State of California
California Regional Water Quality Control Board, Los Angeles Region

RESOLUTION NO. R4-2008-012
December 11, 2008

Amendment to the Water Quality Control Plan for the Los Angeles Region to Adopt Site Specific Chloride Objectives and to Revise the Upper Santa Clara River Chloride TMDL

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region, finds that:

1. The federal Clean Water Act (CWA) requires the California Regional Water Quality Control Board (Regional Board) to develop water quality standards that are sufficient to protect beneficial uses designated for each water body found within its region.

2. The elements of a TMDL are described in 40 CFR 130.2 and 130.7 and section 303(d) of the CWA, as well as in USEPA guidance documents (Report No. EPA/440/4-91/001). A TMDL is defined as the sum of the individual waste load allocations for point sources, load allocations for nonpoint sources and natural background (40 CFR 130.2). Regulations further stipulate that TMDLs must be set at levels necessary to attain and maintain the applicable narrative and numeric water quality objectives (WQOs), and protect beneficial uses, with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality (40 CFR 130.7(c)(1)).

3. Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7). This Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide plans, serves as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the Regional Board.

4. The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. The River originates on the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean between the cities of San Buenaventura (Ventura) and Oxnard. The predominant land uses in the Santa Clara River watershed include agriculture, open space, and residential uses. Revenue from the agricultural industry within the Santa Clara River watershed is estimated at over $700 million annually, and residential use is increasing rapidly both in the upper and lower watershed.

5. The upper reaches of the Santa Clara River include Reaches 5 and 6 which are located upstream of the Blue Cut gauging station, west of the Los Angeles – Ventura County line between the cities of Fillmore and Santa Clarita. Reaches 5 and 6 of the Upper Santa Clara River (USCR) appear on the EPA 303d list of impaired waterbodies (designated on the 2002 EPA 303d list as Reaches 7 and 8, respectively). Several beneficial uses of the USCR, including agricultural supply water (AGR), groundwater recharge (GWR), and rare, threatened, or endangered species habitat (RARE), are listed as impaired due to excessive chloride concentration in the waters of the USCR. Valencia and Saugus Water Reclamation Plants (WRPs), which are owned and operated by the Santa Clarita Valley Sanitation District of Los Angeles County (SCVSD), are two major point sources that discharge to the USCR.

6. On October 24, 2002, the Regional Board adopted Resolution No. 02-018, amending the Basin Plan to include a TMDL for chloride in the USCR. Resolution 02-018 assigned waste load allocations (WLAs) to the Valencia and Saugus WRPs, minor point sources, and MS4s permittees, discharging to specified reaches of the Santa Clara River. The TMDL included interim WLAs for chloride for the WRPs. These interim WLAs provide the WRPs the necessary time to implement chloride source reduction, complete site-specific objective (SSO) studies, and make appropriate modifications to the WRP, as necessary, to meet the WQO for chloride. The interim waste load allocations proposed in the TMDL were based on a statistical evaluation of the WRPs' performance in the three years preceding October 2002.

7. On February 19, 2003 the State Water Resources Control Board (State Board) adopted State Board Resolution 2003-0014 (the "Remand Resolution") which remanded the TMDL to the Regional Board. The Remand Resolution directed the Regional Board to consider a phased implementation approach to allow SCVSD to complete special studies prior to planning and construction of advanced treatment technologies.

8. On July 10, 2003, in response to the Remand Resolution, the Regional Board adopted Resolution 03-008, revising the implementation Plan for the TMDL. The revised TMDL allowed 13 years to implement the TMDL.

9. On May 6, 2004, the Regional Board adopted Resolution 04-004 to revise the interim waste-load allocations and Implementation Plan for the chloride TMDL in the USCR. The revised Implementation Plan required the completion of several special studies that serve to characterize the sources, fate, transport, and specific impacts of chloride in the USCR, including impacts to downstream reaches and underlying groundwater basins.

10. The first of the special studies, an evaluation of the appropriate chloride threshold for the reasonable protection of salt-sensitive agriculture, was completed in September of 2005. This special study, entitled "Literature Review and Evaluation (LRE)," found that the best estimate of a chloride

hazard concentration for avocado crops falls within the range of 100 to 120 mg/L. A similar range of 100 to 117 mg/L was found by an independent technical advisory panel (TAP). An additional study completed in January 2008, entitled "Compliance Averaging Period for Chloride Threshold Guidelines in Avocado," found that a 3-month averaging period of the LRE guidelines would be protective of avocados. The TAP co-chairs reviewed this study and agreed that a 3-month averaging period is appropriate.

11. On August 3, 2006, the Regional Board revised the Implementation Schedule for the TMDL in Resolution No. 04-004 (Resolution No. 06-016). The revised TMDL accelerated the schedule from 13 years to 11 years based on findings from the LRE. The State Board approved the Regional Board amendment on May 22, 2007 (State Board Resolution No. 2007-0029). In approving the amendment, the State Board directed the Regional Board to consider variability in the SSO for chloride to account for the effects of drought on source water quality.

12. Prior to completion of the special studies, the presumed implementation plan included two options: advanced treatment of effluent from the Valencia and Saugus WRPs and disposal of brine in the ocean through an ocean outfall, or disposal of tertiary treatment effluent in the ocean through an ocean outfall. Both options entail construction of a pipeline from the Santa Clarita Valley WRPs to the ocean and an ocean outfall.

13. The second special study required by the Implementation Plan is the "Groundwater/Surface Water Interaction (GSWI) Model." The GSWI study model has been completed, reviewed and approved as an appropriate and adequate modeling tool by the stakeholders and an independent GSWI TAP. The GSWI model has been used to examine feasibility of various implementation alternatives. The GSWI study predicts that none of the alternatives, including the advanced treatment of WRP effluent and disposal of brine in a new ocean outfall or disposal of tertiary treatment effluent in an ocean outfall, would achieve compliance with the existing chloride WQO of 100 mg/L at all times and at all locations and that and alternative water resources management approach could achieve attainment for certain reaches.

14. The third special study required by the Implementation Plan is the "Evaluation of Appropriate Chloride Threshold for Endangered Species Protection (ESP)." This special study has been completed and found that the existing USEPA chloride criteria of 230 mg/L as a chronic threshold and 860 mg/L as an acute threshold are protective of aquatic life in the USCR, including Threatened and Endangered species. These conclusions indicate that endangered species can tolerate higher levels of chloride than salt-sensitive agricultural crops. The independent ESP TAP concurred with the study findings and conclusions.

15. The Santa Clarita Valley Sanitation District (SCVSD) has completed all of the necessary special studies required by the Chloride TMDL (TMDL Task Nos 3, 4, 5, 6, 7, 8, 9, 10b, and 10c). The completion of these TMDL special studies, all conducted in a facilitated stakeholder process in which stakeholders participated in scoping and reviewing the studies, has lead to development of an alternative TMDL implementation plan that addresses chloride impairment of surface waters and degradation of groundwater. The alternative, termed the alternative water resources management approach (AWRM), develops site specific objectives (SSOs) for chloride while protecting beneficial uses. The AWRM provides water quality and water supply benefits in Los Angeles and Ventura Counties. The AWRM consists of chloride source reduction actions and chloride load reduction through advanced treatment (microfiltration and reverse osmosis) of a portion of the Valencia WRP effluent in conformance with SSOs.

16. To support the development of the AWRM compliance option by stakeholders, Regional Board adopted Resolution No. 07-018 on November 1, 2007. Resolution No. 07-018 modified the regulatory provisions of the Basin Plan by subdividing Reach 4 of the Santa Clara River (SCR) as two separate Reaches, Reach 4A between the confluence of Piru Creek and the A Street Bridge in the City of Fillmore and Reach 4B between the Blue Cut Gauging Station and the confluence of Piru Creek. The Regional Board stated that this action would allow the development of more geographically precise SSOs.

