

2014-2016 Triennial Review:
Presentation and Selection of
Basin Planning Priority Projects

Staff Report

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1. Introduction

The Water Quality Control Plan for the Los Angeles Region (Basin Plan) contains water quality standards for surface and ground waters in the Los Angeles Region. The Los Angeles Region includes the coastal watersheds of Los Angeles and Ventura Counties, along with very small portions of Kern and Santa Barbara Counties. Water quality standards include existing and designated beneficial uses for surface and ground waters, narrative and/or numeric water quality objectives to protect those beneficial uses, and the state's Antidegradation Policy (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*, State Water Resources Control Board Resolution No. 68-16). The Basin Plan also includes programs of implementation for water quality objectives, including various regulatory programs such as total maximum daily loads (TMDLs), waste discharge requirements (WDRs), National Pollutant Discharge Elimination System (NPDES) permits, conditional waivers of WDRs, discharge prohibitions, and remediation programs, among others. The Basin Plan fulfills statutory requirements for water quality planning in California Water Code (CWC) sections 13240 through 13242 and the federal Clean Water Act (CWA) section 303(c).

While the Basin Plan provides sound long-term water quality standards, policy, and program guidance for the Los Angeles Region, it is not a static document. The Basin Plan is reviewed and revised periodically to incorporate new legal requirements, new scientific understanding, and adapt to changing conditions. The CWA and federal regulations (CWA § 303(e); 40 C.F.R. § 130.5(b)) require that the State have a "continuing planning process" approved by the United States Environmental Protection Agency (USEPA). This process has nine required elements, one of which is water quality planning consisting of adoption, review, and amendment of Basin Plans. As part of the State and Regional Water Board's continuing planning process, components of statewide and regional basin plans are reviewed as new data and information become available or as specific needs arise. Updates of the Basin Plan for the Los Angeles Region occur in response to this periodic review or as a result of other factors, including State or federal legal requirements or judicial mandates such as consent decrees. State Water Board and other governmental entities' (federal, state, and local) plans that can affect water quality are considered in the planning process.

This staff report provides a status update on the Basin Planning projects prioritized by the Los Angeles Water Board as part of the 2014 - 2016 triennial review and summarizes basin planning issues identified by Los Angeles Water Board staff and those recommended by stakeholders for consideration during this triennial review. This report is organized as follows. Section 2 provides background and information on the triennial review process, including public participation components. Section 3 provides an update on projects conducted during the 2011 - 2013 period. Section 4 presents projects being addressed during the 2014-2016 Triennial Review period. Section 5 discusses the Basin Planning projects initially recommended by staff for consideration during this Triennial Review. Section 6 summarizes stakeholder comments on basin planning issues they would like the Los Angeles Water Board to consider. Section 7 reviews stakeholder prioritized issues following the stakeholder workshop. Section 8 presents

staff's recommendations for prioritization of projects during the 2014 - 2016 Triennial Review period.

2. Triennial Review Process

The Los Angeles Water Board first adopted an interim water quality control plan in 1971. After several revisions, the first comprehensive basin plans for the region (one for the Santa Clara River Basin and one for the Los Angeles River Basin) were adopted by the Los Angeles Water Board and approved by the State Water Resources Control Board (State Water Board) in March 1975. Subsequently, several amendments were adopted between 1976 and 1991. A comprehensive update to the basin plans was adopted in 1994, at which time the two basin plans were combined into one concise Basin Plan for the entire region.

Both State and federal laws mandate the periodic review of basin plans and the water quality standards contained therein. Specifically, California Water Code section 13240 states that basin plans "shall be periodically reviewed and may be revised." In addition, section 303(c)(1) of the federal Clean Water Act requires that a State review its water quality standards and, as appropriate, modify and adopt standards, at least once every three years. This process is known as a triennial review.

The primary purpose of a triennial review is to review water quality standards and solicit public comment on issues the Los Angeles Water Board should address in the future through the Basin Plan amendment process. The triennial review process may or may not result in amendments to the Basin Plan over the course of the 3-year review cycle.¹ The State and federal requirement to review and revise, as appropriate, water quality standards is based upon recognition that the science of water quality is constantly advancing. Therefore, a triennial review ensures that standards are based on current science, methodologies, and USEPA mandates, recommendations, and guidance. The triennial review does not necessarily involve the revision of all or any particular components of the standards every three years. While the Los Angeles Water Board is required to conduct a review of its Basin Plan, neither federal nor state law imposes a duty to revise or modify it. (*City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal.App.4th 156). Federal law only requires modifications "as

¹ As stated, the identification of an issue during a triennial review does not necessarily mean that any amendment will be made to the Basin Plan. The decision as to whether to proceed with a proposed Basin Plan amendment is only made after the Los Angeles Water Board reviews the technical and legal considerations associated with an issue and determines that development of a Basin Plan amendment is supported by evidence and is appropriate. Amending the Basin Plan generally involves preparing a staff report outlining alternatives and environmental impacts and, in the case of water quality objectives, economic considerations; a CEQA substitute environmental document; and the actual amendment (i.e., changes to the Basin Plan). Amendments are distributed to interested persons for public review at least 45 days in advance of the public hearing, which is typically held at a regularly scheduled Board meeting. The Los Angeles Water Board must adopt amendments, and then transmit them for review and approval by the State Water Resources Control Board and Office of Administrative Law, as well as by USEPA if the amendment involves surface water quality standards or implementation provisions for these standards.

appropriate". Modifications to the Basin Plan are usually made to incorporate new scientific and technical information; address new legal requirements; in response to USEPA's recommendations and guidelines; to address State Water Board policy requirements; to address stakeholder concerns, where it is appropriate to do so; and to address issues identified by the Los Angeles Water Board itself or its staff during the regular course of business. Additionally, the Los Angeles Water Board often adopts Basin Plan amendments to incorporate site-specific objectives that are supported by stakeholder-led studies and/or the results of TMDL special studies.

The availability of new scientific information or methodological developments may not directly translate into a change to standards during a triennial review cycle. The state of the science also has to be taken into consideration; for example, it may be premature to modify standards while scientific understanding is actively evolving and new methodologies are being developed and tested. Moreover, notwithstanding the evolution of applicable scientific knowledge or policy considerations, federal or state law or regulations may preclude changes that might otherwise be deemed desirable by stakeholders. In addition, while a major part of the review process consists of identifying potential issues, an important part of the review is the reaffirmation of those portions of the Basin Plan where no potential issues are identified. Therefore, it is common for standards to remain unchanged as a result of a triennial review process. Even where changes are appropriate and lawful, the State's Continuing Planning Process, and other federally approved documents, recognize that the process of modifying water quality standards is resource intensive, and typically limited by staffing and budgetary constraints. As such, the triennial review process assists in identifying the most important or compelling projects and allows states to prioritize those as resources allow. This federal requirement for a triennial review of the Basin Plan is complemented by the provision in California Water Code section 13240 that requires a periodic review of the Basin Plan and allows for revisions.

At the start of the triennial review process, the Los Angeles Water Board develops and adopts a prioritized list of Basin Planning issues that it determines should be investigated over the next three years. Following Los Angeles Water Board adoption, this list of priorities is transmitted to the State Water Board and USEPA Region IX.

This staff report and the Board resolution, when adopted, as well as any subsequent Basin Plan amendments, fulfill State and federal requirements for triennial review of water quality standards. The triennial review process is cyclical, meaning that at the end of one three-year review period, the review process begins again with the next three-year period. In this sense, the review process is on-going, reflecting the continuing planning process followed by the Water Boards. It does not conclude with the Los Angeles Water Board's adoption of a Basin Planning list of priorities or with any individual Basin Plan amendment that may be prioritized in the triennial review process. Moreover, a triennial review is not the only occasion where Basin Plan modifications are contemplated. The Los Angeles Water Board can amend the Basin Plan

whenever it determines an amendment is needed.² Such amendments need not coincide with the triennial review process. Indeed, since 1994, numerous Basin Plan amendments have been adopted including revisions to water quality objectives and beneficial uses and new and revised implementation provisions, programs and policies, including TMDLs. Some of these have been adopted in the context of a triennial review, and others outside that process.

The triennial review occurs in three phases (Figure 1). During the first phase, the Los Angeles Water Board reviews water quality standards and identifies potential issues for possible Basin Plan amendments that can be completed with existing resource allocations over a three-year period. In the second phase, the Board holds a hearing and prioritizes the standards-related issues on a priority list that will be further researched and potentially addressed through subsequent Basin Plan amendments. Placing a potential issue on the priority list only requires the Los Angeles Water Board staff to investigate the need for an amendment; it does not necessarily mean a revision of the Basin Plan will be made. Finally, during the third phase, the Board, if appropriate, develops projects addressing these issues and adopts any resulting changes to the Basin Plan as individual Basin Plan amendments over the remaining course of the three-year review period. Public input is a key component of each phase. Stakeholder input is solicited on issues of concern, on prioritization, and during the development of each individual Basin Plan amendment. The triennial review process may ultimately result in some amendments to the Basin Plan to adopt or modify water quality standards and implementation provisions.

The last triennial review was conducted from 2011-2013. The current triennial review began in the fall of 2014 with internal Los Angeles Water Board staff review and discussions of the Basin Plan. On January 29, 2015, Board staff sent out a solicitation letter to interested persons and entities requesting data and information on water quality standards and other Basin Planning issues that they felt should be addressed for the Los Angeles Region, during the triennial review. The comment submission deadline was March 2, 2015.

The Los Angeles Water Board received 6 comment letters representing various cities, counties, coalitions and water districts. Stakeholder issues of concern contained in these comment letters were reviewed and summarized (see section 6). A separate set of issues, which reflect staff recommendations, was also compiled. These issues were selected based on outstanding issues from the 2011-2013 Triennial Review priorities list and new priorities that have emerged since then (see section 5). The data solicitation and the reconsideration of previous priorities constituted phase I of this triennial review period.

On June 23, 2015, Board staff noticed a public workshop to all interested persons. The workshop was held on July 22, 2015, with the purpose of providing the public an opportunity to discuss and begin to identify priority Basin Planning issues to be addressed during the current

² To the extent that staff resources are available to develop an amendment and bring it to the Los Angeles Water Board for consideration.

triennial review period. Staff presented stakeholders with issues to be prioritized, which included those submitted by stakeholders as well as those identified by Board staff. All stakeholders were provided the opportunity to present their top three priorities at the workshop, and given additional time (until July 29, 2015) to submit these priorities in writing.

