	32%
Sac R bl Red Bluff	8/9/2016 12:10	4.33	0.31	7%	106	27.5	26%	92.6	34.2	37%
Sac R bl Red Bluff	11/8/2016 12:10	3.41	1.43	42%	153	43.5	28%	118	38.5	33%
Sac R bl Red Bluff	2/6/2017 11:45	31.1	2.78	9%	729	126	17%	761	130	17%
Sac R bl Red Bluff	5/9/2017 13:45	9.9	0.62	6%	278	49	18%	291	56.4	19%

Attachment 1. DWR Sacramento River Coordinated Monitoring Program (2010 - 2017)

Long Station Name	Collection Date	Total Mn	Dissolved Mn	% Dissolved	Total Fe	Dissolved Fe	% Dissolved	Total Al	Dissolved Al	% Dissolved
Sac R bl Red Bluff	8/8/2017 13:10	3.97	0.22	6%	104	18.9	18%	106	20.6	19%
Sac R bl Red Bluff	11/20/2017 13:45	1.97	0.28	14%	64.7	16.7	26%	66	12.8	19%
SACRAMENTO R A BALLS FERRY	10/31/2011 11:00	4.35	1.21	28%	150	81.8	55%	154	124	81%
SACRAMENTO R A BALLS FERRY	1/30/2012 13:00	9.26	0.93	10%	197	69.7	35%	280	156	56%
SACRAMENTO R A BALLS FERRY	5/7/2012 11:00	4.16	3.14	75%	90.1	48.6	54%	97.8	39.1	40%
SACRAMENTO R A BALLS FERRY	8/6/2012 10:30	1.89	0.29	15%	24.2	8.9	37%	21.2	11.3	53%
SACRAMENTO R A BALLS FERRY	11/5/2012 11:20	3.13	2.53	81%	45.8	12.4	27%	30.2	20.4	68%
SACRAMENTO R A BALLS FERRY	2/5/2013 11:35	7.43	0.39	5%	210	13.4	6%	212	7.91	4%
SACRAMENTO R A BALLS FERRY	11/4/2013 12:00	3.68	0.28	8%	67.3	13.8	21%	39.2	1.88	5%
SACRAMENTO R A BALLS FERRY	2/3/2014 11:45	3.62	2.39	66%	39.7	28.8	73%	19.1	15	79%
SACRAMENTO R A BALLS FERRY	5/5/2014 10:20	3.77	1.2	32%	37.5	9.3	25%	29	5.25	18%
SACRAMENTO R A BALLS FERRY	8/11/2014 11:25	2.81	0.43	15%	33.1	7	21%	25.2	1.39	6%
SACRAMENTO R A BALLS FERRY	11/4/2014 11:00	6.58	0.73	11%	125	11.1	9%	121	1.88	2%
SACRAMENTO R A BALLS FERRY	2/3/2015 12:00	5.78	0.28	5%	227	14.7	6%	204	7.12	3%
SACRAMENTO R A BALLS FERRY	5/5/2015 12:40	3.06	0.26	8%	70.2	17.1	24%	49.3	13.8	28%
SACRAMENTO R A BALLS FERRY	8/4/2015 10:25	2.12	0.17	8%	37.1	10.6	29%	34.7	11.1	32%
SACRAMENTO R A BALLS FERRY	11/3/2015 10:00	4.21	1.94	46%	45.3	24.8	55%	38.5	15.9	41%