17. This amendment to the Basin Plan will incorporate SSOs for chloride in Reaches 4B, 5, and 6 of the Santa Clara River and the groundwater basins underlying those reaches. The SSOs are protective of beneficial uses of these waterbodies. The GSWI study found that the AWRM compliance alternative will result in timely attainment of the SSOs for Reaches 4B, 5, and 6 and reduce the chloride load to the USCR and underlying groundwater basins. The proposed implementation activities under AWRM, which will increase chloride export from the East Piru groundwater basin underlying Reach 4B, will offset any increases in chloride discharges.

18. This amendment to the Basin Plan will include implementation language, including minimum salt export requirements to ensure that excess salt loadings to the groundwater basin due to periods of elevated water supply concentrations are removed from the groundwater basin through pumping and export.

19. The adoption of SSOs for chloride is part of a comprehensive strategy for addressing the buildup of salts in the Santa Clara watershed, which includes development and implementation of Total Maximum Daily Loads and corresponding effluent and receiving water limitations in NPDES permits.

20. The TMDL numeric targets, WLAs, and Implementation Plan are based on the SSOs for chloride. The TMDL provides interim WLAs for chloride, as well as interim WLAs for sulfate and TDS to support the supplemental water and water recycling components of the AWRM.

21. The TMDL provides a ten-year schedule to attain compliance with the SSOs for chloride. The SSOs are conditioned on full and ongoing implementation of the AWRM program; if the AWRM system is not built and operated, the water quality objectives for chloride revert back to the current levels in the Basin Plan, which are 100 mg/L.

22. The SCVSD, Ventura County Agricultural Water Quality Coalition, the United Water Conservation District, and Upper Basin Water Purveyors, consisting of the Castaic Lake Water Agency (CLWA), Valencia Water Company, Newhall County Water District, Santa Clarita Water Division of the CLWA, and the Los Angeles County Waterworks District No. 36, herein referred to as the AWRM Stakeholders have entered into a memorandum of understanding (MOU), effective October 23, 2008 to implement the AWRM Program. The AWRM MOU specifies the agreed-upon responsibilities of AWRM Stakeholders for the implementation of ultra-violet light disinfection and advanced treatment facilities (i.e., microfiltration-reverse osmosis and brine disposal), salt management facilities (i.e., extraction wells and water supply conveyance pipelines), supplemental water (i.e., water transfers and related facilities), and alternative water supplies for the protection of beneficial uses. The AWRM MOU also specifies the various uses of desalinated recycled water, which include: (1) compliance with water quality objectives for Reaches 4A, 4B and 5; (2) protection of salt-sensitive agricultural beneficial uses; (3) removal of excess chloride load above 117 mg/L from the East Piru Basin; and (4) enhancement of water supplies in Ventura and Los Angeles Counties. In addition, the AWRM MOU will implement an extension of the GSWI model to assess the groundwater and surface water interactions and impacts to surface water and groundwater quality from the AWRM program to the Fillmore and Santa Paula basins.

23. Implementation actions to achieve SSOs in Reaches 4B, 5, and 6 and the TMDL must also result in compliance with downstream water quality objectives for chloride. Surface water chloride concentrations will comply with the existing water quality objective of 100 mg/L in Reach 4A.

24. Regional Board staff prepared a detailed technical document that analyzes and describes the specific necessity and rationale for the development of this amendment. The technical document entitled "Upper Santa Clara River Chloride TMDL Reconsideration and Conditional Site Specific Objectives" (Staff Report) is an integral part of this Regional Board action and was reviewed, considered, and accepted by the Regional Board before acting on December 11, 2008. The Staff Report relies upon the scientific background and data collection and analysis documented in the TMDL special studies.

The TMDL special studies are distinguished from the Regional Board's staff report in that they do not present the recommendations of Regional Board staff.

25. The public has had a reasonable opportunity to participate in the review of the amendment to the Basin Plan. Stakeholders have participated extensively in the special studies since 2005 through a facilitated process in which meetings are held monthly in the cities of Fillmore, Santa Paula, and Santa Clarita. Technical working groups (TWGs) have executed the implementation studies and stakeholder-selected TAPs have reviewed the studies. All meetings are open to the public, and agendas and minutes from meetings are published on the Santa Clara River Chloride TMDL website: www.santaclarariver.org. A draft of the amendment was released for public comment on September 30, 2008; a Notice of Hearing and Notice of Filing were published and circulated 45 days preceding Board action; a notice of hearing published in the Los Angeles Daily News, the Santa Clarita Signal, and the Ventura County Star on September 30, 2008; Regional Board staff responded to oral and written comments received from the public; and the Regional Board held a public hearing on December 11, 2008 to consider adoption of the amendment.

26. In amending the Basin Plan to establish SSOs and to revise this TMDL, the Regional Board considered the requirements set forth in Sections 13240, 13241, and 13242 of the California Water Code. The 13241 factors are set forth and considered in the staff report.

27. The amendment is consistent with the State Antidegradation Policy (State Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies. Likewise, the amendment is consistent with the federal Antidegradation Policy (40 CFR 131.12).

28. Pursuant to Public Resources Code section 21080.5, the Resources Agency has approved the Regional Water Boards' basin planning process as a "certified regulatory program" that adequately satisfies the California Environmental Quality Act (CEQA) (Public Resources Code, § 21000 et seq.) requirements for preparing environmental documents (14 Cal. Code Regs. § 15251(g); 23 Cal. Code Regs. § 3782.) The Regional Water Board staff has prepared "substitute environmental documents" for this project that contains the required environmental documentation under the State Water Board's CEQA regulations. (23 Cal. Code Regs. § 3777.) The substitute environmental documents include the TMDL staff report, the environmental checklist, the comments and responses to comments, the basin plan amendment language, and this resolution. While the Regional Board has no discretion to not establish a TMDL (the TMDL is required by federal law), the Board does exercise discretion in assigning waste load allocations and load allocations,

determining the program of implementation, and setting various milestones in achieving the water quality standards. The CEQA checklist and other portions of the substitute environmental documents contain significant analysis and numerous findings related to impacts and mitigation measures.

29. A CEQA Scoping hearing was conducted on July 29, 2008 at the Council Chamber of City of Fillmore – 250 Central Avenue, Fillmore, California. A notice of the CEQA Scoping hearing was sent to interested parties. The notice of CEQA Scoping hearing was also published in the Los Angeles Daily News on July 11, 2008 and Ventura County Star on July 11, 2008.

30. In preparing the accompanying CEQA substitute documents, the Regional Board has considered the requirements of Public Resources Code section 21159 and California Code of Regulations, title 14, section 15187, and intends the substitute documents to serve as a tier 1 environmental review. Consistent with CEQA, the substitute documents do not engage in speculation or conjecture and only consider the reasonably foreseeable environmental impacts of the methods of compliance, the reasonably foreseeable feasible mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid or eliminate the identified impacts. Nearly all of the compliance obligations will be undertaken by public agencies that will have their own obligations under CEQA. Project level impacts will need to be considered in any subsequent environmental analysis performed by other public agencies, pursuant to Public Resources Code section 21159.2.

31. The proposed amendment could have a potentially significant adverse effect on the environment. However, there are feasible alternatives, feasible mitigation measures, or both, that if employed, would substantially lessen the potentially significant adverse impacts identified in the substitute environmental documents; however such alternatives or mitigation measures are within the responsibility and jurisdiction of other public agencies, and not the Regional Board. Water Code section 13360 precludes the Regional Board from dictating the manner in which responsible agencies comply with any of the Regional Board's regulations or orders. When the agencies responsible for implementing this TMDL determine how they will proceed, the agencies responsible for those parts of the project can and should incorporate such alternatives and mitigation into any subsequent projects or project approvals. These feasible alternatives and mitigation measures are described in more detail in' the substitute environmental documents. (14 Cal. Code Regs. § 15091(a)(2).)