Figure 1: Schematic representation of the Triennial Review process



Phase II of the triennial review will conclude after a public comment period and public hearing on November 5, 2015, at which time the Los Angeles Water Board will consider adoption of a resolution identifying the basin planning priorities to be investigated and further considered during this Triennial Review.

In adopting a resolution identifying basin planning priorities for this triennial review period, the Los Angeles Water Board is not required to consider the factors of California Water Code section 13241. Consideration of the factors, by section 13241's express terms, only applies in "establishing water quality objectives." Here, the Board is not establishing water quality objectives, but as required by section 303(c)(1) of the federal Clean Water Act is reviewing its water quality standards. (See *City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal.App.4th 156).

3. 2011 - 2013 Triennial Review: Projects Addressed

3.1. Adopted Basin Plan Amendments

During the 2011-2013 triennial review period, the Los Angeles Water Board adopted three Basin Plan amendments, excluding Total Maximum Daily Loads (TMDLs) (see Table 1). A brief description of each of them is provided below.

Table 1: Basin Plan amendments adopted during the 2011-2013 Triennial Review, excluding TMDLs

Resolution Number	Title	Adoption Date
R11-011	Non-Regulatory Amendments to the Water Quality Control Plan for the Los Angeles Region to Administratively Update Chapter 2 "Beneficial Uses" by Incorporating Previously Adopted Amendments, and Updated Surface and Groundwater Maps and Corresponding Beneficial Use Tables	10-Nov-2011
R11-013	Non-Regulatory Amendments to the Water Quality Control Plan for the Los Angeles Region to Add Chapter 7 "Total Maximum Daily Loads" (TMDLs) by Incorporating Previously Adopted Amendments	8-Dec-2011
R13-003	Non-Regulatory Amendments to the Water Quality Control Plan for the Los Angeles Region to Administratively Update Chapter 3 "Water Quality Objectives" by Incorporating Previously Adopted Amendments and Updated Tables	2-May-13

3.1.1. Non-Regulatory Administrative Updates of the Basin Plan

Since 1994, seventy-nine amendments to the Basin Plan have been adopted by the Los Angeles Water Board. These amendments needed to be physically integrated into the relevant chapters of the Basin Plan through an administrative update of the Basin Plan, in order to provide a single up-to-date document. Additionally, the boundaries of many watersheds, groundwater basins and reaches within water bodies had been modified since the 1994 Basin Plan update. As a result, the maps of the Basin Plan needed to be updated. The update of the Basin Plan is being conducted in five phases. The first three phases involved the update of Chapters 2, 3 and 7, and were conducted during the 2011-2013 Triennial Review period.

3.1.1.1. Chapter 2

Chapter 2 "Beneficial Uses" lists and provides standard definitions for the beneficial uses assigned to waterbodies in the Los Angeles Region. This chapter also contains beneficial use tables in which major surface waters, groundwater basins, coastal features, and wetlands are

listed each with their assigned hydrologic unit and designated beneficial uses. Detailed maps of these features are also included in this chapter.

On November 10, 2011, the Los Angeles Water Board adopted a resolution amending the Basin Plan to administratively update Chapter 2 (Resolution No. R11-011). The non-regulatory amendment to Chapter 2 updated the surface water, groundwater, and coastal features maps contained in Figures 2-1 to 2-22. These updated maps were created from more current, higher resolution data sets that possess greater accuracy and complexity, and offer better ways to process and display data. In addition, the updated maps reflect changes in reach boundaries as a result of TMDLs and other Basin Plan amendments. The amendment also updated the Beneficial Use Tables (Tables 2-1 to 2-4) to align them with the updated maps and to reflect reach name changes that have occurred as a result of TMDLs and other Basin Plan amendments. Information from the higher resolution geographical data sets also allowed the identification of previously unnamed waterbodies. These waterbodies were included in the tributary table contained in Appendix 1 of the Basin Plan. Finally, as part of the update, the language from three previously adopted amendments to beneficial uses (Resolution No. R98-018, Resolution No. R03-010 and State Water Board Resolution No. 2005-0015) was integrated into Chapter 2 of the Basin Plan.

3.1.1.2. Chapter 7

On December 8, 2011, the Los Angeles Water Board adopted a resolution amending the Basin Plan to add Chapter 7 to the Basin Plan (Resolution No. R11-013). Chapter 7 “Total Maximum Daily Loads” explains the legal basis and authority for establishing TMDLs and describes the components of a TMDL. In addition, this chapter includes the 30 TMDLs that were adopted and fully approved through November 2011. The TMDLs are contained in Sections 7-1 to 7-37 (Sections 7-15, 7-20, and 7-32 through 7-36 were intentionally omitted) of Chapter 7.

The addition of Chapter 7 to the Basin Plan was non-regulatory in nature and did not involve changes to any of the previously adopted TMDLs.

3.1.1.3. Chapter 3

Chapter 3 “Water Quality Objectives” contains regional water quality objectives for inland surface and ground waters. These objectives are the numeric and narrative thresholds necessary to protect beneficial uses or maintain high quality water, and can be region-wide or site-specific.

On May 2, 2013, the Los Angeles Water Board adopted a resolution amending the Basin Plan to administratively update Chapter 3 (Resolution No. R13-003). The non-regulatory amendment to Chapter 3 incorporated language from sixteen previously adopted amendments to the water quality objectives. These include:

- Four amendments to the ammonia objectives (Resolution Nos. R02-011, R04-022, R05-014, and R07-005);
- Four amendments to the bacteria objectives (Resolution Nos. R01-018, R02-022, and R10-005, and State Water Board Resolution No. 2005-0015);
- Four amendments to the region's mineral objectives (Resolution Nos. R97-002, R03-015, R06-003, and R08-012);
- Three amendments to the objectives for Floating Material and Solid, Suspended, or Settleable Materials (Resolution Nos. R99-015, R01-014, and R07-012);
- One amendment to include implementation provisions for copper in the Calleguas Creek Watershed (Resolution No. R06-022);

A seventeenth amendment concerning compliance schedules in NPDES permits (Resolution No. R03-001) was superseded by State Water Board Resolution No. 2008-0025). As the Basin Plan amendment language in the Los Angeles Water Board's Resolution No. 2003-001 has no regulatory effect, that language was not included in the Basin Plan as part of the administrative update. An explanation to this effect was included in Chapter 3. State Water Board Resolution No. 2008-0025 is discussed in the administrative update of Chapter 5 of the Basin Plan.

The update of Chapter 3 also included revisions to Tables 3-5, 3-6, 3-7, and 3-8 containing the maximum contaminant levels (MCLs) for inorganic chemicals, fluoride, organic chemicals, and radioactive substances, respectively (established in Title 22 of the California Code of Regulations (CCR)). These revisions reflect the most current MCLs specified in Title 22 of the CCR, which is the source of these objectives.

Finally, Table 3-10, which lists site-specific water quality objectives for selected constituents for the region's groundwaters, was revised to reflect the administrative updates to the groundwater basins and sub-basins, in Chapter 2 of the Basin Plan.

3.1.2. Assistance in Guiding the Development of Salt and Nutrient Management Plans per the State Water Board's Recycled Water Policy

The State Water Board adopted a Recycled Water Policy in February 2009 (effective date May 14, 2009). The purpose of the Recycled Water Policy is to protect groundwater resources and increase the beneficial use of recycled water from municipal wastewater sources in a manner consistent with state and federal water quality laws and regulations. This policy requires that every groundwater basin or sub-basin in California have a Salt and Nutrient Management Plan (SNMP) developed by stakeholders, with Regional Water Board staff participation. The implementation plans will then be adopted by Regional Water Boards as amendments to the region's Basin Plan.

The Recycled Water Policy is clear that the SNMP process should be stakeholder-led and conducted in a collaborative manner among interested parties. The Regional Water Board's role is that of an overseer and facilitator of the SNMP development process – providing regulatory

guidance as necessary and technical and regulatory oversight of the process to ensure that the final product is compliant with the specific requirements of the policy and state and federal water quality laws. During the project selection phase of the 2008-2010 Triennial Review, the Los Angeles Water Board directed staff to assist in the development of Salt and Nutrient Management Plans per the Recycled Water Policy.

Since the beginning of the process, stakeholder groups have been formed for the major groundwater basins and staff from different Los Angeles Water Board programs are assigned as project leads for each basin group. These project leads provide basin-specific technical guidance and oversight of individual plans. This cross-program staff effort is coordinated by Basin Planning staff assigned to provide policy guidance and facilitate consistency in technical work products. Board staff has been attending stakeholder meetings for various groundwater basin/sub-basin groups to provide support and information as necessary. Staff also conducted annual stakeholder workshops in November 2010, 2011, 2012, and 2013 and in December 2014. The purpose of these workshops was to provide further clarification on certain regulatory aspects of the SNMP development process that were identified as issues of concern by stakeholders.

In addition, staff produced a document, titled *“Regional Water Board Assistance in Guiding Salt and Nutrient Management Plan Development in the Los Angeles Region”*. The document was presented to the Los Angeles Water Board as an information item at its July 12, 2012 meeting. The purpose of this document is to provide information and guidance to assist on certain aspects of the SNMP development identified by stakeholder groups. Recognizing that each basin has its own unique set of conditions and constraints, this document does not seek to dictate the methods by which stakeholders should manage salt and nutrient loads to their basins. It does, however, provide clarification of the regulatory requirements of SNMPS along with other considerations. By providing such information, the Los Angeles Water Board will promote adherence with SNMP requirements for groundwater basins in the Los Angeles Region. This document is not a policy or regulation of the Los Angeles Water Board and has no regulatory effect; it is intended to assist in the development of SNMPS.

3.1.3. TMDLs

During the 2011-2013 triennial review period, the Los Angeles Water Board adopted three Basin Plan amendments addressing five TMDLs. These TMDLs address various pollutant-waterbody combinations. Of these, there were two revisions to previously adopted TMDLs, while another was the incorporation of programs of implementation for two TMDLs developed by USEPA. Table 2 lists the adopted Basin Plan amendments.