SACRAMENTO R A BALLS FERRY	2/2/2016 10:05	7.61	0.38	5%	128	35.3	28%	118	30.2	26%
SACRAMENTO R A BALLS FERRY	5/3/2016 10:00	27.7	0.96	3%	260	52	20%	166	41	25%
SACRAMENTO R A BALLS FERRY	8/2/2016 10:25	3.53	0.56	16%	141	39	28%	154	62.4	41%
SACRAMENTO R A BALLS FERRY	11/2/2016 10:20	4.66	0.59	13%	240	75.2	31%	287	70.2	24%
SACRAMENTO R A BALLS FERRY	5/3/2017 10:30	10.4	0.84	8%	293	73.5	25%	311	85.2	27%
SACRAMENTO R A BALLS FERRY	8/3/2017 9:30	4.78	0.2	4%	102	20.3	20%	156	27.3	18%
SACRAMENTO R A BALLS FERRY	11/14/2017 11:20	5.89	0.17	3%	90.1	12.4	14%	66.8	9.09	14%
SACRAMENTO R A BEND BR	10/31/2011 10:00	4.43	1.01	23%	146	80.8	55%	149	124	83%
SACRAMENTO R A BEND BR	1/30/2012 11:45	8.14	0.9	11%	177	74.4	42%	242	153	63%
SACRAMENTO R A BEND BR	5/7/2012 10:05	3.82	2.45	64%	89	34.8	39%	90.3	38	42%
SACRAMENTO R A BEND BR	8/6/2012 9:15	2.15	0.32	15%	29.9	5.6	19%	21.5	10.4	48%
SACRAMENTO R A BEND BR	11/5/2012 10:15	3.26	2.37	73%	42.1	19.6	47%	25.2	17.6	70%
SACRAMENTO R A BEND BR	2/5/2013 10:25	4.87	0.32	7%	160	8.8	6%	164	4.93	3%
SACRAMENTO R A BEND BR	11/4/2013 10:25	3.71	0.44	12%	52.8	7.4	14%	25.4	1.6	6%
SACRAMENTO R A BEND BR	2/3/2014 10:10	3.54	2.14	60%	36	25.5	71%	20	17.5	88%
SACRAMENTO R A BEND BR	5/5/2014 9:00	4.04	0.27	7%	51	15.7	31%	30.2	4.66	15%
SACRAMENTO R A BEND BR	8/11/2014 9:45	2.99	0.35	12%	35.6	9.7	27%	27.1	1.5	6%
SACRAMENTO R A BEND BR	11/4/2014 10:00	5.74	0.5	9%	97.4	9.9	10%	86.2	2.32	3%
SACRAMENTO R A BEND BR	2/3/2015 10:50	4.4	0.19	4%	190	10.6	6%	152	4.88	3%
SACRAMENTO R A BEND BR	5/5/2015 11:10	2.69	0.31	12%	53.6	14.5	27%	41.2	10.7	26%
SACRAMENTO R A BEND BR	8/4/2015 9:10	2.07	0.24	12%	33.6	11.2	33%	25.3	11.1	44%
SACRAMENTO R A BEND BR	11/3/2015 8:30	3.67	0.92	25%	51.5	24.7	48%	40.1	17.1	43%
SACRAMENTO R A BEND BR	2/2/2016 8:55	13.4	0.52	4%	356	46.4	13%	335	46.9	14%
SACRAMENTO R A BEND BR	5/3/2016 8:55	7.73	0.75	10%	113	40.7	36%	102	34.1	33%
SACRAMENTO R A BEND BR	8/2/2016 9:00	4.06	0.55	14%	146	40	27%	143	60.1	42%

