City of
SACRAMENTO
Department of Utilities

February 20, 2015
150067:BS:EC

Anne Littlejohn
Central Valley Regional Water Quality Control Board
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Allttlejohn@waterboards.ca.gov

Subject: **Comments on An Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins to Remove the Municipal and Domestic Supply (MUN) Beneficial Use in Twelve Constructed And/Or Modified Water Bodies in the Sacramento River Basin that Receive Treated Municipal Wastewater from the Cities of Biggs, Colusa, Live Oak or Willows**

Dear Ms. Littlejohn:

The Sacramento River Source Water Protection Program (SRSWPP) appreciates the opportunity to provide comments on the above Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. The City of Sacramento, City of West Sacramento, and Sacramento County Department of Water Resources sponsor the Sacramento River Source Water Protection Program. This program is coordinated with other agencies that draw their drinking water from the Sacramento River, including East Bay Municipal Utility District (EBMUD), and the Woodland-Davis Clean Water Agency (new diversion under construction). The Sacramento River Source Water Protection Program seeks to preserve and protect the source water quality of the Sacramento River drinking water supply for current and future generations.

Watershed management programs are essential for preserving the high quality of the Sacramento River watershed. We appreciate the substantial efforts of the Regional Board and regulated communities to protect water quality.

Based on our review of the available data, we do not anticipate that the current discharges from the Publically Owned Treatment Works (POTWs) in the four case study areas included in this Basin Plan Amendment will result in significant impacts to the Sacramento River source water quality. However, as noted in Section 1.1.4 of the Draft Staff Report, this process is proposed to be used as the framework for future programs related to additional MUN de-designations of all agricultural surface water bodies throughout the Central Valley. A broader MUN de-designation process for all agricultural water bodies could have significant implications for cumulative water quality impacts to the Sacramento River. The water bodies in the Sacramento Valley watershed, including the agriculturally dominated water bodies, all contribute to the Sacramento River which provides drinking water for the majority of the Sacramento Metropolitan Area. Furthermore, the Sacramento River is a major water source for the Sacramento-San Joaquin Delta, which provides drinking water for 25 million people. Agriculturally dominated water bodies can be sources of metals, organic carbon, pathogens, and pesticides, which are some of the constituents of special interest to the local Sacramento River water utilities. We believe that seemingly small impacts to a large number of water bodies in the Sacramento River watershed could cumulatively result in measurable adverse changes to source water pollutant loading.

The SRSWPP has been an active participant as a stakeholder in both the Irrigated Lands Regulatory Program (ILRP) and the MUN beneficial use de-designation process to ensure that our MUN beneficial use is considered and included in the development of implementation programs. We are concerned that an expansion of MUN de-designations in other water bodies in the Sacramento Valley may result in limiting the amount of monitoring and management required through the Irrigated Lands Regulatory Program, as a consequence of removal of the MUN associated water quality objectives from the water bodies. We support the efforts of Water Board staff to streamline regulation, clarify existing policy, and provide reasonable and protective programs for municipal compliance with discharge requirements. However, due to the potential for unintended consequences and cumulative effects of the current proposed Basin Plan Amendment with the upcoming region-wide Basin Plan Amendment, we are submitting the enclosed comments in the following five categories:

- adequacy of current and future environmental and economic evaluation and analysis,
- consistency with the intents and requirements of the Sources of Drinking Water Policy,
- completeness of implementation through the monitoring and surveillance element,
- clarification of drinking water technical information, and
- correction of specific items.

If you have any questions on the above, please do not hesitate to contact Elissa Callman at (916) 808-1424. Thank you for the opportunity to provide our comments on the draft Staff Report and proposed Basin Plan Amendment.

Sincerely,

Sherill Huun
Supervising Engineer

Enclosure:
Comments (pp. 4 through 14)
Attachment 1
Attachment 2

cc:
Jeanne Chilcott, CVRWQCB
Betty Yee, CVRWQCB
Jason Gambatese, EPA Region 9
Matt Mitchell, U.S. EPA Region 9
Ephraim Leon-Guerrero, U.S. EPA Region 9
Richard Hinrichs, DDW
Ali Rezvani, DDW
Bill Busath, City of Sacramento
Dan Sherry, City of Sacramento
Michael Malone, City of Sacramento
Forrest Williams, Sacramento County DWR
Dave Underwood, Sacramento County DWR

Dan Gwaltney, Sacramento County DWR
Shawn Barnes, Sacramento County DWR
Dan Mount, City of West Sacramento
Eileen White, EBMUD
Hubert Lai, EBMUD
Dennis Diemer, Woodland-Davis Clean Water Agency
Tim Busch, City of Woodland

Comments

Item 1: Adequacy of Current and Future Environmental and Economic Evaluation and Analysis

We appreciate the efforts of the four upstream POTWs, and their need for regulatory relief for selected constituents that remain problematic for regulatory compliance despite treatment. We have reviewed the flow and effluent quality data for the POTWs and believe that the discharge from these POTWs represents low risk to downstream source water quality. We have comments to help ensure that the environmental analysis framework is: (1) adequate for meeting the California Environmental Quality Act (CEQA) for other current and potential future discharges; and (2) sets a precedent for the upcoming Region-Wide MUN de-designation program that is sufficiently protective of downstream source water quality.

Antidegradation

State Board Resolution No. 68-16 is the Antidegradation Policy in California. It applies to high quality waters (such as the Sacramento River) and requires that they be maintained to the maximum extent possible. This must be evaluated for both point and non-point permitted sources, including discharges subject to National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements (WDRs). We are concerned that the monitoring and management programs of the ILRP may no longer be required to address MUN constituents if the MUN beneficial use is removed from a large number of agricultural water bodies. We appreciate the information in the January 14, 2015 stakeholder meeting summary explaining that an ILRP Monitoring Program will continue to be required, utilizing water quality triggers, to ensure that beneficial uses are protected.

We request that additions be made to the Staff Report to explain how the ILRP will continue to ensure protection of downstream source water quality after the de-designations are in place.