Table 2: TMDLs adopted during the 2011-2013 Triennial Review period*

Resolution Number	Title	Adoption Date
R12-011	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Algae, Eutrophic Conditions, and Nutrients in Ventura River, including the Estuary, and its Tributaries	6-Dec-2012
R13-004	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate Implementation Plans for the Total Maximum Daily Loads for Metals in the Los Cerritos Channel and for Metals and Selenium in the San Gabriel River and Impaired Tributaries	6-Jun-2013
R13-010	Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Total Maximum Daily Loads for Metals in Ballona Creek and the Total Maximum Daily Loads for Toxic Pollutants in the Ballona Creek Estuary	5-Dec-2013

*Other impairments for copper in El Dorado Park Lakes and Bacteria in Avalon Bay were addressed through a Cleanup and Abatement Order (R4-2012-0003) and a Cease and Desist Order (R4-2012-0077), respectively.

4. 2014 - 2016 Period: Projects Status

Since the end of the 2011-2013 Triennial Review period, and concurrently with phases 1 and 2 of the 2014-2016 Triennial Review, the Los Angeles Water Board continued to work on projects carried over from the previous Triennial Review, and took on additional projects as part of State and Regional Board mandates. This section describes the Basin Plan amendments adopted during this period, as well as the status of various other projects that are either still in development or were put on hold.

4.1. Adopted Basin Plan Amendments

During the current 2014-2016 triennial review period, the Los Angeles Water Board has adopted eight Basin Plan amendments, excluding TMDLs, thus far (Table 3). Those projects are described below. Additional projects still in development are presented in the following section.

Table 3: Basin Plan amendments adopted during the current Triennial Review, excluding TMDLs

Resolution Number	Title	Adoption Date
R14-003	Reconsideration of Table 4-zz of Resolution No. R4-2009-007, Amendment to the Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties Prohibiting On-site Wastewater Disposal Systems in the Malibu Civic Center Area	6-Feb-2014

Resolution Number	Title	Adoption Date
R14-007	Amendment to the Basin Plan to Incorporate the Statewide Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems	8-May-2014
R14-009	Non-Regulatory Amendment to the Basin Plan to Administratively Update Chapter 1: "Introduction", Chapter 5: "Plans and Policies", and Chapter 6: "Monitoring and Assessment" of the Basin Plan	11-Sept-2014
R14-010	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate an Averaging Period for Chloride Water Quality Objectives in Reaches 4B, 5 and 6; Incorporate New Site Specific Objectives for Chloride in Reaches 5 and 6 in the Upper Santa Clara River	Oct-9-2014
R14-011	Resolution Retaining the Current Recreational Beneficial Use Designations of the Engineered Channels of the Los Angeles River Watershed	Dec-4-2014
R15-001	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate Groundwater Quality Management Measures for Salts and Nutrients in the Central Basin and West Coast Basin	Feb-12-2015
R15-004	Amendments to the Water Quality Control Plan for the Los Angeles Region to Adopt Site Specific Objectives for Lead and Copper in the Los Angeles River Watershed	Apr-9-2015
R15-007	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate Stakeholder-Developed Groundwater Quality Management Measures for Salts and Nutrients in the Lower Santa Clara River Basin	9-Jul-2015

4.1.1. Reconsideration of Table 4-zz of Resolution No. R4-2009-007, Amendment to the Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties Prohibiting On-site Wastewater Disposal Systems in the Malibu Civic Center Area

In 2009, the Los Angeles Water Board adopted an amendment to Chapter 4 of the Basin Plan prohibiting on-site wastewater disposal systems (OWDSs) in the Malibu Civic Center Area (Resolution No. R4-2009-007). This amendment prohibited all new discharges from OWDSs in the Malibu Civic Center Area, with the exception of certain specific projects identified in Table 4-zz, which were deemed by the Los Angeles Water Board to be existing OWDSs.

The 2009 amendment prohibits all discharges from existing OWDSs, including those projects identified on Table 4-zz, in accordance with a phased schedule. Phase One (commercial areas) existing OWDSs must cease discharges by November 5, 2015 and Phase Two (residential areas) existing OWDSs must cease discharges by November 5, 2019.

On February 6, 2014, the Los Angeles Water Board adopted a modification and clarification to Table 4-zz (Resolution No. R14-003), as follows:

- (a) Clarified the Board's intent regarding the criteria for including properties identified on Table 4-zz;
- (b) Modified Table 4-zz by deleting four duplicate listings with incorrect assessor parcel numbers (APNs);
- (c) Ratified Table 4-zz as modified by Los Angeles Water Board staff following adoption of the 2009 Basin Plan amendment by the Board and subsequently approved by the State Water Board and OAL; and
- (d) Added an additional property to Table 4-zz.

4.1.2. Incorporation of the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems into the Basin Plan

On June 19, 2012, the State Water Board adopted the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy). The OWTS Policy applies statewide and designates the Regional Water Boards with principal responsibility for overseeing implementation of the policy. In adopting the OWTS Policy, the State Water Board required that Regional Water Boards incorporate the policy's requirements into regional basin plans within a year of the policy's effective date.

On May 8, 2014, the Los Angeles Water Board adopted a resolution amending the Basin Plan to incorporate the State Water Board's OWTS Policy (Resolution No. R14-007). Implementation of the OWTS Policy will provide more effective and efficient regulation of onsite wastewater treatment systems (often referred to as septic systems) by providing clear, consistent criteria; a streamlined regulatory tool (i.e., conditional waiver of waste discharge requirements); broader coverage (systems treating up to 10,000 gallons per day); and flexibility to implement local alternatives where Local Agency Management Programs (LAMPs) are implemented.

The OWTS Policy conditionally waives the requirement to submit a report of waste discharge (ROWDs) and associated application fees, and to obtain waste discharge requirements (WDRs), for onsite wastewater treatment systems that comply with the policy (OWTS Policy section 12). The conditional waiver will allow for use of onsite wastewater treatment systems in a manner protective of water quality yet without the administrative burden of applying for and issuing individual waste discharge requirements or waivers of waste discharge requirements. While the OWTS Policy provides for regulation of onsite wastewater treatment systems under a conditional waiver, the policy does not limit the Los Angeles Water Board's authority to regulate onsite wastewater treatment systems in an alternate manner, including requiring ROWDs and issuing WDRs, when it may be necessary to protect water quality. Additionally, the OWTS Policy upholds and does not supersede or modify any discharge prohibitions imposed on onsite wastewater treatment systems and/or local agency requirements.

4.1.3. Non-Regulatory Administrative Update of Chapters 1, 5, 6 of the Basin Plan

The administrative update of the Basin Plan, as described in section 3.1.1, is being conducted in phases until all chapters of the Basin Plan are updated. Additionally, it is the intention of staff to update the Basin Plan by integrating previously adopted amendments and non-regulatory programmatic information into the appropriate chapters on a more routine basis. The update started during the previous Triennial Review period with updates of Chapter 2 “Beneficial Uses”, Chapter 3 “Water Quality Objectives” and Chapter 7 “Total Maximum Daily Loads”, adopted during the last Triennial Review period.

This fourth phase of the Basin Plan update involved the administrative update of Chapters 1, 5, and 6. Chapter 1 “Introduction” contains information on the function and the legal basis and authority of the Basin Plan, as well as background information on the Los Angeles Region to which it applies. Chapter 5 “Plans and Policies” contains summaries of all Regional and State Water Board plans and policies applicable to water quality protection in the Los Angeles Region. Chapter 6 “Monitoring and Assessment” contains a description of monitoring and assessment programs designed to assess the effectiveness of the Los Angeles Water Board’s water quality control programs.

On October 9, 2014, the Los Angeles Water Board adopted a resolution amending the Basin Plan to administratively update Chapters 1, 5 and 6 (Resolution No. R14-009). The administrative updates to these chapters of the Basin Plan specifically include:

- Updates to background information on the Los Angeles Region in Chapter 1;
- Updates to the summaries of Regional and State Water Board plans and policies – including the incorporation of those policies and plans adopted since 1994, in Chapter 5;
- Updates to descriptions of monitoring and assessment programs in Chapter 6 and the addition of water quality database descriptions;
- Updates to tables in Chapters 1, 5, and 6 containing background information on the Los Angeles Region, as well as information on the Regional and State Water Board’s planning and implementation programs, pertinent plans and policies, and monitoring and assessment programs;
- Updates to maps and figures in Chapters 1 and 5 to reflect current Los Angeles Water Board program information, as well as background and geographical information.

4.1.4. Averaging Period for Chloride Water Quality Objectives in Reaches 4B, 5 and 6, and New Site Specific Objectives for Chloride in Reaches 5 and 6 in the Upper Santa Clara River

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. Since the 1970s, growth in the Santa Clarita Valley has led to chloride

levels in the Upper Santa Clara River (USCR) that exceed the water quality objective and impair beneficial uses for agricultural supply.

To remediate these excessive chloride levels, the Los Angeles Water Board adopted a TMDL to address the chloride impairments of the USCR in 2003, and subsequently amended the TMDL in 2004, 2006, and 2008. The TMDL identifies the primary sources of chloride to the USCR as imported source water from the State Water Project and chloride added by domestic uses. These chloride sources are loaded into the USCR in effluent from the Saugus and Valencia Water Reclamation Plants (WRPs) that serve residents and industries in the Santa Clarita Valley.

At the time the TMDL was adopted, there were scientific uncertainties regarding the sensitivity of certain crops to chloride and the complex interactions between surface water and groundwater in the Upper Santa Clara River watershed. To address these uncertainties, Board staff oversaw special studies to characterize the sources, fate, transport, and specific impacts of chloride in the Upper Santa Clara River, including impacts to downstream reaches and underlying groundwater basins. Results from these studies indicated that applying conditional site-specific objectives in conjunction with some treatment could effectively reduce chloride loadings to the Upper Santa Clara River and protect beneficial uses. The conditional site-specific objectives (SSOs), which were adequately protective of the most sensitive beneficial uses (agricultural supply (AGR)), were considered by the Los Angeles Water Board and adopted in 2008, along with conditional waste load allocations (WLAs) and a revised implementation plan for the chloride TMDL. The conditional SSOs and WLAs were conditioned on the full and ongoing implementation of the chloride remediation program outlined in the TMDL. However, the program was not implemented, and the conditional SSOs and WLAs never became effective.

More recently, Board staff oversaw the development of new SSOs which, along with an alternative implementation plan including the construction of a reverse osmosis facility at the Valencia WRP, will be at least as protective of beneficial uses in the Santa Clara River Watershed as the previous approach. On October 9, 2014, the Los Angeles Water Board adopted a resolution amending the Basin Plan to adopt the SSOs for chloride in the Upper Santa Clara River watershed and to revise the USCR chloride TMDL (Resolution No. R14-010).