Attachment 1. DWR Sacramento River Coordinated Monitoring Program (2010 - 2017)

Long Station Name	Collection Date	Total Mn	Dissolved Mn	% Dissolved	Total Fe	Dissolved Fe	% Dissolved	Total Al	Dissolved Al	% Dissolved
SACRAMENTO R A BEND BR	11/2/2016 8:50	6.56	0.94	14%	306	71.1	23%	366	70.2	19%
SACRAMENTO R A BEND BR	5/3/2017 8:45	12.7	0.85	7%	273	67.3	25%	312	68.7	22%
SACRAMENTO R A BEND BR	8/3/2017 8:30	5.37	0.69	13%	176	49.1	28%	294	69.2	24%
SACRAMENTO R A BEND BR	11/14/2017 10:10	2.84	0.14	5%	47.6	8.6	18%	35.2	7.3	21%
SACRAMENTO R A COLUSA	2/3/2010 8:30	39.6	0.96	2%	809	15.9	2%	800	9.41	1%
SACRAMENTO R A COLUSA	5/5/2010 7:30	22.8	0.56	2%	510	13	3%	343	6.88	2%
SACRAMENTO R A COLUSA	8/4/2010 8:40	7.67	0.41	5%	122	6.7	5%	76.2	4.45	6%
SACRAMENTO R A COLUSA	11/3/2010 7:45	13.5	0.72	5%	160	12.9	8%	114	5.55	5%
SACRAMENTO R A COLUSA	2/2/2011 9:45	12.2	0.68	6%	158	8.6	5%	124	4.77	4%
SACRAMENTO R A COLUSA	5/4/2011 8:25	7.65	0.56	7%	47.6	4	8%	26.2	3.6	14%
SACRAMENTO R A COLUSA	8/3/2011 8:10	11.9	1.56	13%	181	56.9	31%	139	73.6	53%
SACRAMENTO R A COLUSA	11/2/2011 8:20	11.5	1.45	13%	119	17.5	15%	98.6	24.7	25%
SACRAMENTO R A COLUSA	2/1/2012 9:20	14.4	1.88	13%	317	90.5	29%	436	180	41%
SACRAMENTO R A COLUSA	5/8/2012 7:45	16	8.2	51%	497	127	26%	313	105	34%
SACRAMENTO R A COLUSA	8/8/2012 8:10	2.48	0.29	12%	46.1	9.2	20%	36.1	5.65	16%
SACRAMENTO R A COLUSA	11/7/2012 8:45	5.09	2.94	58%	55.1	29.7	54%	15	7.92	53%
SACRAMENTO R A COLUSA	2/7/2013 8:55	12.2	3.15	26%	250	94.3	38%	171	77.2	45%
SACRAMENTO R A COLUSA	5/8/2013 8:25	6.81	1.26	19%	139	37	27%	57.1	16.9	30%
SACRAMENTO R A COLUSA	8/7/2013 8:10	3.83	0.17	4%	50.4	4.2	8%	29.4	0.95	3%
SACRAMENTO R A COLUSA	11/6/2013 9:10	6.45	0.52	8%	102	8.8	9%	42.6	1.55	4%
SACRAMENTO R A COLUSA	2/5/2014 9:30	3.35	0.2	6%	22.5	6.2	28%	10.6	0.29	3%
SACRAMENTO R A COLUSA	5/7/2014 8:00	12.5	1.12	9%	115	12.2	11%	57.6	1.44	3%
SACRAMENTO R A COLUSA	8/13/2014 9:15	4.69	0.93	20%	53.5	12.2	23%	29.4	1.77	6%
SACRAMENTO R A COLUSA	11/13/2014 8:30	3.92	0.23	6%	63.5	8.9	14%	64.6	1.9	3%
SACRAMENTO R A COLUSA	2/4/2015 9:00	4.97	0.2	4%	71.6	13.4	19%	39.6	3.09	8%
SACRAMENTO R A COLUSA	5/6/2015 9:05	7.88	0.39	5%	64.8	12.8	20%	55.6	9.81	18%
SACRAMENTO R A COLUSA	8/5/2015 9:10	3.66	0.21	6%	42.6	8.2	19%	22.8	4.69	21%
SACRAMENTO R A COLUSA	11/10/2015 9:00	2.35	0.36	15%	33.4	13.5	40%	14.8	5.71	39%
SACRAMENTO R A COLUSA	2/9/2016 9:20	20	0.39	2%	290	25.7	9%	202	16.3	8%
SACRAMENTO R A COLUSA	5/16/2016 9:00	29	0.81	3%	236	16.2	7%	147	10.1	7%
SACRAMENTO R A COLUSA	8/15/2016 9:30	6.5	0.35	5%	112	24.1	22%	106	27.9	26%
SACRAMENTO R A COLUSA	11/14/2016 9:00	6.21	1.72	28%	132	35.6	27%	121	39.7	33%
SACRAMENTO R A COLUSA	5/15/2017 9:30	18.1	1.83	10%	318	50.1	16%	293	48.9	17%
SACRAMENTO R A COLUSA	8/14/2017 9:30	6.18	0.15	2%	62.5	8.8	14%	66.6	8.95	13%
SACRAMENTO R A COLUSA	11/21/2017 9:45	5.32	0.48	9%	128	30.7	24%	92.3	22.4	24%
SACRAMENTO R A HAMILTON CITY	2/2/2010 8:45	17.1	1.01	6%	383	17.1	4%	340	12	4%
SACRAMENTO R A HAMILTON CITY	5/4/2010 7:45	14	0.52	4%	236	12.1	5%	160	10.2	6%
SACRAMENTO R A HAMILTON CITY	8/3/2010 11:00	4.15	0.62	15%	51.3	10.4	20%	24	7.55	31%
SACRAMENTO R A HAMILTON CITY	11/2/2010 8:30	12.5	0.73	6%	130	15.3	12%	67.4	4.63	7%
SACRAMENTO R A HAMILTON CITY	2/1/2011 9:30	6.4	0.67	10%	59.6	12	20%	53.6	5.73	11%
SACRAMENTO R A HAMILTON CITY	5/3/2011 8:55	5.05	0.49	10%	32.9	6	18%	24.6	3	12%
SACRAMENTO R A HAMILTON CITY	8/2/2011 8:10	6.38	1.47	23%	176	87.6	50%	159	116	73%