Because there is potential for other discharges to these de-designated water bodies, we are uncertain whether the cumulative impact evaluations discussed in Section 7.1.4 of the draft Staff Report considered this issue. We request that the Reasonable Potential Analysis (RPA) defined in Section 1.3 of the State Implementation Plan be reviewed to ensure that it specifically requires any future discharges to these de-designated waterbodies to include evaluation for protection of MUN in the next downstream MUN designated waterbody. We further note that such future RPAs should also be required to include a complete cumulative effects analysis (as part of CEQA compliance) for that next downstream waterbody, and identify other de-designations that have occurred, to ensure that all impacts are being quantified over time, regardless of whether previous RPAs were determined to be *de minimus*. This would need to be a water body specific assessment.

We request that the Regional Board provide clarifications to support the MUN feasibility statement, and consider specific requirements for RPA for future discharges to protect downstream MUN beneficial uses.

Cumulative Impacts Analysis

The environmental analysis of cumulative impacts is presented in Section 7.1.4 of the draft Staff Report. This analysis focuses on the current discharges to the water body (agricultural, storm water, and POTWs). The text discusses impacts of agriculture discharges in the future, stating on page 43 that since agricultural operations will be regulated to protect beneficial uses they would not cumulatively contribute to adverse water quality conditions in the receiving waters.

We request Board staff to clarify how agricultural operations will continue to be regulated to protect the downstream MUN beneficial uses after the receiving waters for the ILRP discharges are de-designated, to ensure that there are not cumulative impacts.

Peer Review Justification

Section 1.3 of the draft Staff Report indicates that a peer review is not necessitated since it does not contain new science, as described in Appendix C. Because we understand that the monitoring program will be used as a framework for a region-wide MUN de-designation process, and because of the need for consideration of the cumulative effects of the current proposed BPA and the region-wide BPA, we are concerned that the Monitoring and Surveillance element of the proposed Basin Plan Amendment may not be adequate for long-term downstream source water protection.

The proposal to meet requirements by the use of existing monitoring programs does not provide a full and complete analysis of the data available for the specific MUN water quality objectives in the discharge or in receiving water in the vicinity of the discharge. We believe that there is insufficient data related to all relevant water quality objectives, both in terms of the list of constituents and frequency of occurrence. This is further discussed in Item 3 below. The data supporting much of the de-designations is based on the two short-term water quality studies conducted by the Regional Board in 2012-2013, and these reports should be peer-reviewed if they are intended to provide the basis of no MUN use (as described in Section 7.1.2). Also, the monitoring programs identified do not include assessment of the MUN use as a program goal, cannot be expanded to include constituents that are not related to their program goals, and some may not be resourced consistently in the future. Finally, the proposed Basin Plan Amendment and draft Staff Report indicate that there currently is no mechanism to consolidate and evaluate the data to make a determination of the impact on downstream MUN water bodies, and there is no proposal to ensure that this occurs. We understand from the January 14, 2015 stakeholder meeting summary that the draft Staff Report will be updated to better characterize the timelines of the various monitoring programs summarized, and we look forward to these updates. The meeting summary also includes discussion on various "safety valves" in place to protect downstream water quality, and we request that the staff report be expanded to include this information.

We request that the Monitoring and Surveillance Element be provided a comprehensive peer review and that data gaps be identified and addressed.

Economic Evaluation

Under the Alternative 2 evaluation there is a description of implementation costs in Section 7.2.3.2.1. It states, "*There is substantial monitoring already occurring in the area of the POTWs as required by other existing monitoring programs. Monitoring data collected for these programs is expected to meet the needs of the Proposed Amendment and there will be no need for additional*

monitoring." We respectfully request that the Regional Board further review the monitoring conducted by other existing monitoring programs to ensure that there is appropriate monitoring in place to support the MUN de-designations. We note that the monitoring programs listed may change or adapt in the future for the goals of their respective programs, and there could also be changes in monitoring data availability for some of the programs listed due to funding constraints.

We request that the Regional Board review the data provided under Item 3 below to reconsider the availability of data relevant to the MUN beneficial use and reconsider the proposed implementation plan to provide sufficient data.

Item 2: Consistency with the Intents and Requirements of the Sources of Drinking Water Policy

As the draft Staff Report describes, the MUN beneficial use is specifically designated by the Sources of Drinking Water Policy (Resolution 88-63). This requires a complete analysis prior to de-designation and implementation of a monitoring program to assure that downstream water bodies continue to be protected for the MUN use (Sections 1, 2.3.2, 5). We believe that the monitoring program assurance needs to include all applicable water quality objectives associated with the MUN beneficial use, as well as a specific plan to review the data collected and make a determination of compliance. Since water body de-designations may apply to a wide variety of discharger types, the MUN use should be evaluated holistically. The water quality monitoring program would need to be designed to be able to determine if downstream MUN use is being impacted and if the de-designated water bodies are contributing to that impact.

<u>Executive Summary, Proposed Amendment Language</u>

Page v – proposed change to Chapter IV: "... *for Resolution 88-63 exceptions and Appendix 44 for water bodies that meet the exceptions.*"

We continue to recommend that the text be expanded to specifically clarify that only one exception needs to be met, and that the water bodies have been approved as part of the BPA process. "... *for Resolution 88-63 exceptions and Appendix 44 for water bodies that meet <u>one of</u> the exceptions <u>and have been approved through the Basin Plan Amendment process</u>.*" We would like to avoid future conflict between the Basin Plan and the Sources of Drinking Water Policy as the proposed text may indicate that any water body can be placed on the list without having been evaluated through this designated process.

Page v – new changes to Chapter V:

It is unclear how this language addresses the requirements of the proposed Basin Plan Amendment. The Sources of Drinking Water Policy requires that downstream MUN be protected by a monitoring program to assure compliance. The proposed Basin Plan Amendment does not include any new monitoring or assessment directly related to the de-designations. Although the goal of improving information gathering and assessment expressed in the proposed changes is an important one, this does not provide any guarantee of that evaluation occurring. We request that this language be reconsidered, as adding goals to the Basin Plan without a specific mechanism for implementation may result in unintended impacts.