4.1.5. Reconsideration of the Application of REC1 and REC2 Beneficial Uses in Specific Instances

Hydrologic modifications may limit, to varying degrees, the nature and extent of recreational opportunities supported by engineered channels in the Los Angeles Region. At the same time, the Los Angeles Water Board is aware of various efforts by local jurisdictions, non-profit organizations, and other interested parties to enhance the recreational opportunities in and around such modified streams.

In light of this, in September 2010, the Los Angeles Water Board initiated a re-evaluation of the designated recreational uses (water contact (REC-1) and non-water contact (REC-2)) in the engineered channels of the Los Angeles River system as identified in the Basin Plan. The reconsideration of the application of REC-1 and REC-2 beneficial uses in specific instances was selected by the Los Angeles Water Board as one of the projects to be addressed during the 2008-10 triennial review period (Resolution No. R10-001). Additionally, during the Board hearing to adopt the Los Angeles River Bacteria TMDL (Resolution No. R10-007), several stakeholders indicated a strong desire for this issue to be prioritized for the Los Angeles River watershed. This issue was identified as a priority because beneficial uses are the primary basis for the application of water quality objectives to the region's water bodies. Therefore, their designation has broad consequences regarding how the Los Angeles Water Board regulates water quality in the region in terms of the specific requirements that are imposed on dischargers.

The assessment addressed all the engineered portions of the Los Angeles River system, which includes five of the six reaches of the Los Angeles River main stem - Reaches 1 through 4 and Reach 6, along with thirty-one major and secondary tributaries. It involved field reconnaissance, coordinated field monitoring events, web-based and in-person surveys, review of relevant studies, reports and watershed and sub-watershed management plans, compilation and analysis of water depth data, collaboration with interested persons and agencies, and consideration of on-going revitalization efforts to improve or provide recreational opportunities in these river channels. The results of the assessment were presented in a two-part document.

Part I was released for public review and comment in December 2013. It included the regulatory basis for the study, the methodology applied, and the results obtained. It provided a comprehensive assessment of the current ability of the water bodies to support recreational use, along with their potential for future recreational opportunities.

Part II, released in October 2014, presented an evaluation of the beneficial use designations for the Los Angeles River system's engineered channels and a recommended course of action regarding potential modifications to recreational beneficial uses, which took into consideration the results presented in Part I, comments from interested persons and agencies, on-going regulatory and project developments related to the support and development of recreational opportunities in these engineered channels, and regional water quality goals.

On December 4, 2011, results from the study were presented to the Los Angeles Water Board. In light of documented past, existing, and potential and probable future uses documented during the recreational use re-evaluation of the engineered channels of the Los Angeles River system, the current swell of revitalization efforts in the watershed reflecting the public's desire to put these channels to greater recreational uses, and the Los Angeles Water Board's long-standing support of a fully revitalized Los Angeles River, the Los Angeles Water Board adopted a resolution retaining the current recreational beneficial use designations of the engineered channels of the Los Angeles River (Resolution No. R14-011).

4.1.6. Site-Specific Objectives for Lead and Copper in the Los Angeles River Watershed

On April 9, 2015, the Los Angeles Water Board adopted a resolution amending the Basin Plan to adopt site-specific objectives (SSOs) for lead and copper in the Los Angeles River and its tributaries within the urbanized area of the watershed and to revise the Los Angeles River and Tributaries Metals TMDL (Resolution No. R15-004). The amendment results from special studies following the adoption of the Los Angeles River and Tributaries TMDL for metals (effective in 2008), which were designed to develop water quality objectives for lead and copper that would take into account the specific conditions present in the Los Angeles River watershed.

The numeric targets and waste load allocations (WLAs) adopted in the 2008 TMDL were based on water quality criteria from the California Toxics Rule (CTR), which established criteria for metals and organic compounds for aquatic life and human health protection. However, as part of this rule, USEPA gave California discretion to adjust the aquatic life criteria for metals to reflect site-specific conditions, while providing the same level of protection intended for aquatic life as the national criteria. Los Angeles Water Board staff oversaw the development of such site-specific objectives for lead and copper in the Los Angeles River watershed, following USEPA's guidance documents. To do so, two different procedures were used:

Lead SSOs were developed using the Recalculation Procedure. The USEPA Ambient Water Quality Criteria (WQC) for lead that was used in the original TMDL was published in 1984. However, since then, studies continued to be conducted that provided additional information for previously tested species and new information on additional species or water quality conditions that impact the criteria. The Recalculation Procedure provided a method for utilizing toxicity data from all available national studies to calculate an updated criteria for lead.

Copper SSOs were developed using the Water-Effect Ratio (WER) Procedure. This method provides for the use of a water-effect ratio to take into account observed differences between the toxicity of a chemical in laboratory dilution water and in site water. Since the toxicity of a metal to aquatic life can be influenced by a variety of physical and chemical characteristics of both the site water and the metal itself, application of a site-specific water-effect ratio ensures that the metals criteria are appropriate for the chemical conditions under which they are applied. The procedure for deriving a site-specific water-effect ratio compares the bioavailability and toxicity of a specific pollutant in receiving waters to laboratory waters and provides a ratio by which the CTR criterion is adjusted.

4.1.7. Incorporation of Stakeholder-Proposed Groundwater Quality Management Measures for Salts and Nutrients into the Basin Plan

As mentioned earlier in section 3.1.2, following a requirement from the Recycled Water Policy, every groundwater basin or sub-basin in California shall have a Salt and Nutrient Management Plan (SNMP). These plans are developed by stakeholders, with Regional Water Board staff

participation, and their implementation programs are adopted by Regional Water Boards as amendments to the region's Basin Plan. The required elements of a SNMP, as specified by the Recycled Water Policy include:

- a) Source identification/source loading and assimilative capacity estimates;
- b) Implementation measures that integrate water quantity and quality, groundwater and surface water, and recharge area protection in order to maintain a sustainable long-term supply of water where salt and nutrient loadings are managed for multiple beneficial uses;
- c) Consideration of water recycling/stormwater recharge/use;
- d) Anti-degradation analyses demonstrating that the projects included within the plan will collectively, satisfy the requirements of State Water Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California";
- e) Development of a basin-wide monitoring plan to provide to provide reasonable, cost-effective means of determining whether groundwater quality objectives for salts, nutrients and other constituents of concern as identified in the SNMP are being achieved; and
- f) Annual monitoring of Constituents of Emerging Concern (CECs), including several types of chemicals that may be classified as (i) persistent organic pollutants, (ii) pharmaceuticals and personal care products, (iii) veterinary medicines, (iv) endocrine disruptors, and (v) others.

Since the adoption of the Recycled Water Policy in February 2009, stakeholders in the Los Angeles Region have been working on SNMPs for seven different groundwater basin groups:

- Central Basin and West Coast Basins
- Lower Santa Clara River Basin
- Upper Santa Clara River Basin
- San Fernando Valley Basin (ULARA)
- Raymond and San Gabriel Valley Basins
- Calleguas Creek Basin
- Malibu Valley Basin

Two of these plans have been completed so far and the Los Angeles Water Board incorporated implementation measures from both plans into the Basin Plan.

To accommodate the adopted amendments and future salt and nutrient management measures, the Los Angeles Water Board created a new chapter in the Basin Plan, Chapter 8 "Groundwater Quality Management – Sustainability and Basin-specific Protection of Groundwater," which was adopted by the Board simultaneously with the incorporation of stakeholder-proposed groundwater quality control measures for salts and nutrients in the Central and West Coast Basins (Resolution No. R15-001), described below. This chapter will also contain any future implementation provisions pertaining to groundwater quality management that result from State or Regional Water Board policies.

4.1.7.1. Central Basin and West Coast Basin SNMP

On October 9, 2014, the Los Angeles Water Board adopted a resolution to Incorporate Stakeholder-Proposed Groundwater Quality Control Measures for Salts and Nutrients in the Central and West Coast Groundwater Basins into the Basin Plan (Resolution No. R15-001).

The adopted program of implementation is based on the SNMP for the Central Basin and West Coast Basin (CBWCB) developed by stakeholders including water and wastewater entities, regulatory agencies, water purveyors, water associations, and environmental groups. The Water Replenishment District of Southern California (WRD) was the lead agency managing and coordinating development of the SNMP. Funding partners for the SNMP consisted of WRD, Los Angeles County Department of Public Works, West Basin Municipal Water District, Los Angeles Department of Water and Power, and the County Sanitation Districts of Los Angeles County (CSDLAC).

The Central Basin and West Coast Basins are located in southern Los Angeles County and underlay an area of 420 square miles that includes 43 cities. These basins provide 40% of the water supply used in the area. Historical overpumping in the area caused a significant drop in groundwater levels causing seawater intrusion that contaminated coastal groundwater aquifers. The basin is intensively managed by the WRD through artificial groundwater recharge by way of spreading grounds, management of seawater intrusion barriers through injection, and the operation of de-salters to address the saline plume caused by historical overpumping. Recycled water is used primarily for groundwater recharge as well as for landscape irrigation and industrial and commercial process water. Sources of water and salts and nutrients to the basins include imported water, recycled water, groundwater, and surface water/stormwater. Aside from the areas impacted by seawater intrusion, salt and nutrient levels in most landward parts of the basins are not currently exceeding the groundwater quality objectives in the Basin Plan.

The SNMP presents a detailed analysis supporting the assessment of current water quality conditions, the identification of salt and nutrient management measures, and the projected water quality impacts. The proposed management strategies for salt and nutrients are geared toward improving groundwater quality in impaired areas and maintaining high groundwater quality below water quality objectives in other areas, while providing the benefit of reduced reliance on imported water supplies. Overall, the document provides long-term tools for basin management and water quality protection through predictive modeling and a comprehensive monitoring network.

Los Angeles Water Board staff provided regulatory and technical guidance to WRD throughout the development of the SNMP, and actively participated in public meetings and other related meetings with the lead agency and consulting team. On September 25, 2013, Board staff held a CEQA scoping meeting in conjunction with stakeholders of the CWCB to receive comments on the proposed Basin Plan amendment that would adopt implementation strategies for the management of salts, nutrients and other related constituents of concern in the of the CWCB.

4.1.7.2. Lower Santa Clara River SNMP

On July 9, 2015, the Los Angeles Water Board adopted a resolution to Incorporate Stakeholder-Proposed Groundwater Quality Control Measures for Salts and Nutrients in the Central and Lower Santa Clara River Basin into the Basin Plan (Resolution No. R15-007).