32. From a program-level perspective, incorporation of the alternatives and mitigation measures outlined in the substitute environmental documents may not forseeably reduce impacts to less than significant levels.

33. The substitute documents for this TMDL, and in particular the Environmental Checklist and staff's responses to comments, identify broad mitigation approaches that should be considered at the project level.

34. To the extent significant adverse environmental effects could occur, the Regional Board has balanced the economic, legal, social, technological, and other benefits of the TMDL against the unavoidable environmental risks and finds that specific economic, legal, social, technological, and other benefits of the TMDL outweigh the unavoidable adverse environmental effects, such that those effects are considered acceptable. The basis for this finding is more fully set forth in the substitute environmental documents. (14 Cal. Code Regs. § 15093.)

35. Considering the record as a whole, this Basin Plan amendment will result in no effect, either individually or cumulatively, on wildlife resources.

36. The regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code, section 11353, subdivision (b).

37. The Basin Plan amendment incorporating SSOs and a revision of the Santa Clara River Chloride TMDL must be submitted for review and approval by the State Board, the State Office of Administrative Law (OAL), and the U.S. EPA. The Basin Plan amendment will become effective upon approval by OAL and U.S. EPA. A Notice of Decision will be filed following these approvals.

38. Occasionally during its approval process, Regional Board staff, the State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency. Under such circumstances, the Executive Officer should be authorized to make such changes, provided she informs the Board of any such changes.

Therefore, be it resolved that:

1. Pursuant to sections 13240 and 13241 of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendment to Chapter 3 of the Water Quality Control Plan for the Los Angeles Region as set forth in Attachment A hereto, to incorporate SSOs for chloride for Reaches 4B, 5, and 6 in the Santa Clara River watershed and underling groundwater basins (as identified in Tables 3-8 and 3-10), which will replace the previously applicable water quality objectives in Reaches 4B, 5, and 6 of the Santa Clara River and underling groundwater basins.

2. Pursuant to sections 13240 and 13241 of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendment to Chapter 4 of the Water

Quality Control Plan for the Los Angeles Region as set forth in Attachment B hereto, to include USCR SSOs for chloride.

3. Pursuant to sections 13240 and 13242 of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendment to Chapter 7 the Water Quality Control Plan for the Los Angeles Region as set forth in Attachment C hereto, to incorporate the revisions to the Upper Santa Clara River Chloride TMDL.

4. The Regional Board hereby approves and adopts the CEQA substitute environmental documentation, which was prepared in accordance with Public Resources Code section 21159 and California Code of Regulations, title 14, section 15187, and directs the Executive Officer to sign the environmental checklist. To the extent significant adverse environmental effects could occur, the Regional Board has balanced the economic, legal, social, technological, and other benefits of the TMDL against the unavoidable environmental risks and finds that specific economic, legal, social, technological, and other benefits of the TMDL outweigh the unavoidable adverse environmental effects, such that those effects are considered acceptable. The basis for this finding is more fully set forth in the substitute environmental documents. (14 Cal. Code Regs. § 15093.)

5. The Executive Officer is authorized to request a "No Effect Determination" from the Department of Fish and Game, or transmit payment of the applicable fee as may be required to the Department of Fish and Game.

6. The Executive Officer is directed to forward copies of the Basin Plan amendment to the State Board in accordance with the requirements of section 13245 of the California Water Code.

7. The Regional Board requests that the State Board approve the Basin Plan amendment in accordance with the requirements of sections 13245 and 13246 of the California Water Code and forward it to the OAL and U.S. EPA.

8. If during its approval process Regional Board staff, State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity, or for consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

I, Tracy J. Egoscue, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 11, 2008.

Tracy J. Egoscue
Executive Officer

1/15/08
Date

Attachment A to Resolution R4-2008-012

Basin Plan Amendment Incorporating Conditional Site-Specific Objectives for Chloride in Upper Santa Clara River Watershed

The following language will be added to Chapter 3, Water Quality Objectives of the Basin Plan, under "Mineral Quality":

Add table after Table 3-8.

Table 3-8a. Conditional Site Specific Objectives for Santa Clara River Surface Waters

WATERSHED/STREAM REACH	Chloride (mg/L)
Santa Clara River Watershed:	
Between Bouquet Canyon Road Bridge and West Pier Highway 99	150 (12-month average)
Between West Pier Highway 99 and Blue Cut gaging station	150 (12-month average)
Between Blue Cut gaging station and confluence of Piru Creek	117/130[a] (3-month average)[b]

a. The conditional site specific objective of 130 mg/L applies only if the following conditions and implementation requirements are met:
   1. Water supply chloride concentrations measured in Castaic Lake are ≥ 80 mg/L.
   2. The Santa Clarita Valley Sanitation District (SCVSD) shall provide supplemental water to salt-sensitive agricultural uses that are irrigated with surface water during periods when Reach 4B (between Blue Cut gaging station and confluence of Piru Creek) surface water exceeds 117 mg/L.
   3. By May 4, 2020, the 10-year cumulative net chloride loading above 117 mg/L (CNCl117) [i] to Reach 4B of the Santa Clara River (SCR), calculated annually, from the SCVSD Water Reclamation Plants (WRPs) shall be zero or less.

[i] $CNCl_{117} = Cl_{(Above\ 117)} - Cl_{(Below\ 117)} - Cl_{(Export\ Ews)}$

Where:

$Cl_{(Above\ 117)}$ = [WRP Cl Load[1]/Reach 4B Cl Load[2]] * [Reach 4B Cl $Load_{>117}$[3]]

$Cl_{(Below\ 117)}$ = [WRP Cl Load[1]/Reach 4B Cl Load[2]] * [Reach 4B Cl $Load_{\leq 117}$[4]]

$Cl_{(Export\ EWs)}$ = Cl Load Removed by Extraction Wells

[1] WRP Cl Load is determined as the monthly average chloride (Cl) concentration multiplied by the monthly average flow measured at the Valencia WRP.

[2] Reach 4B Cl Load is determined as the monthly average Cl concentration at SCVSD Receiving Water Station RF multiplied by the monthly average flow measured at USGS Gauging Station 11109000 (Las Brisas Bridge).

Attachment A to Resolution R4-2008-012

Basin Plan Amendment Incorporating Conditional Site-Specific Objectives for Chloride in Upper Santa Clara River Watershed

[3] Reach 4B Cl Load$_{>117}$ means the calculated Cl load to Reach 4B when monthly average Cl concentration in Reach 4B is above 117 mg/L.
[4] Reach 4B Cl Load$_{\leq 117}$ means the calculated Cl load to Reach 4B when monthly average Cl concentration in Reach 4B is below or equal to 117 mg/L.

4. The chief engineer of the SCVSD signs under penalty of perjury and submits to the Regional Board a letter documenting the fulfillment of conditions 1, 2, and 3.

b. The averaging period for the critical condition SSO of 130 mg/L may be reconsidered based on results of chloride trend monitoring after the alternative water resources management (AWRM) system is applied.

The conditional site specific objectives for chloride in the surface water between Bouquet Canyon Road bridge and West Pier Highway 99, between West Pier Highway 99 and Blue Cut gaging station, and between Blue Cut gaging station and confluence of Piru Creek shall apply and supersede the existing water quality objectives in Table 3-8 only when chloride load reductions and/or chloride export projects are in operation by the SCVSD according to the implementation section in Table 7-6.1 of Chapter 7.

Add table after Table 3-10.