Section 4.4 – Evaluation of Project Alternatives

Page 22 – Bullet number 3: "*Assure compliance with all relevant water quality objectives downstream.*"

This bullet has been revised since the stakeholder version, and it now reflects a reference to the Sources of Drinking Water Policy. We request that it be expanded to accurately reflect the policy requirement, "*Monitoring discharge to assure compliance with all relevant water quality objectives downstream.*" We believe that it is reasonable to use receiving water monitoring to document compliance or a combination of discharge and receiving water monitoring; we request that the staff report and BPA to include the Drinking Water Policy language and justification to use monitoring other than discharge monitoring to assure compliance.

Section 4.5 – Recommended Alternative

Page 22 – Bullet number 3: "*...Use of Exception 2b in the Sources of Drinking Water Policy requires downstream monitoring to assure compliance with all relevant water quality objectives.*"

This statement is incorrect as the policy requires discharge monitoring, not downstream monitoring. We request that it be revised to accurately reflect the policy requirement, "*...Use of Exception 2b in the Sources of Drinking Water Policy requires ~~downstream~~ discharge monitoring to assure compliance with all relevant water quality objectives.*" Similar to our comment above on Section 4.4, the recommended alternative could then explain the rationale of use of downstream monitoring to assure compliance. We request that the recommended alternative provide for monitoring upstream of the downstream MUN beneficial uses in locations that would support any necessary follow-up if there are future degradation issues related to the MUN de-designations.

Section 6.4.3 – Resolution No. 88-63: Sources of Drinking Water Policy

Pages 34-35 – This section provides an evaluation of compliance with Sources of Drinking Water Policy, but does not provide assessment of how the proposed Basin Plan Amendment complies with the monitoring requirement of Exception 2b.

We request that this section be expanded to further describe how this specific element of the exception has been met.

Comments on Appendix D: Environmental Checklist

1. Section IX. Hydrology and Water Quality
    a. The environmental review should include the potential for new discharges and how water quality impacts would be mitigated.
    b. We request that the explanation in the checklist document address how any changes in water quality from existing discharges besides the POTWs would be mitigated.

2. Section XVII. Utilities and Service Systems
    a. Item b shows "No Impact" regarding construction of new or expansion of water treatment facilities. We request that the current proposed BPA address cumulative impacts in light of the upcoming region-wide de-designation BPA.

3. Section XVIII. Mandatory Findings of Significance

    a. Item b) Does the Project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

    We request further evaluation in the environmental checklist due to the potential for "cumulatively considerable" impacts in combination with the envisioned second BPA for a region-wide process for MUN de-designation of agriculturally dominated water bodies (which certainly qualifies as a probable future project). Changes in water quality have the potential to increase human health risk and water treatment costs.

    b. Discussion, page 21, 2nd full paragraph: the discussion provides good coverage for the POTWs, but does not sufficiently address agricultural discharges. We request that this discussion be expanded to address agricultural discharges.

Item 3: Completeness of Implementation through the Monitoring and Surveillance Element

Identification of Applicable Monitoring Programs

In Section 5.4, the second paragraph states that de-designated water bodies go into Colusa Basin Drain and Sutter Bypass that enter the Sacramento River. We would like to reiterate that the Sources of Drinking Water Policy requires monitoring of the discharge to assure compliance with objectives downstream. We concur that it is reasonable to use the discharge of Colusa Basin Drain (CBD) and Sutter Bypass (SB)/Sacramento Slough (SS) to represent the discharge of the de-designated water bodies. We will also support the use of main stem Sacramento River monitoring sites at or just downstream of the two agricultural drainages, no further downstream than Verona. We have reviewed Table B2 and believe there are nine sites that are appropriate to meet the Sources of Drinking Water Policy requirement: Sacramento Valley Water Quality Coalition at CBD and SS, California Rice Commission at CBD and SS, Municipal Water Quality Investigation (MWQI) at CBD, Department of Water Resources (DWR) at CBD below Knights Landing, SB at Karnak, Sacramento River below Knights Landing, and Sacramento River below Verona.

In order to provide a comprehensive analysis of the data available in the vicinity of the discharge and assess how many of the MUN relevant water quality objectives are currently being monitored, we have created a table representing all the MUN water quality objectives and indicated which monitoring programs are currently collecting data associated with each of those sites (see Attachment 1).

Section 5.4 also presents a discussion on the current MUN use of the Sacramento River, including the existing intakes at the Cities of West Sacramento and Sacramento, and the SCWA, as well as the new Woodland Davis Clean Water Agency intake. It does not account for a potential future intake at Elverta that is being considered as a regional water supply for northern Sacramento

County and western Placer County, which is located further upstream of the Woodland Davis intake. Also the section indicates that discussed elsewhere in the report are monitoring programs in place "*...to evaluate water quality trends and ensure that the Sacramento River's beneficial uses are protected.*" None of the programs identified in Section 5.1 are designed to conduct monitoring to ensure that there is not downstream degradation of the MUN beneficial use due to upstream MUN de-designations. The ILRP and NPDES permits are designed to assess the impacts of the known contaminant sources from their respective activities, while DWR, SWAMP, and USGS programs are event/constituent specific. Also, the DWR and MWQI programs are not regulatory requirements and could be limited in the future depending on funding.

The following highlight some limitations of various monitoring programs identified in Section 5.1 for the purpose of a long-term monitoring program to ensure that downstream MUN is not impacted:

- ILRP – monitoring has been significantly focused to provide representative monitoring to support compliance with the WDRs in each area. The list of constituents is limited and does not represent the full MUN use water quality objective list.
- NPDES – the Reasonable Potential Analysis (RPA) for POTWs limits the scope of constituents monitored frequently to those likely to cause risk to receiving water; effluent and receiving water characterization studies cover the correct drinking water quality objectives, but they do not include downstream receiving waters.
- DWR – the Sacramento Watershed Coordinated Monitoring Program is a limited constituent monitoring program that is looking at long-term trends in the Sacramento River basin, and the list of constituents is limited and does not represent the full MUN use water quality objective list; funding is only currently planned through March 2017. (Scott McReynolds personal communication 2/10/15)
- MWQI – this is a limited water quality investigation related to several key constituents for the State Water Project.