Attachment 1. DWR Sacramento River Coordinated Monitoring Program (2010 - 2017)

Long Station Name	Collection Date	Total Mn	Dissolved Mn	% Dissolved	Total Fe	Dissolved Fe	% Dissolved	Total Al	Dissolved Al	% Dissolved
SACRAMENTO R A HAMILTON CITY	11/1/2011 8:45	4.4	1.44	33%	108	43	40%	91.5	56	61%
SACRAMENTO R A HAMILTON CITY	1/31/2012 8:25	9.58	1.87	20%	162	94.1	58%	276	178	64%
SACRAMENTO R A HAMILTON CITY	5/8/2012 8:30	7.97	5.73	72%	126	74.9	59%	125	88.3	71%
SACRAMENTO R A HAMILTON CITY	8/7/2012 8:00	2.81	0.41	15%	45.5	11	24%	28.6	10	35%
SACRAMENTO R A HAMILTON CITY	11/6/2012 9:35	3.12	2.19	70%	41	34.4	84%	12.5	11.6	93%
SACRAMENTO R A HAMILTON CITY	2/6/2013 9:15	5.45	0.35	6%	124	8.2	7%	127	3.6	3%
SACRAMENTO R A HAMILTON CITY	5/7/2013 8:05	3.14	1.2	38%	66.6	32.6	49%	29.5	19.2	65%
SACRAMENTO R A HAMILTON CITY	8/6/2013 7:30	2.4	0.12	5%	30.1	4.3	14%	20	1.05	5%
SACRAMENTO R A HAMILTON CITY	11/5/2013 9:10	3.53	0.58	16%	55.2	10.6	19%	24.4	1.69	7%
SACRAMENTO R A HAMILTON CITY	2/4/2014 9:05	2.17	0.35	16%	26.2	6.2	24%	6.03	0.19	3%
SACRAMENTO R A HAMILTON CITY	5/6/2014 8:30	6.62	0.74	11%	74.5	10.6	14%	37.2	4.3	12%
SACRAMENTO R A HAMILTON CITY	8/12/2014 9:50	2.82	0.99	35%	38.1	13	34%	18.7	1.91	10%
SACRAMENTO R A HAMILTON CITY	11/5/2014 8:50	9.25	0.79	9%	264	13.1	5%	62.4	2.57	4%
SACRAMENTO R A HAMILTON CITY	2/10/2015 9:30	59.6	0.96	2%	2100	63.2	3%	1960	21.2	1%
SACRAMENTO R A HAMILTON CITY	5/11/2015 10:00	6.15	1.15	19%	53.3	25.3	47%	42.4	21.9	52%
SACRAMENTO R A HAMILTON CITY	8/11/2015 10:20	3.21	0.91	28%	40.6	17.3	43%	32.2	13.4	42%
SACRAMENTO R A HAMILTON CITY	11/4/2015 11:27	2.67	1.16	43%	36.9	23.6	64%	18.9	12.6	67%
SACRAMENTO R A HAMILTON CITY	2/3/2016 12:10	17.7	0.62	4%	349	42.8	12%	352	39.7	11%
SACRAMENTO R A HAMILTON CITY	5/9/2016 12:15	16.8	2.28	14%	188	45.2	24%	183	42.5	23%
SACRAMENTO R A HAMILTON CITY	8/8/2016 8:15	4.35	0.24	6%	116	48.9	42%	100	45	45%
SACRAMENTO R A HAMILTON CITY	11/7/2016 11:00	2.91	0.41	14%	78.3	29.3	37%	78	35.3	45%
SACRAMENTO R A HAMILTON CITY	2/6/2017 13:00	43	3.35	8%	1100	138	13%	1020	136	13%
SACRAMENTO R A HAMILTON CITY	5/8/2017 11:20	15.8	0.61	4%	316	50	16%	324	55.7	17%
SACRAMENTO R A HAMILTON CITY	8/7/2017 11:40	4.56	0.19	4%	56.8	14.4	25%	84.4	15.5	18%
SACRAMENTO R A HAMILTON CITY	11/20/2017 10:00	3.95	0.42	11%	82.7	29.5	36%	63.9	26.7	42%
SACRAMENTO R A VINA BR NR CORNING	11/1/2011 10:20	5.88	0.97	16%	97.2	56.2	58%	127	87.7	69%
SACRAMENTO R A VINA BR NR CORNING	1/31/2012 11:50	6	1.27	21%	137	65.6	48%	212	129	61%
SACRAMENTO R A VINA BR NR CORNING	5/8/2012 10:45	5.49	2.93	53%	168	46.7	28%	118	35.5	30%
SACRAMENTO R A VINA BR NR CORNING	8/7/2012 9:50	1.23	0.32	26%	23.9	9.3	39%	23	9.19	40%
SACRAMENTO R A VINA BR NR CORNING	11/6/2012 11:15	3.16	2.09	66%	41.5	28.6	69%	15.3	13.1	86%
SACRAMENTO R A VINA BR NR CORNING	2/6/2013 11:25	3.8	0.24	6%	120	9.6	8%	123	3.99	3%
SACRAMENTO R A VINA BR NR CORNING	11/5/2013 11:25	3.75	0.6	16%	47.7	10.8	23%	32	1.5	5%
SACRAMENTO R A VINA BR NR CORNING	2/4/2014 11:30	1.85	0.14	8%	13.5	3.6	27%	8.03	0.13	2%
SACRAMENTO R A VINA BR NR CORNING	5/6/2014 10:00	6.95	1.26	18%	60.5	14.8	24%	35.2	35.2	100%
SACRAMENTO R A VINA BR NR CORNING	8/12/2014 11:20	2.53	1.4	55%	33.2	9.2	28%	22.2	2.88	13%
SACRAMENTO R A VINA BR NR CORNING	11/5/2014 11:45	4.43	0.7	16%	97	12.3	13%	87.9	2.95	3%
SACRAMENTO R A VINA BR NR CORNING	2/10/2015 11:05	51.9	1.07	2%	1790	64.7	4%	1650	24.5	1%
SACRAMENTO R A VINA BR NR CORNING	5/11/2015 11:30	4.7	0.78	17%	56.6	22.3	39%	44.7	21.3	48%
SACRAMENTO R A VINA BR NR CORNING	8/10/2015 8:35	5.76	0.44	8%	66.4	16.1	24%	49.5	11.2	23%
SACRAMENTO R A VINA BR NR CORNING	11/9/2015 8:25	2.93	0.3	10%	40.7	10.4	26%	20.3	6.83	34%
SACRAMENTO R A VINA BR NR CORNING	2/8/2016 8:20	7.73	0.32	4%	132	24.5	19%	95.2	19.2	20%
SACRAMENTO R A VINA BR NR CORNING	5/10/2016 8:55	7.41	1.12	15%	126	33.9	27%	118	34	29%