Table 3-10a. Conditional Site Specific Objectives for Selected Constituents in Regional Groundwaters

DWR Basin No.	BASIN	Chloride (mg/L)
4-4	**Ventura Central** [d] Lower area east of Piru Creek[1]	150 (rolling 12-month average)
4-4.07	**Eastern Santa Clara**	
	Santa Clara—Bouquet & San Francisquito Canyons	150 (rolling 12-month average)
	Castaic Valley	150 (rolling 12-month average)

1. This objective only applies to the San Pedro formation. Existing objective of 200 mg/L applies to shallow alluvium layer above San Pedro formation.

The conditional site specific objectives for chloride in the groundwater in Santa Clara--

Attachment A to Resolution R4-2008-012

Basin Plan Amendment Incorporating Conditional Site-Specific Objectives for Chloride in Upper Santa Clara River Watershed

Bouquet & San Francisquito Canyons, Castaic valley, and the lower area east of Piru Creek (San Pedro Formation) shall apply and supersede the existing regional groundwater quality objectives only when chloride load reductions and/or chloride export projects are in operation by the SCVSD according to the implementation section in Table 7-6.1 of Chapter 7.

Attachment B to Resolution No. R4-2008-012

Revision of the TMDL for Chloride in the Upper Santa Clara River

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on December 11, 2008.

Amendments

Table of Contents

Chapter 7. Total Maximum Daily Loads (TMDLs) Upper Santa Clara River TMDL

This TMDL was adopted by: The Regional Water Quality Control Board on October 24, 2002.
This TMDL was remanded by: The State Water Resources Control Board on February 19, 2003
This TMDL was adopted by: The Regional Water Quality Control Board on July 10, 2003.
This TMDL was revised and adopted by: The Regional Water Quality Control Board on May 6, 2004.
This TMDL was approved by: The State Water Resource Control Board on July 22, 2004
The Office of Administrative Law on November 15, 2004
The U.S. Environmental Protection Agency on April 28, 2005
This TMDL was revised and adopted by: The Regional Water Quality Control Board on August 3, 2006.
This TMDL was approved by: The State Water Resource Control Board on May 22, 2007.
The Office of Administrative Law on July 3, 2007.
This TMDL was revised and adopted by: The Regional Water Quality Control Board on December 11, 2008.
This TMDL was approved by: The State Water Resource Control Board on xxx xx, 200x.
The Office of Administrative Law on xxx xx, 200x.

<table>
<tr><th>Element</th><th>Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements
Santa Clara River Chloride</th></tr>
<tr><td>Problem Statement</td><td>Elevated chloride concentrations are causing impairments of the water quality objective in Reach 5 (EPA 303(d) list Reach 7) and Reach 6 (EPA 303(d) list Reach 8) of the Santa Clara River (SCR). These reaches are on the 1998 and 2002 Clean Water Act (CWA) 303(d) lists of impaired water bodies as impaired due to chloride. The objectives for these reaches were set to protect all beneficial uses; agricultural beneficial uses have been determined to be most sensitive, and not currently attained at the downstream end of Reach 5 (EPA 303(d) list Reach 7) and Reach 6 (EPA 303(d) list Reach 8) in the Upper Santa Clara River (USCR). Irrigation of salt sensitive crops such as avocados, strawberries, and nursery crops with water containing elevated levels of chloride results in reduced crop yields. Chloride levels in groundwater in Piru Basin underlying the reach downstream of Reach 5 are also rising.</td></tr>
<tr><td>Numeric Target (Interpretation of the numeric water quality objective, used to calculate the load allocations)</td><td>Numeric targets are equivalent to conditional site specific objectives (SSOs) that are based on technical studies regarding chloride levels which protect salt sensitive crops and endangered and threatened species, chloride source identification, and the magnitude of assimilative capacity in the upper reaches of the Santa Clara River and underlying groundwater basin. The TMDL special study, Literature Review Evaluation, shows that the most sensitive beneficial uses can be supported with rolling averaging periods as shown in the tables below.

1. Conditional Surface Water SSOs

The conditional SSOs for chloride in the surface water of Reaches 4B, 5, and 6 shall apply and supersede the existing water quality objectives of 100 mg/L only when chloride load reductions and/or chloride export projects are in operation by the SCVSD according to the implementation section in Table 7-6.1. Conditional surface water SSOs for Reaches 4B, 5, and 6 of the Santa Clara River are listed as follows:
<table>
<tr><th>Reach</th><th>Conditional SSO for Chloride (mg/L)</th><th>Rolling Averaging Period</th></tr>
<tr><td>6</td><td>150</td><td>12-month</td></tr>
<tr><td>5</td><td>150</td><td>12-month</td></tr>
<tr><td>4B</td><td>117</td><td>3-month</td></tr>
<tr><td>4B Critical Conditions</td><td>130[a]</td><td>3-month[b]</td></tr>
</table>
</td></tr>
</table>

Element	Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements Santa Clara River Chloride
	a. The conditional SSO for chloride in Reach 4B under critical condition shall apply only if the following conditions and implementation requirements are met: 1. Water supply chloride concentrations measured in Castaic Lake are ≥ 80 mg/L. 2. The Santa Clarita Valley Sanitation District (SCVSD) shall provide supplemental water to salt-sensitive agricultural uses that are irrigated with surface water during periods when Reach 4B surface water exceeds 117 mg/L. 3. By May 4, 2020, the 10-year cumulative net chloride loading above 117 mg/L ($CNCl_{117}$)[i] to Reach 4B of the SCR, calculated annually, from the SCVSD Water Reclamation Plants (WRPs) shall be zero or less. [i] $CNCl_{117} = Cl_{(Above\ 117)} - Cl_{(Below\ 117)} - Cl_{(Export\ Ews)}$ Where: $Cl_{(Above\ 117)}$ = [WRP Cl Load[1]/Reach 4B Cl Load[2]] * [Reach 4B Cl $Load_{>117}$[3]] $Cl_{(Below\ 117)}$ = [WRP Cl Load[1]/Reach 4B Cl Load[2]] * [Reach 4B Cl $Load_{<=117}$[4]] $Cl_{(Export\ EWs)}$ = Cl Load Removed by Extraction Wells [1] WRP Cl Load is determined as the monthly average Cl concentration multiplied by the monthly average flow measured at the Valencia WRP. [2] Reach 4B Cl Load is determined as the monthly average Cl concentration at SCVSD Receiving Water Station RF multiplied by the monthly average flow measured at USGS Gauging Station 11109000 (Las Brisas Bridge). [3] Reach 4B Cl $Load_{>117}$ means the calculated Cl load to Reach 4B when monthly average Cl concentration in Reach 4B is above 117 mg/L. [4] Reach 4B Cl $Load_{<=117}$ means the calculated Cl load to Reach 4B when monthly average Cl concentration in Reach 4B is below or equal to 117 mg/L. 4. The chief engineer of the SCVSD signs under penalty of perjury and submits to the Los Angeles Regional Water Quality Control Board (Regional Board) a letter documenting the fulfillment of conditions 1, 2, and 3.

<table>
<tr><th>Element</th><th>Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements
Santa Clara River Chloride</th></tr>
<tr><td></td><td>
b. The averaging period for the critical condition SSO may be reconsidered based on results of chloride trend monitoring after the conditional WLAs of this TMDL are implemented.

2. Conditional SSOs for Groundwater

Conditional groundwater SSOs are listed as follows:

<table>
<tr><th>Groundwater Basin</th><th>Conditional Groundwater SSO for Chloride (mg/L)</th><th>Rolling Averaging Period</th></tr>
<tr><td>Santa Clara--Bouquet & San Francisquito Canyons</td><td>150</td><td>12-month</td></tr>
<tr><td>Castaic Valley</td><td>150</td><td>12-month</td></tr>
<tr><td>Lower area east of Piru Creek [a]</td><td>150</td><td>12-month</td></tr>
</table>
[a] This objective only applies to the San Pedro formation. Existing objective of 200 mg/L applies to shallow alluvium layer above San Pedro formation.