The statement on page 27, "*The summary demonstrates that there is extensive monitoring of the Colusa Basin Drain, Sutter Bypass and downstream main stem Sacramento River to the Delta for a wide variety of water quality constituents which are used to evaluate the protection of all the applicable beneficial uses in these water bodies.*", is not supported by the data and should be revised or clarified. As shown in the table provided in Attachment 1, there is no data collected at any of these sites for the majority of MUN water quality objectives.

A review of the POTW's NPDES Monitoring and Reporting Programs (MRP) was conducted to identify potentially applicable data. There is limited receiving water monitoring for the POTWs on a regular basis, and each NPDES permit has an Effluent and Receiving Water Characterization Study required once during the term of their permit. The constituents and frequencies vary slightly, but generally include most, if not all, of the MUN water quality objectives. The receiving water is monitored upstream of the discharge.

- City of Willows (R5-2011-0072), Att E MRP; Section VIII Receiving Water Monitoring Requirements; Annual priority pollutants in downstream receiving water sites (selected IOCs and VOCs); Effluent and Receiving Water Characterization Study looks at effluent and upstream receiving water sites, twice per five years
- City of Colusa (R5-2008-0184), Att E MRP; Section VIII Receiving Water Monitoring Requirements; annual radionuclides, Effluent and Receiving Water Characterization Study looks at upstream receiving water site, once per five years

- City of Live Oak (R5-2001-0034), Att E MRP: Section VIII Receiving Water Monitoring Requirements; Effluent and Receiving Water Characterization Study looks at effluent and upstream receiving water sites, one year quarterly per five years
- City of Biggs (R5-2012-0083), Att E MRP; Section VIII Receiving Water Monitoring Requirements – Surface Water; Effluent and Receiving Water Characterization Study looks at effluent and upstream receiving water sites, one year quarterly per five years

We request that the Board staff focus the monitoring program evaluation for this POTW proposed Basin Plan Amendment on the sites located in the vicinity of the discharge of Colusa Basin Drain and Sutter Bypass/Sacramento Slough, re-evaluate the monitoring data available at those sites, consider the purposes and tenure of those monitoring programs to identify data gaps and determine the necessity of any additional monitoring for this MUN de-designation, and consider how to address data gaps for the monitoring required to support the Sources of Drinking Water Policy exception.

Data Analysis and Response

In Section 5.4.1 there is an evaluation of the No Action alternative for the monitoring and surveillance option; it states on page 27, under the Pros subsection, that there are no significant data gaps since the ILRP evaluates agricultural discharges and the NPDES program monitors the receiving waters. As noted above, the current ILRP monitoring program is quite limited to specific risks identified in those programs and is not intended to evaluate whether a downstream water body is impacted by a MUN de-designation, and the NPDES receiving waters are not monitored downstream of the discharges.

On page 27 Board staff have identified the deficiency in the current process to assess whether or not the de-designations result in any impacts to downstream MUN designated supplies; however, it appears that there is no program-specific requirement to collect any new data or synthesize any other program data other than a reference to a goal to do this in the Integrated Report. Evaluation as part of the Section 303(d) Integrated Report will only identify impairment of water quality objectives in the downstream MUN designated water bodies once they have occurred. This would mean that our drinking water supplies would have been impacted and that degradation would have occurred. The only solution then is a Total Maximum Daily Load development, which is a long-term solution. We appreciate the discussion in the January 14, 2015 stakeholder meeting summary regarding other mechanisms to protect water quality, and we request additions to this section to clarify and add to the overall approach to protect the MUN beneficial use downstream of de-designated water bodies. We request that Board staff reconsider the availability of sufficient data to assess the downstream MUN beneficial use and identify a program-specific mechanism that will integrate the various data sources into an evaluation to assure compliance with the State Drinking Water Policy and MUN water quality objectives where applicable.

Comments on Table B1-B9

1. There are sites that only include sediment sampling with no water matrix testing, so these would be irrelevant to the evaluation of impacts to the MUN beneficial use in the water. This includes the State Water Resources Control Board Stream Pollution Trends (SPoT) sites, CBD at Knights Landing, Sutter Bypass at RD-1500 Powerplant/Karnak, Sacramento Slough at Karnak, and Clarksburg Marina. We recommend that these sites be removed from the tables.

2. There are sites located upstream of the de-designated waterbodies, so these would be irrelevant to the evaluation of downstream impacts unless a comparative evaluation is planned. This includes: California Rice Commission CBD #5 site and DWR Sacramento River above CBD site.
3. There are sites which do not represent ambient water quality, so these would be irrelevant to the evaluation of the downstream MUN beneficial use. This includes the CMP North Natomas Development Sump and Sump 111 (which are urban runoff discharge). We request that these sites be removed from the tables. (See Item 5 below for additional specific comments).
4. The drinking water utilities all conduct raw and treated water monitoring in accordance with the specific requirements of Title 22. This monitoring is not reflected in the tables. As part of the Region-Wide Basin Plan Amendment the water utilities can provide more input on the monitoring specifics if desired.

Item 4: Clarification of Drinking Water Technical Information

There are several places in the draft Staff Report where there is a discussion of drinking water treatment and regulatory compliance (Executive Summary, Section 1.1.3, Section 5.4). We would like to provide clarification on terminology used in the drinking water industry, a better understanding of the determination of regulatory compliance for drinking water, and input on treatment impacts of source water metals concentrations.