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Long Station Name	Collection Date	Total Mn	Dissolved Mn	% Dissolved	Total Fe	Dissolved Fe	% Dissolved	Total Al	Dissolved Al	% Dissolved
SACRAMENTO R A VINA BR NR CORNING	8/9/2016 8:40	2.89	0.25	9%	81.2	25.8	32%	69.5	32	46%
SACRAMENTO R A VINA BR NR CORNING	11/8/2016 9:10	7.34	0.6	8%	111	34.9	31%	103	40.6	39%
SACRAMENTO R A VINA BR NR CORNING	2/6/2017 9:10	44.8	2.43	5%	1080	127	12%	1045	116	11%
SACRAMENTO R A VINA BR NR CORNING	5/9/2017 9:00	13.4	0.54	4%	271	46.1	17%	330	55.2	17%
SACRAMENTO R A VINA BR NR CORNING	8/8/2017 9:50	6.02	0.19	3%	70.6	12.7	18%	72.2	12.6	17%
SACRAMENTO R A VINA BR NR CORNING	11/20/2017 11:00	6.54	0.3	5%	105	19.3	18%	78.1	15.9	20%
SACRAMENTO R AB COLUSA BASIN DR	11/2/2011 10:45	11	1.71	16%	105	32	30%	79.6	29.4	37%
SACRAMENTO R AB COLUSA BASIN DR	2/1/2012 11:50	31.1	5.02	16%	1128	503	45%	1050	401	38%
SACRAMENTO R AB COLUSA BASIN DR	5/9/2012 10:20	31.6	17.9	57%	610	270	44%	503	214	43%
SACRAMENTO R AB COLUSA BASIN DR	8/8/2012 10:40	5.12	0.41	8%	79.8	7.1	9%	59.9	9.52	16%
SACRAMENTO R AB COLUSA BASIN DR	11/7/2012 11:00	7.63	3.78	50%	56.9	21.6	38%	28.2	11.8	42%
SACRAMENTO R AB COLUSA BASIN DR	2/7/2013 11:25	8.85	0.24	3%	278	14.1	5%	234	3.51	2%
SACRAMENTO R AB COLUSA BASIN DR	11/6/2013 11:35	9.22	0.96	10%	136	18.3	13%	74.2	1.48	2%
SACRAMENTO R AB COLUSA BASIN DR	2/5/2014 11:35	10.3	0.08	1%	121	4.5	4%	35.7	0.19	1%
SACRAMENTO R AB COLUSA BASIN DR	5/7/2014 11:00	16	1.04	7%	90	9.3	10%	56.9	1.21	2%
SACRAMENTO R AB COLUSA BASIN DR	8/13/2014 12:00	7.53	0.68	9%	69.7	10.5	15%	44.2	1.71	4%
SACRAMENTO R AB COLUSA BASIN DR	11/13/2014 10:55	5.93	0.22	4%	85.4	7.3	9%	67.2	1.79	3%
SACRAMENTO R AB COLUSA BASIN DR	2/4/2015 12:00	7.45	0.18	2%	135	14.3	11%	77.2	2.58	3%
SACRAMENTO R AB COLUSA BASIN DR	5/6/2015 12:48	11.2	0.52	5%	110	8.3	8%	51.7	5.36	10%
SACRAMENTO R AB COLUSA BASIN DR	8/5/2015 12:15	6.66	0.23	3%	52.5	7.3	14%	37.8	5.11	14%
SACRAMENTO R AB COLUSA BASIN DR	11/10/2015 12:00	4.56	0.42	9%	42.1	12.8	30%	24.2	6.4	26%
SACRAMENTO R AB COLUSA BASIN DR	2/9/2016 12:05	28.5	0.48	2%	493	33.2	7%	347	23.2	7%
SACRAMENTO R AB COLUSA BASIN DR	5/16/2016 12:00	18.5	0.55	3%	178	12	7%	125	9	7%
SACRAMENTO R AB COLUSA BASIN DR	8/15/2016 13:15	11.4	0.29	3%	123	17.4	14%	106	17.9	17%
SACRAMENTO R AB COLUSA BASIN DR	11/14/2016 11:30	13.3	2.12	16%	153	56.4	37%	155	54.9	35%
SACRAMENTO R AB COLUSA BASIN DR	5/15/2017 12:45	20.5	0.96	5%	421	45.8	11%	410	45.6	11%
SACRAMENTO R AB COLUSA BASIN DR	8/14/2017 12:20	6.22	0.16	3%	58.9	9.9	17%	46.5	9.1	20%
SACRAMENTO R AB COLUSA BASIN DR	11/21/2017 12:00	9.73	0.62	6%	240	80.5	34%	198	78.1	39%
SACRAMENTO R BL KNIGHTS LANDING	11/2/2011 11:45	7.6	1.56	21%	61	20.9	34%	54.9	36.3	66%
SACRAMENTO R BL KNIGHTS LANDING	2/1/2012 12:45	52.3	5.19	10%	1172	589	50%	1100	643	58%
SACRAMENTO R BL KNIGHTS LANDING	5/9/2012 11:25	49.2	8.84	18%	1157	17.1	1%	982	3.67	0%
SACRAMENTO R BL KNIGHTS LANDING	8/8/2012 11:00	12.4	0.93	8%	129	12.8	10%	80.2	8.06	10%
SACRAMENTO R BL KNIGHTS LANDING	11/7/2012 12:00	23.5	8.9	38%	283	108	38%	76.1	31.3	41%
SACRAMENTO R BL KNIGHTS LANDING	2/7/2013 12:20	24	0.41	2%	566	14.8	3%	370	2.4	1%
SACRAMENTO R BL KNIGHTS LANDING	11/6/2013 12:00	11.4	0.6	5%	113	10.7	9%	88.8	1.44	2%
SACRAMENTO R BL KNIGHTS LANDING	2/5/2014 12:30	11.4	0.11	1%	91.3	5.6	6%	31.9	0.14	0%
SACRAMENTO R BL KNIGHTS LANDING	5/7/2014 12:15	20.6	2.5	12%	112	14.8	13%	68.8	2.88	4%
SACRAMENTO R BL KNIGHTS LANDING	8/13/2014 13:25	18	1.04	6%	195	13.8	7%	100	1.37	1%
SACRAMENTO R BL KNIGHTS LANDING	11/13/2014 11:30	7.25	0.31	4%	109	8.2	8%	82.7	1.54	2%
SACRAMENTO R BL KNIGHTS LANDING	2/4/2015 12:25	19.9	0.19	1%	192	11.1	6%	124	1.7	1%
SACRAMENTO R BL KNIGHTS LANDING	5/6/2015 13:50	12.2	0.22	2%	115	7.5	7%	64.5	5.84	9%
SACRAMENTO R BL KNIGHTS LANDING	8/5/2015 13:15	8.51	0.19	2%	73.4	7.1	10%	36.9	4.56	12%