The conditional SSOs for chloride in the groundwater in Santa Clara--Bouquet & San Francisquito Canyons, Castaic Valley and the lower area east of Piru Creek (San Pedro Formation) shall apply and supersede the existing groundwater quality objectives only when chloride load reductions and/or chloride export projects are in operation by the SCVSD according to the implementation section in Table 7-6.1.
</td></tr>
<tr><td>Source Analysis</td><td>The principal source of chloride into Reaches 5 and 6 of the Santa Clara River is discharges from the Saugus WRP and Valencia WRP, which are estimated to contribute 70% of the chloride load in Reaches 5 and 6. These sources of chloride accumulate and degrade groundwater in the lower area east of Piru Creek in the basin.</td></tr>
<tr><td>Linkage Analysis</td><td>A groundwater-surface water interaction (GSWI) model was developed to</td></tr>
</table>

<table>
<tr><th>Element</th><th>Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements
Santa Clara River Chloride</th></tr>
<tr><td></td><td>assess the linkage between chloride sources and in-stream water quality and to quantify the assimilative capacity of Reaches 4A, 4B, 5, and 6 and the groundwater basins underlying those reaches. GSWI was then used to predict the effects of WRP discharges on chloride loading to surface water and groundwater under a variety of future hydrology, land use, and water use assumptions including future discharges from the Newhall Ranch WRP in order to determine appropriate wasteload allocations (WLAs) and load allocations (LAs).

The linkage analysis demonstrates that beneficial uses can be protected through a combination of SSOs for surface water and groundwater and reduction of chloride levels from the Valencia WRP effluent through advanced treatment.</td></tr>
<tr><td>Waste Load Allocations (for point sources)</td><td>The conditional WLAs for chloride for all point sources shall apply only when chloride load reductions and/or chloride export projects are in operation by the SCVSD according to the implementation section in Table 7-6.1. If these conditions are not met, WLAs shall be based on existing water quality objectives for chloride of 100 mg/L.

Conditional WLAs for chloride for discharges to Reach 4B by the Saugus and Valencia WRPs are as follows:

<table>
<tr><th>Reach</th><th>Concentration-based Conditional WLA for Chloride
(mg/L)</th></tr>
<tr><td>4B</td><td>117 (3-month Average),
230 (Daily Maximum)</td></tr>
<tr><td>4B Critical Conditions</td><td>130[a] (3-month Average[b]),
230 (Daily Maximum)</td></tr>
</table>
a. The Conditional WLA under critical conditions shall apply only if the following conditions and implementation requirements are met:
1. Water supply chloride concentrations measured in Castaic Lake are ≥ 80 mg/L.</td></tr>
</table>

Element	Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements Santa Clara River Chloride
	2. SCVSD shall provide supplemental water to salt-sensitive agricultural uses that are irrigated with surface water during periods when Reach 4B surface water exceeds 117 mg/L. 3. By May 4, 2020, the 10-year cumulative net chloride loading above 117 mg/L ($CNCl_{117}$) [i] to Reach 4B of the SCR, calculated annually, from the Saugus and Valencia WRPs shall be zero or less. [i] $CNCl_{117} = Cl_{(Above\ 117)} - Cl_{(Below\ 117)} - Cl_{(Export\ Ews)}$ Where: $Cl_{(Above\ 117)}$ = [WRP Cl Load[1]/Reach 4B Cl Load[2]] * [Reach 4B Cl $Load_{>117}$[3]] $Cl_{(Below\ 117)}$ = [WRP Cl Load[1]/Reach 4B Cl Load[2]] * [Reach 4B Cl $Load_{<=117}$[4]] $Cl_{(Export\ EWs)}$ = Cl Load Removed by Extraction Wells [1] WRP Cl Load is determined as the monthly average Cl concentration multiplied by the monthly average flow measured at the Valencia WRP. [2] Reach 4B Cl Load is determined as the monthly average Cl concentration at SCVSD Receiving Water Station RF multiplied by the monthly average flow measured at USGS Gauging Station 11109000 (Las Brisas Bridge). [3] Reach 4B Cl $Load_{>117}$ means the calculated Cl load to Reach 4B when monthly average Cl concentration in Reach 4B is above 117 mg/L. [4] Reach 4B Cl $Load_{<=117}$ means the calculated Cl load to Reach 4B when monthly average Cl concentration in Reach 4B is below or equal to 117 mg/L. 4. The chief engineer of the SCVSD signs under penalty of perjury and submits to the Regional Board a letter documenting the fulfillment of conditions 1, 2, and 3. b. The averaging period for the critical condition WLA may be reconsidered based on results of chloride trend monitoring after the conditional WLAs of this TMDL are implemented.

Element	Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements Santa Clara River Chloride

Discharges to Reaches 5 and 6 by the Saugus and Valencia WRPs will have final concentration-based and mass-based conditional WLAs for chloride based on conditional SSOs as follows:

WRP	Concentration-based Conditional WLA for Chloride (mg/L)	Mass-based Conditional WLA for Chloride (pounds/day)
Saugus	150 (12-month Average), 230 (Daily Maximum)	Q_{Design}*150 mg/L*8.34 (12-month Average)
Valencia	150 (12-month Average), 230 (Daily Maximum)	Q_{Design}*150 mg/L*8.34 – AF_{RO} (12-month Average)

Where Q_{design} is the design capacity of WRPs in units of million gallons per day (MGD), AF_{RO} is the chloride mass loading adjustment factor for operation of reverse osmosis (RO) facilities, where:

If RO facilities are operated at ≥ 50% Capacity Factor[a] in preceding 12 months

$$AF_{RO} = 0$$

If RO facilities are operated at < 50% Capacity Factor[b] in preceding 12 months

$$AF_{RO} = (50\% \text{ Capacity Factor} - \%\text{RO Capacity}) * \textit{ChlorideLoadRO}^{c}$$

[a] Capacity Factor is based on 3 MGD of recycled water treated with RO, 90% of the time.

[b] If operation of RO facilities at <50% rated capacity is the result of conditions that are outside the control of SCVSD, then under the discretion of the Executive Officer of the Regional Board, the AF_{RO} may be set to 0.

[c] Chloride load reduction is based on operation of a RO treatment plant treating 3 MGD of recycled water with chloride concentration of 50 mg/L + Water Supply Chloride. Assumes operational capacity factor of 90% and RO membrane chloride

Element	Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements Santa Clara River Chloride
	rejection rate of 95%. Determination of chloride load based on the following: $ChlorideLoadRO = 90\% \times [(Q_{RO} \times C_{WRP} \times 8.34) \times r] \times \left(30 Days / Month \right)$ Where: Q_{RO} = 3 MGD of recycled water treated with RO C_{WRP} = Chloride concentration in water supply + 50 mg/L r = % Reverse Osmosis chloride rejection (95% or 0.95) 8.34 = Conversion factor (ppd/(mg/L*MGD)) The final WLAs for TDS and sulfate are equal to existing surface water and groundwater quality objectives for TDS and sulfate in Tables 3-8 and 3-10 of the Basin Plan. The Regional Board may revise the final WLAs based on review of trend monitoring data as detailed in the monitoring section of this Basin Plan amendment. Other minor NPDES discharges (as defined in Table 4-1 of the Basin Plan) receive conditional WLAs. The conditional WLA for these point sources is as follows: **Reach** / **Concentration-based Conditional WLA for Chloride (mg/L)** 6 — 150 (12-month Average), 230 (Daily Maximum) 5 — 150 (12-month Average), 230 (Daily Maximum) 4B — 117 (3-month Average), 230 (Daily Maximum) Other major NPDES discharges (as defined in Table 4-1 of the Basin Plan) receive WLAs equal to 100 mg/L. The Regional Board may consider assigning conditional WLAs to other major dischargers based on an analysis of the downstream increase in net chloride loading to surface water and groundwater as a result of implementation of conditional WLAs.
Load Allocation	The source analysis indicates nonpoint sources are not a major source of