Definition of Terms

The term "standard treatment" is utilized in the Executive Summary and Section 1.1.3; however, this term is not utilized in the drinking water industry, does not have any definition, and should not be utilized in this document. For surface water treatment, there is conventional filtration which references a specific set of processes (coagulation, sedimentation, and filtration) that are implemented to remove solids and microorganisms. Conventional filtration provides varying levels of removal for a variety of other contaminants potentially present in the source water, but it is not intended to provide full reduction of all contaminants in the source water and has highly variable removal rates for each regulated constituent. Contaminants that are known to be present in the source water at levels exceeding MCLs are evaluated and a best available technology is selected and implemented for their removal.

Regulatory Compliance

Although drinking water compliance is required in the treated water provided to consumers, compliance for some constituents is measured in raw water (such as perchlorate) and not anticipated to be present at levels that required implementation of a best available technology for reduction. Other constituents are regulated and monitored in the source water, because they can break down during the treatment process and result in impacts in the treated water, such as thiobencarb. Constituents present in raw water trigger evaluation by drinking water suppliers and can have significant downstream costs and impacts on treatment processes if they are not removed efficiently by conventional filtration and require implementation of an alternate treatment process.

Metals Regulatory Considerations

Total levels of metals are required for regulatory compliance and are of most interest to drinking water utilities. Source water concentrations of total metals determine the amount of water treatment and solids handling that is required to achieve the MCLs in the treated water. Conventional filtration provides variable removal of each metal, ranging from 20 to 80 percent. As source water concentrations increase there is greater potential for increased levels in treated water. Increased levels of total metals in the source water result in increased levels of chemicals for treatment and production of sludge that requires treatment and removal, both of which contribute to increased costs for treatment.

Item 5: Correction of Specific Items

Specific Comments on Table B1-B9

Table B. 2.

- Page 65, Map ID #13. Sacramento River at Veterans Bridge.
  - Correction to agencies who sponsor the Sacramento Coordinated Monitoring Program: add "Sacramento Stormwater Quality Partnership", and delete "County of Sacramento DWR" and "City of Sacramento Utility District".
  - Current monitoring program is for collection of samples during three wet season storm events and one dry season event.
- Page 66, Map ID #15. Sacramento River Upstream of CSO Discharge Point Nos. 006 and 007, at the Delta King

  Correction is needed as follows: Samples taken within the first 4 hours of beginning of storm causing discharge at ~~any of the discharge points~~ *Discharge Point Nos. 006 and/or 007* and daily if the discharge event is greater than 24 hours.
- Page 67
  - Map ID # 17, Sacramento River, Downstream of Discharge Point Nos. 006 and 007, at Miller Park.

    Correction is needed as follows: Samples taken within the first 4 hours of beginning of storm causing discharge at ~~any of the discharge points~~ *Discharge Point Nos. 006 and/or 007 and/or Discharge Point Nos. 004 and/or 005* and daily if the discharge event is greater than 24 hours.

  - Map ID # 18, Sacramento River, DS of Discharge Point Nos. 004 and 005, at La Rivage
    - Correction is needed as follows: Samples taken within the first 4 hours of beginning of storm causing discharge at ~~any of the discharge points~~ *Discharge Point Nos. 004 and/or 005 and/or Discharge Point Nos. 002 and/or 003* and daily if the discharge event is greater than 24 hours.
    - La Rivage is being updated to Westin Boat Dock
- Page 68
  - Sacramento River, DS of Discharge Point Nos. 002 and 003, at Wooden Stairs
    - Correction is needed as follows: Samples taken within the first 4 hours of beginning of storm causing discharge at ~~any of the discharge points~~

Discharge Point Nos. 002 and/or 003 and daily if the discharge event is greater than 24 hours.
    - Wooden Stairs is being updated to Zacharias Park at same latitude and longitude
  - Map ID #20. Sacramento River at Freeport Marina. Same two comments as described above for Page 65.
- Page 69, Map ID #21. Sacramento River at Freeport Bridge. This is not a City of Sacramento monitoring site and should be deleted.
- Page 70, Map ID #12. River Mile 44 downstream of Sacramento Regional Wastewater Treatment Plant. This is not a current monitoring location of the Sacramento River Coordinated Monitoring Program, and we recommend that it be deleted.
- Page 72, Map ID #26, Sacramento River at River Mile 43. This is not a City of Sacramento monitoring site and should be deleted.

Table B. 3. General Water Quality & Bacteria/Pathogens

- Page 75, First monitoring site should be updated to "Sacramento River at Delta King"

Table B. 4a. Metals and Trace Elements Part I

- Page 87. First site and last sites on page should show shaded for priority pollutants.
- Page 88. First and second sites on page should show shaded for priority pollutants.

Table B. 8. Nutrients & Organic Carbon

- Page 112, City of Sacramento Combined System monitoring site at the Delta King should show Ammonia Nitrogen as N. (Table currently shows Ammonia Nitrogen as NH3)

Tables B.3 – B.9

- Sacramento CMP monitoring includes 4 events per year for Sacramento River at Veterans Bridge and Sacramento River at Freeport Marina.
- Please see Attachment 2 for list of current monitoring constituents for these monitoring locations. There are several revisions needed to Table B to reflect this information.

<u>Appendix F</u>

This appendix has errors and omissions related to drinking water parameters and criteria. We request that Staff review and consider revisions to address the following:

- DPH should be corrected to Division of Drinking Water (DDW)
- 1,3-dichlorobenzene's other criteria is officially known as an Archived Advisory Level (and holds the same response requirements as a Notification Level)
- 2,4,5-TP (Silvex) has a PHG of 0.003 mg/L
- 2,4-dimethylphenol has a DDW Archived Advisory Level of 0.1 mg/L
- Aldrin has a DDW Archived Advisory Level of 0.000002 mg/L
- Alpha-BHC has a DDW Archived Advisory Level of 0.000015 mg/L
- Antimony has a CTR value of 0.014 mg/L
- Asbestos has a PHG of $7x10^6$ fibers per liter
- Bentazon has a PHG of 0.2 mg/L
- Benzo(a)pyrene has a PHG of 0.000007 mg/L
- Beta-BHC has a DDW Archived Advisory Level of 0.000025 mg/L
- Boron's other criteria is a DDW Notification Level, not a PHG
- Carbofuran has a California primary MCL of 0.018 mg/L and a PHG of 0.0017 mg/L