Attachment 1. DWR Sacramento River Coordinated Monitoring Program (2010 - 2017)

Long Station Name	Collection Date	Total Mn	Dissolved Mn	% Dissolved	Total Fe	Dissolved Fe	% Dissolved	Total Al	Dissolved Al	% Dissolved
SACRAMENTO R BL KNIGHTS LANDING	11/10/2015 13:00	9.29	0.45	5%	76.1	13.3	17%	41.7	6.81	16%
SACRAMENTO R BL KNIGHTS LANDING	2/9/2016 13:15	25.3	0.51	2%	542	33.7	6%	338	27.2	8%
SACRAMENTO R BL KNIGHTS LANDING	5/16/2016 12:50	23.9	0.62	3%	235	12.5	5%	163	11	7%
SACRAMENTO R BL KNIGHTS LANDING	8/15/2016 13:35	21.8	0.42	2%	143	23	16%	112	21.8	19%
SACRAMENTO R BL KNIGHTS LANDING	11/14/2016 12:20	35.3	3.14	9%	287	75.5	26%	164	48.9	30%
SACRAMENTO R BL KNIGHTS LANDING	5/15/2017 13:20	22.5	0.43	2%	368	42.3	11%	362	40	11%
SACRAMENTO R BL KNIGHTS LANDING	8/14/2017 13:25	21.1	0.16	1%	138	7	5%	113	6.05	5%
SACRAMENTO R BL KNIGHTS LANDING	11/21/2017 13:40	121.4	0.58	0%	266	81.6	31%	154	58.4	38%
	min	1.23	0.08	0%	13.50	3.60	1%	6.03	0.13	0%
	max	121.40	30.10	81%	2100.00	661.00	84%	1960.00	643.00	100%
	average	11.89	1.54	15%	193.34	41.13	25%	161.21	36.14	25%
	median	6.60	0.62	9%	113.00	18.60	23%	79.70	11.95	19%
	25th percent	4.045	0.32	5%	59.075	10.85	12%	36.975	4.5775	6%
	75th percent	13.375	1.26	16%	194.75	43.375	33%	159.75	37.575	39%
	count	218	218		218	218		218	218	
	percent<SMCL	97.3	100		86.5	98.2		79.5	97.7	
	percent<MCL							97	100	

Attachment 2. SRSWPP Example for Proposed Language in Chapter 4 of the Basin Plan Related to the Use of a Translator – Clean Version

The SRSWPP has provided written comment to the proposed Amendment Language in Chapter 4 related to implementation of Secondary MCLs. In addition to written our comments, we are providing below an example of how the part of the Amendment Language related to the alternative implementation method (in paragraphs 5-8 [Amendment Language, p.111]) could be modified to determine compliance with the Secondary MCLs.

For receiving water that are not exempt from surface water filtration requirements, the use of total metal analysis to set and measure compliance with metal constituents (aluminum, copper, iron, manganese, silver and zinc) in Table 64449-A will be implemented until an alternate compliance method is approved by the Board as described below.

Pursuant to the above paragraph, for a period of no more than 10 years or upon development of an alternate compliance method, antidegradation analysis and compliance determination for the listed SMCL metal constituents will be conducted based on total metal data in accordance with Federal Regulations, 40 CFR Part 136. In cases where effluent limitations are required per regulations, the permit will allow for development of an alternate compliance method to convert the total objectives to effluent limitations based on a comparable representation of the MUN beneficial use risk.