<table>
<tr><th>Element</th><th>Table 7-6.1. Upper Santa Clara River Chloride TMDL: Elements
Santa Clara River Chloride</th></tr>
<tr><td>(for non point sources)</td><td>chloride. The conditional LAs for these nonpoint sources are as below:

<table><tr><th>Reach</th><th>Concentration-based Conditional LA for Chloride (mg/L)</th></tr><tr><td>6</td><td>150 (12-month Average),
230 (Daily Maximum)</td></tr><tr><td>5</td><td>150 (12-month Average),
230 (Daily Maximum)</td></tr><tr><td>4B</td><td>117 (3-month Average),
230 (Daily Maximum)</td></tr></table>
The conditional LAs shall apply only when chloride load reductions and/or chloride export projects are in operation by the SCVSD according to the implementation section in Table 7-6.1. If these conditions are not met, LAs are based on existing water quality objectives of 100 mg/L.</td></tr>
</table>

Implementation

Refer to Table 7-6.2.

Implementation of Upper Santa Clara River Conditional Site Specific Objectives for Chloride

In accordance with Regional Board resolution 97-002, the Regional Board and stakeholders have developed an integrated watershed plan to address chloride impairments and protect beneficial uses of surface waters and groundwater basins underlying Reaches 4B, 5, and 6 of the Santa Clara River. The plan involves: 1) Reducing chloride loads and/or increasing chloride exports from the USCR watershed through implementation of advanced treatment (RO) of a portion of the effluent from the Valencia WRP. The advanced treated effluent will be discharged into Reach 4B or blended with extracted groundwater from the Piru Basin underlying Reach 4B and discharged into Reach 4A. The resultant brine from the advanced treatment process will be disposed in a legal and environmentally sound manner. 2) Implementing the conditional SSOs for chloride in surface waters and underlying groundwater basins of the USCR watershed provided in Chapter 3.

The watershed chloride reduction plan will be implemented through NPDES permits for the Valencia WRP and a new NPDES permit for discharge into Reach 4A. The conditional SSOs for chloride in the USCR watershed shall apply and supersede the regional water quality objectives only when chloride load reductions and/or chloride export projects are in operation and reduce chloride loading in accordance with the following table:

Water Supply Chloride[1]	**Chloride Load Reductions[2]**
40 mg/L	58,000 lbs per month
50 mg/L	64,000 lbs per month
60 mg/L	71,000 lbs per month
70 mg/L	77,000 lbs per month
80 mg/L	83,000 lbs per month
90 mg/L	90,000 lbs per month
100 mg/L	96,000 lbs per month

[1] Based on measured chloride of the State Water Project (SWP) water stored in Castaic Lake.
[2] Chloride load reduction is based on operation of a RO treatment plant treating 3 MGD of recycled water with chloride concentration of 50 mg/L + Water Supply Chloride. Assumes operational capacity factor of 90% and RO membrane chloride rejection rate of 95%. Determination of

chloride load based on the following:

$$ChlorideLoad = 90\% \times [(Q_{RO} \times C_{WRP} \times 8.34) \times r] \times \left(30 Days / Month\right)$$

where r = % chloride rejection (95%)
Q_{RO} = 3 MGD of recycled water treated with RO
C_{WRP} = SWP Cl + 50 mg/L

Conditional WLAs

Conditional WLAs for the Saugus and Valencia WRPs will be implemented through effluent limits, receiving water limits and monitoring requirements in NPDES permits. Conditional WLAs for Reach 4B will be implemented as receiving water limits. Conditional WLAs for Reaches 5 and 6 will be implemented as effluent limits.

The implementation plan proposes that during the period of TMDL implementation, compliance for the WRPs' effluent limits will be evaluated in accordance with interim WLAs.

Saugus WRP:

The interim WLA for chloride is equal to the interim limit for chloride specified in order No. R4-04-004. The interim WLA for TDS is 1000 mg/L as an annual average. The interim WLA for sulfate is 450 mg/L as an annual average. These interim WLAs shall apply as interim end-of-pipe effluent limits, interim groundwater limits, and interim limits in the Non-NPDES WDR for recycled water uses from the Saugus WRP instead of existing water quality objectives.

Valencia WRP:

The interim WLA for chloride is equal to the interim limit for chloride specified in order No. R4-04-004. The interim WLA for TDS is 1000 mg/L as an annual average. The interim WLA for sulfate is 450 mg/L as an annual average. These interim WLAs shall apply as interim end-of-pipe effluent limits, interim groundwater limits, and interim limits in the Non-NPDES WDR for recycled water uses from the Valencia WRP instead of existing water quality objectives.

Other Major NPDES Permits (including Newhall Ranch WRP):

The Regional Board may consider assigning conditional WLAs for other major NPDES permits, including the Newhall Ranch WRP, pending implementation of a chloride mass removal quantity that is proportional to

	mass based chloride removal required for the Valencia WRP. <u>Supplemental Water released to Reach 6 of Santa Clara River:</u> In order to accommodate the discharge of supplemental water to Reach 6, interim WLAs are provided for sulfate of 450 mg/L and TDS of 1000 mg/L as annual averages. The final WLAs are equal to the existing water quality objectives for sulfate and TDS in Table 3-8 of the Basin Plan. The Regional Board may revise the final WLA based on review of trend monitoring data as detailed in the monitoring section of this Basin Plan amendment.
Monitoring	NPDES monitoring: NPDES Permittees will conduct chloride, TDS, and sulfate monitoring to ensure that water quality objectives are being met. Trend monitoring: The SCVSD will submit a monitoring plan to conduct chloride, TDS, and sulfate trend monitoring to ensure that the goal of chloride export in the watershed is being achieved, water quality objectives are being met, and downstream groundwater and surface water quality is not degraded due to implementation of compliance measures. The SCVSD monitoring plan shall include plans to monitor chloride, TDS, and sulfate in groundwater and identify representative wells to be approved by the Regional Board Executive Officer in the following locations: (a) Shallow alluvium layer in east Piru Basin, (b) San Pedro Formation in east Piru Basin, and (c) groundwater basins under Reaches 5 and 6, which shall be equivalent or greater than existing groundwater monitoring required by NPDES permits for Saugus and Valencia WRPs. The monitoring plan shall also include a plan for chloride, TDS, and sulfate trend monitoring for surface water for Reaches 4B, 5 and 6. The monitoring plan shall include plans to monitor chloride, TDS, and sulfate at a minimum of once per quarter for groundwater and at a minimum of once per month for surface water. The plan should propose a monitoring schedule that extends beyond the completion date of this TMDL to evaluate impacts of compliance measures to downstream groundwater and surface water quality. This TMDL shall be reconsidered if chloride, TDS, and sulfate trend monitoring indicates degradation of groundwater or surface water due to implementation of compliance measures. Trend monitoring: The Reach 4A Permittee will submit a monitoring plan to conduct chloride, TDS, and sulfate trend monitoring to ensure that the goal of chloride export in the watershed is being achieved, water quality objectives are being met, and downstream groundwater and surface water quality is not degraded due to implementation of compliance measures. The Reach 4A permittee monitoring plan shall include plans to monitor chloride, TDS, and sulfate in groundwater and identify representative wells to be approved by the Regional Board Executive Officer in the