- Carbon tetrachloride has a PHG of 0.0001 mg/L and a CTR value of 0.00025 mg/L
- Chlorobenzene has a PHG of 0.07 mg/L
- Chlorodibromomethane has a CTR value of 0.000401
- Di(2-ethylhexyl)adipate has a PHG of 0.2 mg/L
- Di(2-ethylhexyl)phthalate has a PHG of 0.012 mg/L
- Dichloromethane has a PHG of 0.004 mg/L
- Dieldrin has a DDW Archived Advisory Level of 0.000002 mg/L
- Diquat has a PHG of 0.015 mg/L
- Endosulfan sulfate does not have a primary MCL.
- Endothall has a PHG of 0.094 mg/L
- Ethylbenzene has a PHG of 0.3 mg/L
- Fluoride's 2.0 mg/L is a primary standard, not a secondary standard
- Glyphosate has a PHG of 0.9 mg/L
- Heptachlor has a California primary MCL of 0.00001 mg/L
- Heptachlor epoxide has a California primary MCL of 0.00001 mg/L and a PHG of 0.000006 mg/L
- Hexachlorobenzene has a PHG of 0.00003 mg/L
- Hexachlorocyclopentadiene has a PHG of 0.002 mg/L
- Hexavalent chromium is missing from the list and should be included with a primary MCL of 0.010 mg/L and a PHG of 0.00002 mg/L
- Haloacetic acids are missing from the list and should be included with a primary MCL of 0.060 mg/L
- Methyl bromide has a USEPA Health Advisory of 0.01 mg/L
- Molinate has a PHG of 0.001 mg/L
- Monochlorobenzene is the same as chlorobenzene and should be removed from the list
- Nitrate has a PHG of 10 mg/L as N
- Nitrate+Nitrite has a PHG of 10 mg/L as N
- Nitrite has a PHG of 1 mg/L as N
- NDMA has a DDW Notification Level of 0.00001 mg/L
- N-nitrosodi-n-proplyamine has a DDW Notification Level of 0.00001 mg/L
- Oxamyl has a California primary MCL of 0.05 mg/L and a PHG of 0.026 mg/L
- Phenol has a DDW Archived Advisory Level of 4.2 mg/L
- Picloram has a PHG of 0.5 mg/L
- Radium 226 has a PHG of 0.05 pCi/L
- Radium 228 has a PHG of 0.019 pCi/L
- Simazine has a PHG of 0.004 mg/L
- Strontium-90 has a PHG of 0.35 pCi/L
- Styrene has a PHG of 0.0005 mg/L
- Tetrachloroethylene has a PHG of 0.00006 mg/L
- Thiobencarb has a PHG of 0.07 mg/L
- Trans-1,2-dichloroethylene has a PHG of 0.060 mg/L
- Tritium has a PHG of 400 pCi/L
- Uranium has a PHG of 0.0005 mg/L

ATTACHMENT 1

Classification	Contaminant	MCL (mg/L)	CTR Water and organisms (mg/L)	Sampling Locations At or Below Discharge of Colusa Basin Drain and Sutter Bypass									
				SVWQC @ CBD above KL [4]	CRC @ CBD above KL[4]	MWQI @ Ag Drain on CBD	DWR @CBD at KL	DWR @ SB at Karnak	SVWQC @ SS near Karnak [4]	CRC @SS near Karnak[4]	DWR @ SR below KL	DWR @ SR below Verona	USGS @ SR below Verona
Inorganics (Table 64431-A) [1]													
	Aluminum	1					Q	Q			Q	Q	
	Antimony	0.006	0.014										
	Arsenic	0.010					Q	Q			Q	Q	
	Asbestos	7 MFL (>10um)	7 MFL (>10um)										
	Barium	1											
	Beryllium	0.004											
	Cadmium	0.005					Q	Q			Q	Q	
	Chromium	0.05					Q	Q			Q	Q	
	Cyanide	0.15	0.7										
	Fluoride	2											
	Hexavalent Chromium	0.010											
	Mercury	0.002	0.00005				Q	Q			Q	Q	
	Nickel	0.1	0.61				Q	Q			Q	Q	
	Nitrate	10 as N (45 as NO3)				M (Rice Drain)							
	Nitrite	1 as N				M (Rice Drain)							
	Nitrate + Nitrite	10 (sum as N)		Q	July, Aug (2 years out of 5)		Q	Q	Q	July, Aug (2 years out of 5)	Q	Q	
	Perchlorate	0.006											
	Selenium	0.05					Q	Q			Q	Q	
	Thallium	0.002	0.0017										
	Copper	1.3 [2]	1.3	A			Q	Q	A		Q	Q	
	Lead	0.015 [2]					Q	Q			Q	Q	
Secondary Standards (Table 64449-A)													
	Aluminum	0.2					Q	Q			Q	Q	
	Color	15 Units											
	Copper	1		A			Q	Q	A		Q	Q	
	Foaming Agents	0.5											
	Iron	0.3					Q	Q			Q	Q	
	Manganese	0.05					Q	Q			Q	Q	
	Methyl-tert-butyl-ether (MTBE)	0.005											
	Odor-Threshold	3 Units											
	Silver	0.1					Q	Q			Q	Q	
	Thiobencarb	0.001			BW (Apr-Jun)					BW (Apr-Jun)			
	Turbidity	5 NTU		Q	July, Aug (2 years out of 5)	M (Rice Drain)	Q	Q	Q	July, Aug (2 years out of 5)	Q	Q	C
	Zinc	5					Q	Q			Q	Q	
Secondary Standards (Table 64449-B)													
	Total Dissolved Solids	500/1,000/1,500 [3]				M (Rice Drain)	Q	Q			Q	Q	
	Specific Conductance	900/1,600/2,200 [3]			M (Apr-Aug)	M (Rice Drain)	Q	Q		M (Apr-Aug)	Q	Q	C
	Chloride	250/500/600 [3]				M (Rice Drain)	Q	Q			Q	Q	
	Sulfate	250/500/600 [3]				M (Rice Drain)	Q	Q			Q	Q	
(Volatile) Organic Chemicals (Table 64444-A(a))													
	Benzene	0.001	0.0012										
	Carbon Tetrachloride	0.0005	0.00025										
	o-Dichlorobenzene	0.6	2.7										
	p-Dichlorobenzene	0.005	0.4										
	1,1-Dichloroethane	0.005											
	1,2-Dichloroethane	0.0005	0.00038										
	1,1-Dichloroethylene	0.006	0.000057										
	cis-1,2-Dichloroethylene	0.006											
	trans-1,2-Dichloroethylene	0.01	0.7										
	Dichloromethane (Methylene chloride)	0.005											
	1,2-Dichloropropane	0.005	0.00052										
	1,3-Dichloropropene	0.0005	0.01										
	Ethylbenzene	0.3	3.1										
	Methyl-tert-butyl ether (MTBE)	0.013											
	Monochlorobenzene	0.07	0.68										
	Styrene	0.1											
	1,1,2,2-Tetrachloroethane	0.001	0.00017										
	Tetrachloroethylene	0.005	0.0008										
	Toluene	0.15	6.8										
	1,2,4-Trichlorobenzene	0.005											
	1,1,1-Trichloroethane	0.2											
	1,1,2-Trichloroethane	0.005	0.0006										
	Trichloroethylene	0.005	0.0027										
	Trichlorofluoromethane	0.15											