Appropriate studies will be conducted by Regional Board during the 10-years to develop an alternate compliance method to be used to convert water quality objectives for the listed SMCL metal constituents to effluent limitations using a method other than total analysis. The development of an alternate compliance method will identify a comparable representation of the MUN beneficial use risk and be based on sound science, include an external peer review, and be approved by USEPA as required. The alternative compliance method should consider: total loading from discharges, fate and transport effects in surface waters, current state and federal drinking water treatment requirements, applicability of other human health water quality objectives for these constituents, and the projected changes in water quality through a conventional drinking water treatment facility.

If the alternate compliance method is not completed and approved by the Board within 10 years, then antidegradation analysis and compliance determination will continue to be based on total metal analysis for the listed SMCL constituents.

Attachment 3. SRSWPP Example for Proposed Language in Chapter 4 of the Basin Plan Related to the Use of a Translator – Edited Version

The SRSWPP has provided written comment to the proposed Amendment Language in Chapter 4 related to implementation of Secondary MCLs. In addition to written our comments, we are providing below an example of how the part of the Amendment Language related to the alternative implementation method (in paragraphs 5-8 [Amendment Language, p.111]) could be modified to determine compliance with the Secondary MCLs.

For receiving water that are not exempt from surface water filtration requirements, the use of ~~total dissolved~~ metal analysis to set and measure compliance with metal constituents (aluminum, copper, iron, manganese, silver and zinc) in Table 64449-A will be implemented until an alternate compliance method is approved by the Board as described below as well as turbidity and color.

Pursuant to the above paragraph, for a period of no more than 10 years or upon development of an ~~translator~~ alternate compliance method, ~~reasonable potential~~ antidegradation analysis and compliance determination for the listed SMCL metal constituents will be conducted based on ~~dissolved total~~ metals data using a 0.45-micron filter in accordance with Federal Regulations, 40 CFR Part 136. In cases where effluent limitations are required per ~~federal NPDES~~ regulations, the permit will allow for development of an ~~translator~~ alternate compliance method to convert the dissolved total objectives to effluent limitations ~~based on total metals~~ based on a comparable representation of the MUN beneficial use risk.

~~After 10 years from effective date or within one year after appropriate translators are developed if before 10 years, translators will be used to conduct reasonable potential analysis using total metals effluent data and to establish limitations in NPDES permits, where required under federal regulations for metal constituents in Table 64449-A.~~

Appropriate studies will be conducted by Regional Board during the 10-years to ~~establish~~ develop the appropriate guidance and application of translators an alternate compliance method to be used to convert ~~total water quality objectives for the listed SMCL metal constituents to effluent limitations using a method other than total analysis~~ dissolved fractions. The development of an alternate compliance method will identify a comparable representation of the MUN beneficial use risk and be based on sound science, include an external peer review, and be approved by USEPA as required. ~~Translators~~ The alternative compliance method may be determined by water body segment, water body or region, taking into account should consider; total loading from discharges, fate and transport effects in surface waters, the location of existing drinking water treatment facilities, current state and federal drinking water treatment requirements and existing treatment capabilities, applicability of other human health water quality objectives for these constituents, and the anticipated projected changes in source-water quality at through the a conventional drinking water treatment facility.

If the alternate compliance method is not completed and approved by the Board within 10 years, then antidegradation analysis and compliance determination will continue to be based on total metal analysis for the listed SMCL constituents.

ATTACHMENT 4. APPENDIX G (SRSWPP Comments, provided May 7, 2018)

Guidance for Site-Specific Considerations When Implementing Secondary Maximum Contaminant Level (SMCL) Water Quality Objectives When Developing Waste Discharge Requirements (WDRs)

Commented [A1]: See comment #1

Secondary Maximum Contaminant Levels (SMCLs) are drinking water standards that specify maximum contaminant levels that, in the judgment of the State Board, are necessary to protect the public welfare. These constituents are identified in the Basin Plan under the Chemical Constituents water quality objectives. Some of these constituents also have applicable primary MCLs, Action Levels, Notification Levels, or are listed as primary pollutants and must also be considered for those potential water quality objectives. To implement the SMCLs in the Chemical Constituents section of the surface water and groundwater quality objectives, the Regional Water Board shall may consider, if requested by a permittee and as appropriate, a number of site-specific factors when developing effluent limits for WDRs. This guidance is intended to supplement the existing permit writer's guidance related only to Secondary MCLs and not supersede any existing applicable laws, plans, or policies. These factors includeing, but are not limited to:

Commented [A2]: See comment #2

- The existing processes to reduce, to the maximum extent practicable, the discharge of the pollutant through pretreatment, source control, and/or pollution prevention;
- Possible methods for removing or reducing the concentrations and loadings of the pollutants from the discharge, including an assessment of technical effectiveness and costs of these methods;
- The availability of assimilative capacity in the receiving water and application of and - compliance with the antidegradation and mixing zone policies where these other laws, plans, and policies apply (such as antidegradation, mixing zones, etc.);
- Naturally occurring background concentrations;
- Background concentrations due to prior anthropogenic activities where it is not feasible or practicable to remediate the effect of these past discharges;
- The net effect of discharges that affectimprove receiving water quality;
- The potential impact on downstream water quality and beneficial uses (MUN-designated surface water and groundwater) for current and future use, including potential to impact water quality at the downstream intakes for a community water system and resulting costs;
- The practicality and feasibility of achieving compliance with the SMCLs at the point-of-discharge compliance (including consideration of source control and pollution prevention programs, treatment alternatives, the cost for achieving compliance, the availability of alternative water supplies for drinking water, ability to pay, and other economic factors including the cost of non-compliance);