	following locations (a) Fillmore Basin, and (b) Santa Paula Basin. The monitoring plan shall also include a plan for chloride, TDS, and sulfate trend monitoring for surface water for Reaches 3 and 4A. The monitoring plan should include plans to monitor chloride, TDS, and sulfate at a minimum of once per quarter for groundwater and at a minimum of once per month for surface water. The plan should propose a monitoring schedule that shall extend beyond the completion date of this TMDL to evaluate impacts of compliance measures to downstream groundwater and surface water quality. This TMDL shall be reconsidered if chloride, TDS, and sulfate trend monitoring indicates degradation of groundwater or surface water due to implementation of compliance measures.
Margin of Safety	An implicit margin of safety is incorporated through conservative model assumptions and chloride mass balance analysis. The model is an integrated groundwater surface water model which shows that chloride discharged from the WRPs accumulates in the east Piru Basin. Further mass balance analysis shows that the chloride mass removed from the Piru Basin exceeds the chloride loaded into the Piru Basin from implementation of the conditional SSOs.
Seasonal Variations and Critical Conditions	During dry weather conditions, less surface flow is available to dilute effluent discharge, groundwater pumping rates for agricultural purposes are higher, groundwater discharge is lower, poorer quality groundwater may be drawn into the aquifer, and evapotranspiration effects are greater than in wet weather conditions. During drought, reduced surface flow and increased groundwater extraction continues through several seasons with greater impacts on groundwater resources and discharges. Dry and critically dry periods affecting the Sacramento and San Joaquin River Valleys reduce fresh-water flow into the Sacramento-San Joaquin Delta and result in higher than normal chloride concentrations in the State Water Project supply within the California aqueduct system. These increased chloride levels are transferred to the upper Santa Clara River. This critical condition is defined as when water supply concentrations measured in Castaic Lake are $\geq$ 80 mg/L. These critical conditions were included in the GSWI model to determine appropriate allocations and implementation scenarios for the TMDL.

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation **Implementation Tasks**	**Completion Date**
1. Alternate Water Supply a) Should (1) the in-river concentration at Blue Cut, the Reach 4B boundary, exceed the conditional SSO of 117 mg/L, measured for the purposes of this TMDL as a rolling three-month average, (2) each agricultural diverter provide records of the diversion dates and amounts to the Regional Board and Santa Clarita Valley County Sanitation Districts of Los Angeles County (SCVSD) for at least 2 years after the effective date of the TMDL and (3) each agricultural diverter provides photographic evidence that diverted water is applied to avocado, strawberry or other chloride sensitive crop and evidence of a water right to divert, then the SCVSD will be responsible for providing an alternative water supply, negotiating the delivery of alternative water by a third party, or providing fiscal remediation to be quantified in negotiations between the SCVSD and the agricultural diverter at the direction of the Regional Water Quality Control Board until such time as the in-river chloride concentrations do not exceed the conditional SSO. b) Should the instream concentration exceed 230 mg/L more than two times in the three year period, the discharger identified by the Regional Board Executive Officer shall be required to submit, within ninety days of a request by the Regional Board Executive Officer, a workplan for an accelerated schedule to reduce chloride discharges.	Effective Date of TMDL (05/04/2005)
2. Progress reports will be submitted by the SCVSD to Regional Board staff on a semiannual basis from the effective date of the TMDL for tasks 4, 6, and 7, and on an annual basis for Tasks 5 and 11. Progress reports will be submitted by the Reach 4A Permittee to Regional Board staff on an annual basis for Task 12.	Semiannually and annually
3. Chloride Source Identification/Reduction, Pollution Prevention and Public Outreach Plan: Six months after the effective date of the TMDL, the SCVSD will submit a plan to the Regional Board that addresses measures taken and planned to be taken to quantify and control sources of chloride, including, but not limited to: execute community-wide outreach programs, which were developed based on the pilot outreach efforts conducted by the SCVSD, assess potential incentive/disincentive programs for residential self-regenerating water softeners, and other measures that may be effective in	6 months after Effective Date of TMDL (11/04/2005)

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation Implementation Tasks	Completion Date
controlling chloride. The SCVSD shall develop and implement the source reduction/pollution prevention and public outreach program, and report results annually thereafter to the Regional Board. Chloride sources from imported water supplies will be assessed. The assessment will include conditions of drought and low rainfall, and will analyze the alternatives for reducing this source.	
4. The SCVSD will convene a technical advisory committee or committees (TAC(s)) in cooperation with the Regional Board to review literature develop a methodology for assessment, and provide recommendations with detailed timelines and task descriptions to support any needed changes to the time schedule for evaluation of appropriate chloride threshold for Task 6. The Regional Board, at a public hearing will re-evaluate the schedule for Task 6 and subsequent linked tasks based on input from the TAC(s), along with Regional Board staff analysis and assessment consistent with state and federal law, as to the types of studies needed and the time needed to conduct the necessary scientific studies to determine the appropriate chloride threshold for the protection of salt sensitive agricultural uses, and will take action to amend the schedule if there is sufficient technical justification.	12 months after Effective Date (05/04/2006)
5. Groundwater/Surface Water Interaction Model: The SCVSD will solicit proposals, collect data, develop a model in cooperation with the Regional Board, obtain peer review, and report results. The impact of source waters and reclaimed water plans on achieving the water quality objective and protecting beneficial uses, including impacts on underlying groundwater quality, will also be assessed and specific recommendations for management developed for Regional Board consideration. The purpose of the modeling and sampling effort is to determine the interaction between surface water and groundwater as it may affect the loading of chloride from groundwater and its linkage to surface water quality.	2.5 years after Effective Date of TMDL (11/20/2007)
6. Evaluation of Appropriate Chloride Threshold for the Protection of Sensitive Agricultural Supply Use and Endangered Species Protection: The SCVSD will prepare and submit a report on endangered species protection thresholds. The SCVSD will also prepare and submit a report presenting the results of the evaluation of chloride thresholds for salt sensitive agricultural uses, which shall consider the impact of drought and low rainfall conditions and the associated increase in imported water concentrations on downstream crops utilizing the result of Task 5.	2.5 years after Effective Date of TMDL (11/20/2007)

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation **Implementation Tasks**	**Completion Date**
7. Develop SSO for Chloride for Sensitive Agriculture: The SCVSD will solicit proposals and develop technical analyses upon which the Regional Board may base a Basin Plan amendment. 8. Develop Anti-Degradation Analysis for Revision of Chloride Objective by SSO: The SCVSD will solicit proposals and develop draft anti-degradation analysis for Regional Board consideration. 9. Develop a pre-planning report on conceptual compliance measures to meet different hypothetical final conditional wasteload allocations. The SCVSD shall solicit proposals and develop and submit a report to the Regional Board that identifies potential chloride control measures and costs based on different hypothetical scenarios for chloride SSOs and final conditional wasteload allocations.	2.8 years after Effective Date of TMDL (02/20/2008)
10. a) Preparation and Consideration of a Basin Plan Amendment (BPA) to revise the chloride objective by the Regional Board. b) Evaluation of Alternative Water Supplies for Agricultural Beneficial Uses: The SCVSD will quantify water needs, identify alternative water supplies, evaluate necessary facilities, and report results, including the long-term application of this remedy. c) Analysis of Feasible Compliance Measures to Meet Final Conditional Wasteload Allocations for Proposed Chloride Objective. The SCVSD will assess and report on feasible implementation actions to meet the chloride objective established pursuant to Task 10a). d) Reconsideration of and action taken on the Chloride TMDL and Final Conditional Wasteload Allocations for the Upper Santa Clara River by the Regional Board.	3.5 years after Effective Date of TMDL (12/11/2008)
11. Trend monitoring: The SCVSD will submit a monitoring plan to conduct chloride, TDS, and sulfate trend monitoring to ensure that the goal of chloride export in the watershed is being achieved, water quality objectives are being met, and downstream groundwater and surface water quality is not degraded due to implementation of compliance measures. The SCVSD monitoring plan shall include plans to monitor chloride, TDS, and sulfate in groundwater and identify representative wells to be approved by the Regional Board Executive Officer, in the following locations: (a) Shallow alluvium layer in east Piru Basin, (b) San Pedro Formation in east Piru Basin,	4 years after Effective Date of TMDL (05/04/2009)