The adopted program of implementation is based on the SNMP for the Lower Santa Clara River Basin (LSCR) developed by stakeholders including the Ventura County Watershed Protection District (VCWPD), the Cities of Ventura, Santa Paula, and Fillmore; Ventura County Water Works District 16; United Water Conservation District (UWCD); and the Ventura County Agricultural Irrigated Lands Group. The Ventura County Watershed Protection District (VCWPD) was the lead agency managing and coordinating development of the SNMP.

The LSCR Basin is located in the southwestern portion of Ventura County and consists of the Piru, Fillmore, Santa Paula, Mound and Oxnard Forebay sub-basins. These sub-basins are overlain by the cities of Fillmore, Santa Paula, and San Buenaventura (Ventura) and small, unincorporated communities in Ventura County. Most of the area is reliant on groundwater for 65% of their overall water supply. The groundwater and surface water in the SNMP area are strongly interconnected. Surface water and groundwater both flow from the Upper Santa Clara River into the Lower Santa Clara River planning area and the groundwater basins are interconnected with flow generally moving from the upper portions of the watershed to the lower portion of the watershed. Surface water recharge strongly influences groundwater quality, particularly in the Piru sub-basin.

The Lower Santa Clara River Basin is actively managed by the UWCD through groundwater replenishment and the construction and operation of water supply and delivery systems, and by the VCWPD through the issuance of permits for water supply and monitoring wells, and the collection of groundwater quality data. Recycled water use is not yet fully developed within this area; however, plans exist to expand its current use through a number of recycled water projects. Sources of water and salts and nutrients to the basin include percolation of stream flows, imported water, recycled water, wastewater treatment percolation pond effluent, septic systems, and groundwater from upgradient basins. While there are localized areas with higher salt and nutrient levels (particularly in the vicinity of wastewater treatment effluent percolation ponds), average water quality in most of the sub-basins is below Basin Plan objectives, except for the Mound sub-basin where the existing concentration of total dissolved solids (TDS) exceeds the water quality objective.

The overarching goal in the development of the LSCR SNMP was to protect, conserve, and augment water supplies and to improve water supply reliability. This goal was supported by objectives of:

- Protecting Agricultural Supply and Municipal and Domestic Supply beneficial uses of groundwater;

- Supporting increased recycled water use in the basin;
- Facilitating long-term planning and balancing use of assimilative capacity and management measures across the basin;
- Encouraging groundwater recharge in the Santa Clara River valley; and
- Collecting, treating, and infiltrating stormwater runoff in new development and redevelopment projects.

The SNMP has been developed to support these general goals and objectives.

The SNMP provides the detailed analysis supporting the assessment of current water quality conditions, the identification of salt and nutrient management measures, and the projected water quality impacts. The proposed management strategies for salt and nutrients are designed to maintain current water quality conditions in the groundwater basins, prevent additional loading in localized areas with elevated levels of salts and nutrients, and manage additional loads from future recycled water projects in a manner that is protective of beneficial uses.

Los Angeles Water Board staff provided regulatory and technical guidance to VCWPD throughout the development of the SNMP, and actively participated in public meetings and other related meetings with the lead agency and consulting team. On February 26, 2015, Board staff held a CEQA scoping meeting in conjunction with stakeholders of the Lower Santa Clara River Basin to receive comments on the proposed Basin Plan amendment that would adopt implementation strategies for the management of salts, nutrients and other related constituents of concern in the of the Lower Santa Clara River Basin.

4.1.8. TMDLs

During the current triennial review period, the Los Angeles Water Board adopted five Basin Plan amendments addressing six TMDLs. These TMDLs address various pollutant-waterbody combinations. Four of the Basin Plan amendments revised five previously adopted TMDLs, while one was a newly established TMDL. Table 4 lists the Basin Plan amendments.

Table 4: TMDLs adopted during the current Triennial Review period

Resolution Number	Title	Adoption Date
R14-004	Amendment to the Water Quality Control Plan – Los Angeles Region to Revise the Marina del Rey Harbor Toxic Pollutants TMDL	6-Feb-2014
R14-010	Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Total Maximum Daily Load for Chloride in the Upper Santa Clara River	9-Oct-2014
R15-004	Amendment to revise the Total Maximum Daily Load for Metals in the Los Angeles River and Tributaries	9-Apr-2015

Resolution Number	Title	Adoption Date
R15-005	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Indicator Bacteria in the San Gabriel River, Estuary and Tributaries	11-Jun-2015
R15-006	Amendment to the Water Quality Control Plan for the Los Angeles Region to revise the TMDL for Trash in the Los Angeles River Watershed and the TMDL for Trash in the Ballona Creek Watershed	11-Jun-2015

Other TMDLs likely to be considered by the Board during the current Triennial Review period include:

- Malibu Creek and Lagoon TMDLs for Sedimentation and Nutrients to Address Benthic Community Impairments (Implementation Plan for USEPA established TMDL)
- Santa Clara Lakes (Elizabeth, Hughes, Munz Lakes) Nutrients TMDL

4.2. Projects in Progress

Other issues identified during the previous triennial review cycle are also being addressed, but have not yet been formally acted upon by the Board. They require further work before they can be developed into Basin Plan amendments.

4.2.1. Development of Salt and Nutrient Management Plans per the State's Recycled Water Policy

As mentioned in sections 3.1.2 and 4.1.6, stakeholders in the Los Angeles Region are preparing Salt and Nutrient Management Plans (SNMPs) for local groundwater basins. Two of these plans have been completed thus far and management measures from these SNMPs have been incorporated into the Basin Plan. Staff continues to work with the remaining groundwater basin groups, and expects all plans to be completed by May 2016.

In addition to the incorporation of salt and nutrient management measures into the Basin Plan from these plans, funding has been allocated for a contract with California State University, Los Angeles to determine how much assimilative capacity should be preserved in the Los Angeles Region's groundwater basins - based on site-specific conditions. The Basin Planning Program is overseeing this study, and the study is expected to be completed in 2016.

4.2.2. Develop a Regional Strategy to Address the Effects of Climate Change on Water Quality

Much focus has been directed on the effect of climate change on water resources; this has been further emphasized by the drought striking California in 2011-2015. However, little consideration

has been given to the effects that the various predicted alterations to weather, sea level rise or water resources themselves will have on water quality and the beneficial uses of our waters. This is a problem that needs immediate attention, because preserving water quality is essential to protect both human populations and natural ecosystems, and to ensure their prosperity.

The Los Angeles Water Board is committed to address these threats to water quality, and began a focused effort by sharing ideas and stimulating a dialogue with other states and USEPA colleagues, followed by a presentation by the Chief Deputy Executive Officer to the Los Angeles Water Board in July 2014. The effort is now being pursued by the development of a regional strategy for addressing the effects of climate change on water quality.

To this effect, an initial “Framework for Climate Change Adaptation and Mitigation” was developed for the Los Angeles region and released in July 2015. This document takes a first look at impacts of climate on water supply and water quality for various waterbody types of the region, as well as through the lenses of the Los Angeles Water Board’s programs, and begins a discussion on issues that will need to be considered and tackled over time. In addition, a web page dedicated to climate change was created on the Los Angeles Water Board’s website, which contains pertinent information, as well as a link to a new web page that summarizes work that was expedited in response to the ongoing drought. Further work will include: (1) more detailed discussions with the various programs at the Los Angeles Water Board, and (2) the presentation of an information item on this issue to the Los Angeles Water Board during which staff will gather input from stakeholders about issues that they consider high priorities. Staff will seek input from both the regulated community that will be facing impacts to their operations and environmental and community interests. Staff will then prioritize projects to be undertaken, and will be working with others to identify research, monitoring, and other contract needs.

4.2.3. Non-Regulatory Administrative Update of the Basin Plan – Chapter 4

As discussed in sections 3.1.1 and 4.1.2, the administrative update of the Basin Plan has been conducted in phases, and has, so far, included Chapter 1 “Introduction”, Chapter 2 “Beneficial Uses”, Chapter 3 “Water Quality Objectives”, Chapter 5 “Plans and Policies”, Chapter 6 “Monitoring and Assessment”, and Chapter 7 “Total Maximum Daily Loads”. Staff is working on the update of the last chapter, Chapter 4 “Strategic Planning and Implementation”, which contains an overview of discharge permitting programs, surface water programs, groundwater programs, water recycling programs, funding for water quality improvement projects, and enforcement.

4.2.4. Develop Technical Guidance for Making Natural Source Determinations

A number of chemical constituents are naturally occurring in the environment. These include, but are not limited to, nutrients (nitrogen and phosphorus), minerals and metals. In some cases, these constituents may be naturally elevated above the water quality objective and may exceed the objective more frequently than currently allowed by the objective. In these cases, where

exceedances of an objective are due to natural sources, it may be appropriate to allow exceedances of the objective comparable to those observed in a reference system. Furthermore, it is important in the development of TMDLs to be able to quantify the background levels of the pollutant of concern when setting waste load allocations and load allocations to achieve the numeric targets in the TMDL.

The Los Angeles Water Board obtained funding and executed a contract with the University of California, Santa Barbara to develop technical guidance to provide direction on making the determination that exceedances of water quality objectives of a given pollutant are solely or predominantly a result of natural sources of that pollutant. The results of the study may be used, after further refinement, to support development of implementation provisions for water quality objectives where natural sources of a pollutant cause it to be elevated above the current objective, or to exceed the objective more frequently than currently allowed. The contract duration spanned from October 2012 to 2013. The specific study tasks were to:

- Identify and rank factors to consider in natural source determinations for specific pollutant groups;
- Conduct a literature review on loads and concentrations from natural sources; and
- Consider a statistical approach and numerical modeling approach to estimate pollutant loads.

Final project deliverables have been submitted to the Los Angeles Water Board. As resources allow, staff will assess the most appropriate approaches to use the results of the study. Potential applications include a statewide policy development and a regional assessment tool.

4.3. Projects Led by the State Water Board or other Regional Water Board Programs

In addition to those projects developed within the Los Angeles Water Board, some projects identified during the previous Triennial Review have been incorporated as a part of statewide projects led by the State Water Board, or are being managed by other Los Angeles Water Board programs. Los Angeles Water Board staff assists the State Water Board on these projects as needed.

4.3.1. Groundwater Workplan

Groundwater accounts for an increasing proportion of the Region's local water supply and is a critical resource that is subject to increasing quality and quantity demands. In recent years, events such as drought and reduced snowpack coupled with population growth have alerted scientists and managers across the state to the changing conditions and challenges facing California's water resources. As a result of these widespread environmental changes, there has been a reduction of imported water supplies to the region and there is an urgency to develop and promote sustainable local water supplies.