Commented [A3]: See comment #3

Commented [A4]: See comment #4

Commented [A5]: See comment #5

Commented [A6]: See comment #6

Commented [A7]: See comment #7

Commented [A8]: See comment #8

APPENDIX G

- Potential for the permitted discharge to affect the concentration of constituents identified in Tables 64449-A and 64449-B at downstream and downgradient MUN designated water bodies~~community water systems~~ to ensure a safe drinking water supply for current and future users; ~~(including the availability of alternative water supplies for drinking water, ability of drinking water treatment processes to remove contaminants, and the potential effect on drinking water treatment costs for~~ current and future downstream and down-gradient community water systems);
- Evaluation of downstream or down-gradient community water system(s) in consultation with the Division of Drinking Water and the downstream or down-gradient community water system(s), to determine if a waiver under Title 22, section 64449.2 has been obtained ~~or if the provisions of Title 22, section 64449.4 are being met~~;
- The State Water Board's Recycled Water Policy and the Central Valley SNMP's goals to increase the use of recycled water, increase stormwater use, and increase water conservation as mechanisms to increase drought protection;
- Modeling and any ~~changes~~reduction in contaminants concentrations due to fate and transport factors ~~such as dilution and soil adsorption~~;
- Where necessary and appropriate, analytical modeling to understand the fate and transport of SMCL constituents and effect of factors such as mixing, dilution and dispersion;
- The long-term cumulative and collective impact of all discharges to the same receiving water; ~~and,~~
- Consultation with the Division of Drinking Water, and potentially impacted water purveyors, to assess impacts to downstream or down-gradient community water systems, including:
 - Economic factors including the practicality and feasibility of achieving compliance with the SMCLs in the treated water (including consideration of cost for achieving compliance, the availability of alternative water supplies for drinking water, ability to pay, and cost of noncompliance);
 - The ability of drinking water treatment processes to remove contaminants and the potential effect on regulatory compliance and drinking water treatment costs for downstream and down-gradient community water systems; and
 - Recent or upcoming drinking water regulatory information related to SMCL constituents;
- Other environmental considerations including, but not limited to: habitat preservation, support for recreational uses; ~~and,-~~
- Sufficiency of available data to evaluate the aforementioned factors, other factors to be considered, and identification of the need for additional monitoring to track the net effect of permitted discharges on downstream or downgradient MUN water bodies and the potential for management requirements to protect the MUN designated water bodies.

Commented [A9]: See comment #9

Commented [A10]: See comment #10

Commented [A11]: See comment #11

Comments

- 1 The following Sacramento River Source Water Protection Program (SRSWPP) comments and suggestions are provided on the surface water aspects of the materials below.
- 2 The SRSWPP requests the Regional Board ensure that this Appendix only addresses effluent limits and does not conflict with existing laws, plans, and policies related to development of site-specific water quality objectives that vary from the adopted Basin Plan water quality objectives. There needs to be language provided in the Appendix regarding the limit to application of these considerations to develop effluent limits versus the development of site-specific water quality objectives.
- 3 There is no definition of the term “naturally occurring background concentrations” in the BPA, or in the Current Basin Plan. We request that the RB develop and include a definition for this term.
- 4 We recommend revising the wording of this bullet to replace “improve” with alternate wording such as “affect” or “impact”, in order to scientifically account for all potential changes in source water quality, whether improvements or reductions.
- 5 We request that the language specifically confirm that the entire MUN designated water bodies continue to be protected, in conjunction with mixing zones when applicable. This is important to provide good sanitary practice of protecting source water quality upstream of intakes, allow for early detection of upstream problems before they travel downstream to our intakes, and protect the future use in the entire water body.
- 6 We recommend that the potential cost impacts for MUN use be included in a later bullet focused on impacts to water system.
- 7 This should be revised to take into account other attenuation factors incorporated into compliance, such as mixing zones and dilution.
- 8 We recommend that this language be moved to the following bullet on impacts to water systems, as shown in the mark-up.
- 9 Michael: do you think we should provide just one of these references, and which one is better? It is important to protect current and future MUN use. Reference: Porter-Cologne Act and Related Water Code Sections § 13241. [Water quality objectives] Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following: (a) Past, present, and probable future beneficial uses of water.

Water Quality Control Plan for the Sacramento and San Joaquin River Basins, Chapter 3, Water Quality Objectives.

In establishing water quality objectives, the Regional Water Board must consider, among other things, the following factors: • Past, present, and probable future beneficial uses;
- 10 This section of Title 22 was not specifically added to the Basin Plan in the Proposed Amendment Language and was not evaluated. This needs to be removed.
- 11 We recommend the revisions as shown. If RB prefers to include a more detailed bullet, we recommend that evaluations should include consideration of fate and transport factors that may increase concentrations, as well as those that may reduce concentrations. For example, if evaluating reduction due to soil adsorption then should include potential for increases due to soil resuspension during high flow events or anaerobic condition occurrence.