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	1,1,2-Trichloro-1,2,2-Triflouroethane	1.2											
	Vinyl Chloride	0.0005	0.002										
	Xylenes (total)	1.75											
(Non-Volatile Synthetic) Organic Chemicals (Table 64444-A (b))													
	Alachlor	0.002											
	Atrazine	0.001											
	Bentazon	0.018											
	Benzo(a)pyrene	0.0002	0.0000044										
	Carbofuran	0.018											
	Chlordane	0.0001	0.00000057	BE					BE				
	2,4,-D	0.07											
	Dalapon	0.2											
	Dibromochloropropane	0.0002											
	Di (2-ethylhexyl) Adipate	0.4											
	Di (2-ethylhexyl) Phthalate	0.004	0.0018										
	Dinoseb	0.007											
	Diquat	0.02											
	Endothall	0.1											
	Endrin	0.002	0.00076	BE					BE				
	Ethylene Dibromide	0.00005											
	Glyphosate	0.7											
	Heptachlor	0.00001	0.00000021	BE					BE				
	Heptachlor Epoxide	0.00001	0.0000001	BE					BE				
	Hexachlorobenzene	0.001	0.00000075										
	Hexachlorocyclopentadiene	0.05	0.24										
	Lindane	0.0002		BE					BE				
	Methoxychlor	0.03											
	Molinate	0.02											
	Oxamyl	0.05											
	Pentachlorophenol	0.001	0.00028										
	Picloram	0.5											
	PCBs	0.0005	0.00000017										
	Simazine	0.004											
	Thiobencarb	0.07			BW (Apr-Jun)					BW (Apr-Jun)			
	Toxaphene	0.003	0.00000073	BE					BE				
	2,3,7,8-TCDD (Dioxin)	3.00E-08	1.30E-11										
	2,4,5-TP (Silvex)	0.05											
Natural Radioactivity (Table 64442)													
	Gross Alpha Particle Activity	15 pCi/L											
	Combined Radium 226 & 228	5 pCi/L											
	Uranium	20 pCi/L											
Man-Made Radioactivity (Table 64443)													
	Tritium	20,000 pCi/L											
	Strontium-90	8 pCi/L											
	Gross Beta Particle Activity	50 pCi/L											
Disinfection By-Product Precursors													
	Total Organic Carbon	TT (% Removal)		Q	July, Aug (2 years out of 5)	M (Rice Drain)	Q	Q	Q	July, Aug (2 years out of 5)	Q	Q	
	Dissolved Organic Carbon					M (Rice Drain)	Q	Q			Q	Q	
Microbial													
	Giardia Lamblia	TT (3-log Reduction)											
	Fecal Coliform	TT (positive sample)									Q		
	E. Coli	TT (positive sample)		Q					Q		Q		
	Total Coliform	TT (<5% mo. samples pos., if >40 samples per month)										TBD	
	Turbidity	TT (<0.3 in 95% CFE samples, <1 in 100% CFE)		Q	July, Aug (2 years out of 5)	M (Rice Drain)	Q	Q	Q	July, Aug (2 years out of 5)	Q	Q	C
	Cryptosporidium	TT (2-log Reduction)											
Other CTR Human Health/Water and Organisms													
	Acrolein		0.32										
	Acrylonitrile		0.000059										
	Bromoform		0.0043										
	Chlorodibromomethane		0.000401										
	Dichlorobromomethane		0.00056										
	Methyl Bromide		0.048										