Given these considerations, during the last Triennial Review, Los Angeles Water Board staff considered the development of a Groundwater Quality Protection Strategy to guide comprehensive, consistent, and coordinated groundwater protection within the Los Angeles Region. Since then, the State Water Board started developing a statewide groundwater quality protection strategy, in the form of a workplan that aligns its current groundwater protection efforts, the ongoing actions of other entities with groundwater management responsibilities, and potential actions that the Water Boards and others could pursue. A goal of the workplan is to promote collaboration and cooperation among local, regional, and State agencies and other stakeholders to help promote more effective groundwater management that supports beneficial uses over the long-term. Board staff will continue to support and assist with the development of this workplan.

4.3.2. Watershed-based Stormwater Compliance and Management Guidelines and Tools

Per direction of the Los Angeles Water Board during the project prioritization phase of the 2005-2007 Triennial Review, in 2005, staff convened a wet-weather task force (WWTF) comprised of representative stakeholders in the Los Angeles Region to identify a menu of project concepts addressing wet-weather/stormwater concerns as they relate to achieving water quality standards. Development of a “design storm” standard for water quality was identified by the WWTF as a high priority issue. The design storm concept involved the identification of a storm of specific size, intensity and/or duration to use in the design of stormwater controls to achieve water quality standards.

A Project Steering Committee (PSC) was set up to investigate the feasibility of such an approach and the Los Angeles Water Board awarded a contract to the Southern California Coastal Water Research Project (SCCWRP) and its subcontractor, Geosyntec Consultants to explore design storm concepts that could be used to implement TMDLs and permit requirements and that would protect and restore water quality in the Los Angeles Region. The focus of the study was: (i) to determine the size of storm to be treated in order to meet water quality targets (concentration or load-based) in the receiving water body, and (ii) to investigate the feasibility of treating storms of the determined size (in terms of technology, cost and other considerations). The initial phase of the Design Storm project was completed in 2007, resulting in a conceptual framework and pilot modeling applications. After this initial step, work on the Design Storm project was stalled by a lack of additional outside funding to complete the necessary technical work.

More recently, work was taken up by the State Water Board as part of the stormwater strategic initiative launched in spring 2014. The purpose of this initiative is to identify effective ways to expand the statewide stormwater program to further integrate watershed management, multiple-benefit solutions, and source control to improve stormwater management efficiency and effectiveness. One of the proposed projects is an outgrowth of the work done on a design storm in the region, as it plans the development of “Watershed-Based Compliance and Management Guidelines and Tools.” The objective of the project is to develop technical guidance, including

data and modeling needs, for local stormwater programs to demonstrate water quality protection and support watershed-based storm water management. Los Angeles Water Board staff actively directs and contributes to this effort as part of the executive sponsorship and core team for the statewide stormwater strategic initiative. The State Water Board released its Stormwater Strategic Initiative Draft Proposal to Develop a Stormwater Program Workplan and Implementation Strategy on June 25, 2015 for public comment and held a public workshop on the Draft Proposal on August 19, 2015.

4.3.3. Develop Region-Wide CECs Strategy

Contaminants of Emerging Concerns (CECs) are a diverse group of chemicals and their by-products. Concern about CECs stems from the rapid pace of new chemical production along with an increased focus on CEC detection in the environment and drinking water sources. CECs may enter the environment through a variety of pathways, and preliminary research has found some effects on wildlife (for example, endocrine-disrupting chemicals may modify normal hormonal functions in aquatic organisms, such as feminization of male fish). More than 100,000 chemicals are currently in use, but only 126 constituents are regulated as priority water pollutants. Most CECs do not have approved measurement methods or regulatory thresholds. CECs can be grouped into the following major classes:

- Industrial chemicals, such as siloxanes, which are silicone-based compounds used as anti-foaming agents, water-repellant coatings, sealants and lubricants;
- Personal care products, such as triclosan, which is an antibacterial agent used in soap, deodorant, toothpaste and mouthwash;
- Food additives, such as caffeine, which is a natural stimulant in coffee and tea and is added to soda, sports and energy drinks;
- Pharmaceuticals, such as ethinyl-estradiol, which is a synthetic hormone used in oral contraceptives;
- Pesticides, such as fipronil, which is an insecticide used on crops, golf courses, lawns and household pets.

Because CECs are a pressing concern, Board staff considered the development of a strategy for addressing CECs in the Los Angeles Region during the 2011-2013 Triennial Review. However, because CEC monitoring is conducted under the Los Angeles Water Board permitting program (i.e., currently, upon permit renewal, POTWs are required to monitor for two years for certain CECs.), the permitting program has been handling this project, rather than the Basin Planning program.

In addition to the monitoring performed as part of permit requirements, the Los Angeles Water Board directed resources toward establishing some baseline information on CEC occurrence in inland surface waters throughout the region with screening studies that measured concentrations of targeted CECs in the Los Angeles River, San Gabriel River, Santa Clara River and Ballona Creek, as well as in sediment and fish in the estuaries at the base of these

watersheds. Funding was also directed towards the development of new analytical methods, known as bioanalytical screening, that can save time and reduce costs, while monitoring for broad sets of CECs or screening for unknown CEC compounds.

Besides regional efforts, the State Water Board is actively developing statewide strategies to address CECs. Monitoring requirements were included in the statewide Recycled Water Policy amended in 2013, and they are integrated as part of the development of Salt and Nutrient Management Plans, as mentioned earlier. In addition, the State Water Board is currently developing a statewide CEC monitoring program.

4.3.4. Other Standards-Related Statewide Initiatives

In addition to projects originally identified and undertaken within the Los Angeles Water Board, Los Angeles Water Board staff also assists in the development of statewide projects initiated by the State Water Board. Those include:

The development of nutrient water quality objectives

Currently, all Regional Water Boards' Basin Plans, as well as the statewide Ocean Plan, include water quality objectives for biostimulatory substances, nutrients and/or algal nuisance in the form of narrative objectives. For example, the Basin Plan for the Los Angeles Region states:

“Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses” (biostimulatory substances include excess nutrients (nitrogen, phosphorus) and other compounds that stimulate aquatic growth).

The Boards must then interpret these narrative objectives when developing numeric targets in TMDLs or numeric effluent limits in permits. In order to more efficiently and consistently address nutrient pollution and eutrophication, the State Water Board is developing a statewide nutrient control program, and is developing numeric nutrient water quality objectives for various waterbody types, starting with wadeable streams. The program would be adopted as an amendment to the Inland Surface Water, Enclosed Bays and Estuaries Plan.

The development of a biological integrity assessment implementation plan

The State Water Board is currently developing a biological integrity assessment implementation plan for freshwater streams and rivers in California. Biological integrity assessment will help improve water quality in streams and rivers by providing the narrative or numeric benchmarks that describe healthy habitat and biological community conditions that are indicative of protection of aquatic life beneficial uses.

The application of the State's Antidegradation Policy to groundwater

The State Water Board has made it a priority to conduct a review of the "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Antidegradation Policy) (Resolution 68-16). The Antidegradation Policy applies to the disposal of waste to high-quality surface water and groundwater, and requires that the quality of existing high-quality water be maintained unless the State finds that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in policies as of the date on which such policies became effective. The Antidegradation Policy also requires best practicable treatment or control (BPTC) of discharges to high-quality waters to ensure that pollution or nuisance will not occur, and that the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The State Water Board is considering revising the Antidegradation Policy to improve its usefulness as a tool for making informed decisions regarding discharges that affect groundwater. The changes applied could include the adoption of an additional policy, and/or the issuance of a guidance regarding implementation of the policy.

4.4. Projects on Hold

Aside from the various projects described above, some projects are currently on hold in light of statewide initiatives that might impact the Los Angeles Water Board's actions.

4.4.1. Develop Policy to Interpret Narrative Water Quality Objectives

Several of the water quality objectives in the Basin Plan are stated in narrative form (e.g., bioaccumulation, biostimulatory substances, color, exotic vegetation, floating material). That is, there is no specific numeric limit for the pollutant or stressor, instead the objective is generally worded as follows: "Waters shall not contain [pollutant or stressor] in concentrations that cause nuisance or adversely affect beneficial uses". Board staff must interpret these narrative objectives when developing numeric targets in TMDLs and translating these narrative objectives into numeric effluent limits in permits.

To facilitate the translation of these narrative objectives, a policy or new language in Chapter 3 of the Basin Plan may be developed to outline what considerations should be taken into account when the need for such translations arises. These considerations may include: correlation between beneficial use impacts and levels of the pollutant/stressor; all relevant information submitted by the discharger and interested parties; and relevant numerical criteria and guidelines developed and/or published by other state agencies (such as the Department of Fish and Wildlife or the Office of Environmental Health Hazard Assessment), federal agencies (such as the USEPA or US Fish and Wildlife Service), foreign government agencies, international agencies, or from the scientific literature. A policy or implementation provisions in Chapter 3 could outline a decision process for interpreting narratives using appropriate numeric limits.

Although much interest was put in this project in the past, resource constraints forced it to be set aside. Work performed by the State Water Board to set numeric objectives for specific pollutants, such as biostimulatory substances, toxicity and floating materials, have made this project less of a priority on a regional level.

4.4.2. Consider the Development of a High Flow Suspension of Recreational Beneficial Uses for Engineered Channels in Ventura County, where Applicable

The inherent danger of recreating in engineered channels during and immediately following storm events is widely recognized and is already addressed by county policies. On this basis, the Los Angeles Water Board adopted an amendment that temporarily suspends the recreational beneficial uses in a number of engineered channels during and immediately following significant storm events in Los Angeles County (Resolution R03-010).

At the time of adoption, data on engineered channels in Ventura County were not readily available. Therefore, though similar “swift-water” conditions exist in engineered channels in Ventura County, the high-flow suspension is not currently applied there. Since 2003, Ventura County has assembled data and other necessary information on engineered channels; thus, staff considered developing a high flow suspension of recreational beneficial uses for engineered channels in Ventura County, where applicable. This amendment would only apply during unsafe wet weather conditions and would be modeled after the amendment adopted for Los Angeles County in 2003. This project would support consistency in approach across the region.

So far, staff conducted preliminary field surveys of the engineered channels identified on the Ventura County Watershed Protection Division’s GIS layers to identify potential candidates for development of a high flow suspension of the recreational beneficial uses. The next steps would include initiating a stakeholder meeting/workshop to consider the findings from these field surveys and plan the subsequent actions to be taken.