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation Implementation Tasks	Completion Date
and (c) groundwater basins under Reaches 5 and 6, which shall be equivalent or greater than existing groundwater monitoring required by NPDES permits for Saugus and Valencia WRPs. The monitoring plan shall also include a plan for chloride, TDS, and sulfate trend monitoring for surface water for Reaches 4B, 5 and 6. The monitoring plan shall include plans to monitor chloride, TDS, and sulfate at a minimum of once per quarter for groundwater and at a minimum of once per month for surface water. The plan should propose a monitoring schedule that extends beyond the completion date of this TMDL to evaluate impacts of compliance measures to downstream groundwater and surface water quality. This TMDL shall be reconsidered if chloride, TDS, and sulfate trend monitoring indicates degradation of groundwater or surface water due to implementation of compliance measures.	
12. Trend monitoring: The Reach 4A Permittee will submit a monitoring plan to conduct chloride, TDS, and sulfate trend monitoring to ensure that the goal of chloride export in the watershed is being achieved, water quality objectives are being met, and downstream groundwater and surface water quality is not degraded due to implementation of compliance measures. The Reach 4A permittee monitoring plan shall include plans to monitor chloride, TDS, and sulfate in groundwater and identify representative wells to be approved by the Regional Board Executive Officer in the following locations (a) Fillmore Basin, and (b) Santa Paula Basin. The monitoring plan shall also include a plan for chloride, TDS, and sulfate trend monitoring for surface water for Reaches 3 and 4A. The monitoring plan should include plans to monitor chloride, TDS, and sulfate at a minimum of once per quarter for groundwater and at a minimum of once per month for surface water. The plan should propose a monitoring schedule that shall extend beyond the completion date of this TMDL to evaluate impacts of compliance measures to downstream groundwater and surface water quality. This TMDL shall be reconsidered if chloride, TDS, and sulfate trend monitoring indicates degradation of groundwater or surface water due to implementation of compliance measures.	Submitted with permit application
13. Begin monitoring per approved SVCSD monitoring plan completed in Task 11.	One year after Executive Officer approval of Task 11 monitoring plan for SCVSD

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation **Implementation Tasks**	**Completion Date**
14. Begin monitoring per approved Reach 4A Permittee monitoring plan.	One year after Executive Officer approval of Task 12 monitoring plan for Reach 4A Permittee
15. a) Implementation of Compliance Measures, Planning: The SCVSD shall submit a report of planning activities which include but are not limited to: (1) identifying lead state/federal agencies; (2) administering a competitive bid process for the selection of EIR/EIS and Engineering Consultants; (3) Development of Preliminary Planning and Feasibility Analyses; (4) Submittal of Project Notice of Preparation/Notice of Intent; (5) Preparation of Draft Wastewater Facilities Plan and Programmatic EIR; (6) Administration of Public Review and Comment Periods; (7) Development of Final Wastewater Facilities Plan and Programmatic EIR and incorporation and response to comments; (8) Administration of final public review and certification process; and (9) Filing a Notice of Determination and Record of Decision. b) Implementation of Compliance Measures, Planning: The SCVSD shall provide a schedule of related tasks and subtasks related to Task 15a), and provide semi-annual progress reports on progress of planning activities, thereafter, until completion of Final Wastewater Facilities Plan and Programmatic EIR.	5 years after Effective Date of TMDL (05/04/2010) 5 years after Effective Date of TMDL (05/04/2010)
16. The Regional Board staff will re-evaluate the schedule to implement control measures needed to meet final conditional WLAs adopted pursuant to Task 10 d) and the schedule for Task 17. The Regional Board, at a public meeting will consider extending the completion date of Task 17 and reconsider the schedule to implement control measures to meet final conditional WLAs adopted pursuant to Task 10 d). The SCVSD will provide the justification for the need for an extension to the Regional Board Executive Officer at least 6 months in advance of the deadline for this task.	6 years after Effective Date of TMDL (05/04/2011)
17. a) Implementation of Compliance Measures, Complete Environmental Impact Report: The SCVSD shall complete a Wastewater Facilities Plan and Programmatic Environmental Impact Report for facilities to comply with final effluent permit limits for chloride. b) Implementation of Compliance Measures, Engineering Design:	6 years after Effective Date of TMDL (05/04/2011) 6 years after

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation **Implementation Tasks**	**Completion Date**
The SCVSD will begin the engineering design of the recommended project wastewater facilities.	Effective Date of TMDL (05/04/2011)
c) Implementation of Compliance Measures, Engineering Design: The SCVSD will provide a design schedule of related tasks and sub-tasks, and provide semi-annual progress reports on progress of design activities, thereafter, until completion of Final Design. In addition the SCVSD will provide a construction schedule of related tasks and sub-tasks, and provide semi-annual progress reports on progress of construction activities, thereafter, until completion of recommended project wastewater facilities.	7 years after Effective Date of TMDL (05/04/2012)
d) Implementation of Compliance Measures, Construction: The SCVSD shall have applied and received all appropriate permits and have completed construction of the recommended project wastewater facilities.	9.5 years after Effective Date of TMDL (11/04/2014)
e) Implementation of Compliance Measures, Start-Up: The SCVSD shall have completed start-up, testing and certification of the recommended project wastewater facilities.	10 years after Effective Date of TMDL (05/04/2015)
18. The Regional Board Executive Officer may consider conditional SSOs for TDS and sulfate for Reaches 4B, 5, and 6 based on results of groundwater-surface water interaction studies on accumulation of TDS and sulfate in groundwater, potential impacts to beneficial uses, and an anti-degradation analysis.	7 years after Effective Date of TMDL (05/04/2012)
19. The Regional Board staff will re-evaluate the schedule to implement control measures needed to meet final conditional WLAs adopted pursuant to Task 10 d) and the schedule for Task 17. The Regional Board, at a public meeting will consider extending the completion of Task 17 and reconsider the schedule to implement control measures to meet final conditional WLAs adopted for chloride pursuant to Task 10 d). The SCVSD will provide the justification for the need for an extension to the Regional Board Executive Officer at least 6 months in advance of the deadline for this task. The Regional Board will also consider conditional SSOs and final conditional WLAs for TDS and sulfate based on results of Task 18.	9.5 years after Effective Date of TMDL (11/04/2014)
20. The interim WLAs for chloride shall remain in effect for no more	10 years after

Table 7-6.2. Upper Santa Clara River Chloride TMDL Implementation Implementation Tasks	Completion Date
than 10 years after the effective date of the TMDL. Conditional SSO for chloride in the USCR shall be achieved. Final conditional WLAs for chloride in Reaches 4B, 5, and 6 shall apply by May 5, 2015. The Regional Board may consider extending the completion date of this task as necessary to account for events beyond the control of the SCVSD.	Effective Date of TMDL (05/04/2015)
21. The interim WLAs for TDS and sulfate contained in this BPA (Resolution No. R4-2008-012) shall be implemented no sooner than the effective date of this BPA, and shall remain in effect until May 4, 2015. Final WLAs shall apply by May 5, 2015 unless conditional SSOs and final conditional WLAs for TDS and sulfate are adopted as described in Task 19.	10 years after Effective Date of TMDL (05/04/2015)