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	Methylene Chloride		0.0047										
	2-chlorophenol		0.12										
	2,4-dichlorophenol		0.093										
	2,4-dimethylphenol		0.54										
	2-methy-4,6-dinitrophenol		0.0134										
	2,4-dinitrophenol		0.07										
	Phenol		21										
	2,4,6-trichlorophenol		0.0021										
	Acenaphthene		1.2										
	Anthracene		9.6										
	Benzidine		0.00000012										
	Benzo(a)Anthracene		0.0000044										
	Benzo(b)fluoranthene		0.0000044										
	Benzo(k)fluoranthene		0.0000044										
	bis(2-chloroethyl)ether		0.000031										
	bis(2-chloroisopropyl)ether		1.4										
	Butylbenzyl Phthalate		3										
	2-Chloronapthalene		1.7										
	Chrysene		0.0000044										
	Dibenzo(a,h)anthracene		0.0000044										
	1,3-dichlorobenzene		0.4										
	3,3'-dichloroebenzidine		0.00004										
	Diethyl phthalate		23										
	Dimethyl phthalate		313										
	Di-n-butyl phthalate		2.7										
	2,4-dinitrotoluene		0.00011										
	1,2-diphenylhydrazine		0.00004										
	Fluoranthene		0.3										
	Fluorene		1.3										
	Hexachlorobutadiene		0.00044										
	Hexachloroethane		0.0019										
	Indeno(1,2,3-cd)pyrene		0.0000044										
	Isophorone		0.0084										
	Nitrobenzene		0.017										
	N-Nitrosodimethylamine		0.00000069										
	N-nitrosodi-n-Propylamine		0.000005										
	N-nitrosodiphenylamine		0.005										
	Pyrene		0.96										
	Aldrin		0.00000013	BE					BE				
	alpha-BHC		0.0000039	BE					BE				
	beta-BHC		0.000014	BE					BE				
	gamma-BHC		0.000019	BE					BE				
	4,4'-DDT		0.00000059	BE					BE				
	4,4'-DDE		0.00000059										
	4,4'-DDD		0.00000083										
	Dieldrin		0.00000014										
	alpha-Endosulfan		0.11										
	beta-Endosulfan		0.11										
	Endosulfan sulfate		0.11										
	Endrin aldehyde		0.00076										

[1] - All metals are represented as total fraction

[2] - Action Level

[3] - Recommended/Upper/Short Term MCLs

[4] - SVWQC and CRC ILRP Programs Plan to Coordinate Sampling Requirements in CBD and SS from April - August

Acronyms:
USEPA - United States Environmental Protection Agency
DDW - State Water Board Division of Drinking Water
MCL - Maximum Contaminant Level
NPDWR - National Primary Drinking Water Regulation
LCR - Lead and Copper Rule
D/DBP - Disinfectants and Disinfection By-Products
SWTR - Surface Water Treatment Rule
TCR - Total Coliform Rule
IESWTR - Interim Enhanced Surface Water Treatment Rule
CFE - Combined Filter Effluent
CTR - California Toxics Rule

TABLE B. LIST OF CONSTITUENTS AND ASSOCIATED MINIMUM LEVELS (MLs)[16]
FOR THE STORM WATER AND URBAN DISCHARGE MONITORING PROGRAM

CONSTITUENTS	MLs
FIELD/LAB MEASUREMENTS	
Date	mm/dd/yyyy
Sample Time	hr:min (regular time)
Weather	degrees F
Water Temperature	degrees C
pH	0 – 14
Dissolved Oxygen	Sensitivity to 5 mg/L
Turbidity	0.1 NTU
Electrical Conductivity (EC)	µmhos/cm
BACTERIA	
Fecal coliform	<20mpn/100ml
E. coli (fresh waters)	<20mpn/100ml
GENERAL	**mg/L**
Total Petroleum Hydrocarbons	5
Total Suspended Solids	2
Total Dissolved Solids	2
Total Organic Carbon	1
Dissolved Organic Carbon	1
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Kjeldahl Nitrogen	0.1
Alkalinity	2
Nitrate-Nitrite	0.1
Total Phosphorus	0.05
Total Hardness	2
Methylmercury	0.05 ng/L

[16] For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. Method Detection Limit (MDLs) must be lower than or equal to the ML value. If a particular ML is not attainable in accordance with procedures set for in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

CONSTITUENTS	MLs
METALS	**µg/L**
Copper, Dissolved	0.5
Copper, Total	0.5
Iron, Total	100
Lead, Dissolved	0.5
Lead, Total	0.5
Mercury, Total	0.5 ng/L
Zinc, Dissolved	1
Zinc, Total	1
ORGANOPHOSPHATE PESTICIDES	**µg/L**
Chlorpyrifos	0.01
Diazinon	0.05
Malathion	0.05
SEMI- AND NON-VOLATILE ORGANICS	**µ g/L**
Perylene	0.005
Benz[a]anthracene	0.005
Chrysene	0.005
Fluorene	0.005
Benzo[b]fluoranthene	0.005
Benzo[e]pyrene	0.005
Benzo[k]fluoranthene	0.005
Benzo[a]pyrene	0.005
Indeno[1,2,3-c,d]pyrene	0.005
Dibenz[a,h]anthracene	0.005
Benzo[g,h,i]perylene	0.005
Pyrene	0.005
Acenaphthylene	0.005
Acenaphthene	0.005
Naphthalene	0.005
2-Methylnaphthalene	0.005
1-Methylnaphthalene	0.005
2,6-Dimethylnaphthalene	0.005
2,3,5-Trimethylnaphthalene	0.005
Fluoranthene	0.005
Phenanthrene	0.005
Anthracene	0.005
1-Methylphenanthrene	0.005

CONSTITUENTS	MLs
PYRETHROID PESTICIDES IN SEDIMENT	**Target Reporting Limit (ng/g)[2]**
Bifenthrin	2
Cyfluthrin	4
Cypermethrin	4
Deltamethrin/Tralomethrin	4
Esfenvalerate/Fenvalerate	2
Fenpropathrin	4
Lambda-cyhalothrin	4
Permethrin	8
The following analysis would only be required if monitoring results from the studies investigating the Pelagic Organism Decline in the Delta indicate these concentrations are present and of concern in Sacramento Permittee discharges	
PYRETHROID PESTICIDES IN WATER[3]	**Target Reporting Limit ppb (ug/L)[2]**
Bifenthrin	0.002
Cyfluthrin	0.004
Cypermethrin	0.004
Deltamethrin/Tralomethrin	0.004
Esfenvalerate/Fenvalerate	0.002
Fenpropathrin	0.004
Lambda-cyhalothrin	0.002
Permethrin	0.005

[2] Acceptable method should generally be able to meet the minimum level target, however, the method detection limit (MDL) reported should be equal to or less than the listed target.
[3] Unfiltered, grab sample using glass jars