Although work was started on this project, resource constraints forced it to be set aside. In addition, the State Water Board is presently considering the development of a high flow suspension implementation provisions that would apply to natural streams, as well as engineered streams, as part of the ongoing update of water quality objectives for bacteria for the REC-1 beneficial use in fresh and marine waters. As a result, the project is on hold until this work is complete.

5. 2014 - 2016 Triennial Review: Potential Projects Identified by Staff

Los Angeles Water Board staff initially identified eleven potential projects as important to consider addressing during the 2014-2016 Triennial Review. These potential projects were selected based on information and comments submitted by stakeholders during previous

triennial reviews, as well as needs and suggestions from various Los Angeles Water Board programs and management. They also include projects carried over from previous triennial reviews that are still being addressed by staff and were described in more detail in previous sections. A description of these projects follows.

5.1. Continue the Development of Salt and Nutrient Management Plans (SNMPs), Including the Incorporation of Management Measures from the SNMPs into the Basin Plan, per the State’s Recycled Water Policy

As mentioned in sections 4.1.6 and 4.2.1, following a requirement from the State Water Board’s Recycled Water Policy, stakeholders in the Los Angeles Region are preparing Salt and Nutrient Management Plans (SNMPs) for local groundwater basins. Two of these plans have been completed so far and management measures from these two plans were incorporated into the Basin Plan through two Basin Plan amendments adopted by the Los Angeles Water Board. Staff continues to work with the remaining groundwater basin groups, and expect all plans to be completed by May 2016.

In addition to the plans, funding has been allocated for a contract with California State University, Los Angeles to determine how much assimilative capacity should be preserved in the Los Angeles Region’s groundwater basins - based on site-specific conditions. The study is expected to be completed in 2016.

5.2. Continue the Development of a Regional Strategy to Address the Effects of Climate Change on Water Quality

Los Angeles Water Board staff is currently developing a proposed regional strategy to address the effects of climate change on water quality, as discussed in more detail in section 4.2.2. As a first step, the Los Angeles Water Board released a “Framework for a Climate Change Adaptation and Mitigation” in July 2015, and a web page dedicated to climate change was created on the Los Angeles Water Board’s web site. Further work will include: (1) more detailed discussions with the various programs at the Los Angeles Water Board, and (2) the presentation of an information item on this issue to the Los Angeles Water Board, during which staff will gather input from stakeholders about issues that they consider as high priorities. Staff will seek input from both the regulated community that will be facing impacts to their operations and environmental and community interests. Staff will then prioritize projects to be undertaken, and will be working with others to identify research, monitoring, and other contract needs.

5.3. Continue the Development of Technical Guidance for Making Natural Source Determinations

As stated in section 4.4.1, staff previously initiated the development of technical guidance for making natural source determinations and executed a contract with the University of California, Santa Barbara to develop technical guidance to provide direction on making the determination that exceedances of a water quality objective for a given pollutant are solely or predominantly a result of natural sources of that pollutant. As resources allow, staff would assess the most appropriate approaches to use the results of the study. Potential applications include a statewide policy development and a regional assessment tool.

5.4. Continue Work on High Flow Suspension of Recreational Beneficial Uses for Engineered Channels in Ventura County, where Applicable

Staff is considering developing a high flow suspension of recreational beneficial uses for engineered channels in Ventura County, where applicable, and has been conducting preliminary field surveys of the engineered channels identified on the Ventura County Watershed Protection Division's GIS layers to identify potential candidates for development of a high flow suspension of the recreational beneficial use (see section 4.4.3). Although work was started on this project, resource constraints forced it to be set aside. Additionally, as stated above, the State Water Board is presently considering the development of high flow suspension implementation provisions as part of the ongoing update of water quality objectives for bacteria for the REC-1 beneficial use. If time allows and upon action by the State Water Board on statewide bacteria objectives and implementation provisions, Basin Planning staff could revisit this project during this triennial review, and initiate a stakeholder meeting/workshop to consider the findings from these field surveys and plan the next steps.

5.5. Administratively Update Chapter 4 of the Basin Plan

As mentioned previously (sections 3.3.1, 4.1.2 and 4.2.3), the administrative update of the Basin Plan has been conducted in phases, and has so far included Chapter 1 "Introduction", Chapter 2 "Beneficial Uses", Chapter 3 "Water Quality Objectives", Chapter 5 "Plans and Policies", Chapter 6 "Monitoring and Assessment" and Chapter 7 "Total Maximum Daily Loads". The update will be completed with the revision of Chapter 4 "Strategic Planning and Implementation", which contains an overview of discharge permitting programs, surface water programs, groundwater programs, water recycling programs, funding for water quality improvement projects, and enforcement.

5.6. Update Freshwater Ammonia Objectives Based on New Recommended Water Quality Criteria Published by USEPA

Ammonia is a constituent of nitrogen pollution. Unlike other forms of nitrogen, which can cause eutrophication of a water body at elevated concentrations, the primary concern with ammonia is

its direct toxic effects on aquatic life, which are exacerbated by elevated pH and temperature. Ammonia is considered one of the most important pollutants in the aquatic environment not only because of its highly toxic nature and occurrence in surface water systems, but also because many effluents have to be treated in order to keep the concentrations of ammonia in surface waters from being unacceptably high. Ammonia can enter the aquatic environment via direct means such as effluent discharges and the excretion of nitrogenous wastes from animals, and indirect means such as nitrogen fixation, air deposition, and runoff from agricultural lands.

In August 2013, USEPA published its final national recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (EPA 822-R-13-001). USEPA's 2013 ammonia criteria reflect new data on sensitive freshwater mussels and snails, incorporate scientific views USEPA received on its draft 2009 criteria, and supersedes USEPA's previously recommended 1999 ammonia criteria. Staff is contemplating considering these new data and criteria recommendations and updating freshwater ammonia objectives as needed in Chapter 3 of the Basin Plan during this triennial review.

5.7. Update PCBs Objective

Polychlorinated biphenyls (PCBs) is a general designation that refers to a group of 209 individual synthetic organic chemical compounds, or congeners. PCBs present major risks to both human and aquatic populations because of their toxicity, persistence in the environment and tendency to bio-accumulate. Currently, the Basin Plan objective for PCBs defines those as “*the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260*”. Each Aroclor represents a known mixture of various PCB congeners. The use of Aroclor mixtures to analyze and quantify PCBs is widespread and has been used for decades. It mostly results from the historical production of PCBs in the United States by a single manufacturer under the trade name Aroclor.

Although Aroclor analysis is widespread, this method has a limited ability to identify and quantify each of the 60-80 individual PCB congeners within any Aroclor mixture. Such information is useful, however, as a more detailed representation of the individual congeners present in a sample can provide a better depiction of the sample's source and toxicity. In addition, the reporting limit of the method used for Aroclor analysis (0.1 µg/L) is higher than the water quality objectives set in the Basin Plan, which are:

Pass-through or uncontrollable discharges to waters of the Region, or at locations where the waste can subsequently reach water of the Region, are limited to 70 pg/L = 0.00007 µg/L (30 day average) for protection of human health and 14 ng/L = 0.014 µg/L and 30 ng/L = 0.03 µg/L (daily average) to protect aquatic life in inland fresh waters and estuarine waters respectively.

As a result, samples with concentrations lower than 0.1 µg/L cannot be assessed for compliance. By contrast, more recent analytical methods allow for the identification of individual congeners, and provide much lower detection limits (0.00001 µg/L), in line with applicable

objectives. In light of these considerations, staff is considering recommending modifying the PCBs objective in Chapter 3 of the Basin Plan to be consistent with the most recent and effective methodologies available. This would allow for a more precise analysis of the risk associated with PCBs in waters of the region.

5.8. Re-evaluate Temperature Water Quality Objective

Water temperature has far reaching effects on both aquatic chemistry and aquatic life. For example, temperature influences the concentration of oxygen in the water and chemical reaction rates as well as the growth, feeding, fecundity, and incubation rates of organisms. Elevated water temperatures can contribute to beneficial use impairment both directly by influencing and/or interrupting the life cycles of aquatic organisms and indirectly by affecting the attainment of another water quality objective such as dissolved oxygen or ammonia.

Currently, the Basin Plan water quality objective for temperature states:

For waters designated WARM, water temperature shall not be altered by more than 5 °F above the natural temperature. At no time shall these WARM designated waters be raised above 80 °F as a result of waste discharge.

For waters designated COLD, water temperature shall not be altered by more than 5 °F above the natural temperature.

The application of this objective requires staff to determine the “*natural temperature*” of waterbodies. This determination requires information such as historical data records, which may or may not be available. In many cases, the waterbodies have been so dramatically altered that it may be impossible to reliably determine the “*natural temperature*”. A numeric water quality objective for temperature would provide a specific value to ensure that aquatic life is protected from unnaturally elevated temperature conditions. Staff is considering the development of numeric temperature objectives for various waterbody classes and aquatic life beneficial uses.

5.9. Set Mineral Water Quality Objectives for the Saugus Groundwater Aquifer

The Salt and Nutrient Management Plan (SNMP) development process for the Upper Santa Clara River groundwater basin, or Santa Clara River Valley East Subbasin, highlighted the need for the development of mineral water quality objectives specific to the Saugus groundwater basin present in the area. Two primary aquifers are present in the East Subbasin, a shallow Alluvial Aquifer consisting of five subunits (Santa Clara-Mint Canyon, South Fork, Placerita Canyon, Santa Clara-Bouquet and San Francisquito Canyon, and Castaic) and an older, underlying geologic unit called the Saugus Formation.

Groundwater quality in the Saugus Formation from areas that provide most of the potable water is primarily influenced by the quality of water seeping downward from the alluvial aquifer and

from the recharge due to precipitation. However, the formation does not have established water quality objectives for TDS, chloride, nitrate, and sulfate. In order to assess the impact of water quality management measures in the Saugus Formation, the SNMP document uses by default the most conservative basin objectives from the alluvial aquifer subunits for the calculation of assimilative capacity for TDS, chloride and nitrate. However, available historical sulfate concentrations derived from Saugus wells show higher levels than those observed in the overlying alluvial units, which may preclude the use of a conservative objective derived from overlying subunits. In light of these issues, Staff is considering reviewing current and historical water quality, along with local geology to develop mineral water quality objectives for the Saugus formation, in order to ensure an appropriate protection of beneficial uses and prevent degradation of water quality in the aquifer.

5.10. Explore Surface Water as a New Beneficial Use

The Basin Plan currently includes the protection of surface water beneficial uses associated with Groundwater Recharge (GWR), defined as follows:

Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

However, none of the beneficial uses currently in place protect the opposite purpose, which is surface water recharge by groundwater. In some instances, groundwater discharges produce surface flow that is then recharged into the aquifers downstream. The recharged groundwater may travel along the stream as subsurface flow from which it may discharge again to appear as surface flow. This type of complex surface water/groundwater interaction is observed in places where shallow or perched aquifers are in hydraulic communication with surface water, such as the Santa Clara River, Ventura River and Calleguas Creek. The development of a beneficial use for surface water recharge would ensure that groundwater quality meets the necessary requirements to maintain adequate surface water quality.

5.11. Identify and Assign/Update Beneficial Uses for Coastal and Spring-fed Streams

When the 1994 Basin Plan was developed, the available Geographic Information System (GIS) data was limited and did not depict all of the coastal streams in the Los Angeles Region, thus not all coastal streams were listed in the Basin Plan and assigned beneficial uses. In addition, many waters were arbitrarily assigned intermittent uses since little information was known about them, although we now know that there are many year-round streams in the San Gabriel and Santa Monica Mountains and foothills that are spring-fed. In the nineteen years since the adoption of the 1994 Basin Plan, there have been significant advancements in GIS mapping and the availability of other resources such as aerial photography. This information along with field surveys, review of existing information and data, and dialogue with other resource agencies could be used to identify and designate beneficial uses for those coastal streams that were

previously unidentified in the Basin Plan, and identify and update beneficial uses for spring-fed streams that were assigned intermittent uses. An updated designation of the beneficial uses of these streams would ensure that all of the beneficial uses of these freshwater systems are designated and fully protected.

6. 2014 - 2016 Triennial Review: Potential Projects Identified by Stakeholders

Stakeholder input on potential issues to be addressed during this triennial review cycle was solicited through a request for information sent out on January 29, 2015. In the solicitation, Los Angeles Water Board staff requested data and information on water quality standards that stakeholders felt should be evaluated for possible modification over the 2014-2016 Triennial Review. In total, 6 letters were received in response to this solicitation. The letters represented a number of stakeholder groups, including the County of Los Angeles Department of Public Works and Flood Control District, Los Angeles Department of Water and Power, Las Virgenes-Triunfo Joint Powers Authority, the City of Santa Clara, the Upper Santa Clara Integrated Regional Water Management (IRWM), and the stakeholders implementing TMDLs in the Calleguas Creek Watershed.

A summary of the general issues raised is provided below in italicized text. Where any of the issues are being addressed or may be addressed in the future by the Basin Planning program or other Water Board programs, staff has so indicated following the issue summary.

Table 5: Summary of stakeholder identified Basin Planning issues.

Stakeholders were asked to prioritize their issues upon submission. A bold X indicates an issue identified as a high priority by stakeholders.

	Basin Plan Category								
	Beneficial Uses			Water Quality Objectives			Implementation		
	REC-1	High Flow Suspension	LSGR Estuary designation	Natural Sources Exclusion	Bacteria Objectives	WQO for USCR groundwater	TMDL/303(d) listing related	Aquatic Toxicity Monitoring Guidance	SNMP
Las Virgenes - Triunfo Joint Powers Authority				X					
City of Santa Clarita	X	X					X		
Upper Santa Clara River IRWM						X			X
County of Los Angeles, Department of Public Works & Flood Control District				X	X			X	
Los Angeles Department of Water and Power			X						
Stakeholders Implementing TMDLs in the Calleguas Creek Watershed				X			X		
Comment Count	1	1	1	3	1	1	2	1	1

6.1. Reevaluation of the Water Contact Recreation Beneficial Uses in Santa Clara River/ Consideration of a High Flow Suspension

Stakeholders requested a re-evaluation of the water contact recreation (REC-1) beneficial uses for the Santa Clara River, in particular for reaches 5, 6 and 7.

Stakeholders commented that, for the most part, the Santa Clara River is very dry with no contact recreation, or it is extremely dangerous during high flows, therefore, recreational beneficial uses should be reviewed, and bacteria objectives should not apply to the Santa Clara River when the contact recreational beneficial use does not exist.

Federal regulations restrict states from removing designated beneficial uses. Specifically, section 131.10(h) of Title 40 of the Code of Federal Regulations (40 CFR) prohibits states from removing designated uses if:

1. They are existing uses, as defined in 40 CFR § 131.3, unless a use requiring more stringent criteria is added; or
2. Such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Clean Water Act and by implementing cost-effective and reasonable best management practices.

Furthermore, 40 CFR § 131.10(i) states that where existing water quality standards specify designated uses less than those that are presently being attained, the state shall revise its standards to reflect the uses actually being attained (i.e., existing uses).

States may remove a designated use that is not an existing use, as defined in 40 CFR § 131.3, or establish sub-categories of a use, if the state can demonstrate that attaining the designated use is not feasible because of factors set forth in 40 CFR § 131.10(g). USEPA has guidance on conducting such use attainability analysis (UAAs)³.

Historical data from gaging stations located on the Santa Clara River at various points along Reaches 5, 6 and 7 (USGS Lang gage, 1949-2005, upper end of Reach 7; Santa Clara River at Old Road Bridge gage, 1990-2012, lower end of Reach 4; and USGS Blue Cut gage 11108500, 1971-1996, lower end of Reach 5) show existing or intermittent flow, which would preclude a removal of the designated recreational beneficial use. A modification of the existing beneficial use to an intermittent use in selected sections of the river could be considered; however, such modification would not preclude the need to attain bacteria water quality objectives necessary to protect recreational uses when flow is present.

With regards to a suspension of uses during high flows specifically, the inherent danger of recreating in streams during and immediately following storm events is recognized by the State and Regional Water Board. On this basis, the State Water Board is considering the development of a high flow suspension implementation provisions that would apply to natural streams, as well as engineered streams, as part of the ongoing update of water quality objectives for bacteria for the REC-1 beneficial use in fresh and marine waters. Should such

³ United States Environmental Protection Agency (USEPA). Federal Register, 40 CFR Part 131. "Water Quality Standards Regulation; Proposed Rules". Tuesday July 7, 1998.

United States Environmental Protection Agency (USEPA). "Implementation Guidance for Ambient Water Quality Criteria for Bacteria". May 2002 Draft.

United States Environmental Protection Agency (USEPA). "Water Quality Standards Handbook: Second Edition". Report No. EPA-823-8-94-005a. August, 1994.

provisions be adopted by the State Water Board, a suspension of recreational uses in the Santa Clara River during high flow events may be considered.

6.2. Reconsideration of the Lower San Gabriel River Estuary Designation

Stakeholders requested that the Los Angeles Water Board reconsider the Lower San Gabriel River (LSGR) estuary designation.

In 1975, the Basin Plan identified the lower San Gabriel River as the San Gabriel Tidal Prism. In 1994, the Basin Plan was amended and reconsidered tidal prism designations, stating that tidal prisms are functionally equivalent to estuaries. Accordingly, all tidal prism designations were converted to estuary beneficial use designations, and the San Gabriel River up to Willow Street was characterized as an estuary.

However, stakeholders argue that the lower San Gabriel River does not conform to conventional regulatory or biological definitions of an estuary. In estuary environments, fresh water from upstream typically meets ocean water carried by the tides. Currently, the lower San Gabriel River is dominated by the once through cooling flows from the City of Los Angeles Department of Water and Power Haynes generating station and the Alamitos generating station. The cooling water discharges from both power plants are the major source of inflow to the lower San Gabriel River, such that the water in the channel is saline. Under these conditions, freshwater flow from upstream does not meet ocean water directly carried into the channel by ocean forcing.

As expressed by the stakeholders, existing conditions in the lower San Gabriel River estuary are largely driven by the discharges from the Haynes and Alamitos generating station, which constrain the amount of seawater/freshwater exchange. However, even though man-made changes may have modified the system's hydrology away from natural conditions, this does not preclude the fact that the lower San Gabriel River is an estuary, defined broadly as an area where a river flows into the sea. In addition, cooling water discharges from Alamitos generating station will cease by the end of 2020, and those from Haynes generating station will be gradually reduced and will completely cease by December 2029, in accordance with the Once Through Cooling Policy adopted by the State Water Board in 2010 (Resolution No. 2013-0018). As these cooling water discharges are reduced and eventually cease, natural flow in the river will be augmented solely by the discharges from the San Jose Creek and Los Coyotes wastewater treatment plants operated by Los Angeles County Sanitation District, as well as urban effluents and limited waste effluent from the generating stations. Because the overwhelming flow of warm seawater from the power plants will be eliminated, it is likely that conditions within the estuary will evolve towards increased tidal exchange, and a more balanced mix of seawater and freshwater consistent with natural conditions. Because conditions are expected to change significantly within the next 5 to 15 years, making the current conditions only temporary, and because foreseen conditions will foster the existence of an estuarine

environment, a reconsideration of the estuary designation of the lower San Gabriel River does not seem appropriate at this time.

6.3. Continue Developing a Technical Guidance for Natural Sources Exclusions

Stakeholders requested that the Los Angeles Water Board account for natural conditions in re-evaluating Water Quality Objectives, and continue to prioritize the development of technical guidance for making natural sources determination.

As indicated earlier, the Los Angeles Water Board has been working to develop implementation provisions for water quality objectives where natural sources of a pollutant cause it to be elevated above the current objective, or to exceed the objective more frequently than currently allowed. A contract was executed and completed to develop technical guidance on making the determination that exceedances of water quality objectives of a given pollutant are solely or predominantly a result of natural sources of that pollutant. Staff will assess the most appropriate approaches to use the results of the study, and identified this issue as a potential project for the 2014-2016 Triennial Review (see section 5.3). Potential applications include a statewide policy development and a regional assessment tool.

6.4. Update of the Bacteria Objectives

Stakeholders requested that the Los Angeles Water Board update Bacteria Objectives in the Basin Plan upon adoption of the statewide bacteria objectives and subsequently reopen the bacteria TMDLs and MS4 permit to incorporate those new objectives and associated implementation measures.

The State Water Board is proposing a statewide control program to protect recreational users from the effects of pathogens in California waterbodies. The program would be adopted as amendments to the Inland Surface Water, Enclosed Bays and Estuaries Plan and the California Ocean Plan. Significant proposed program elements may include not only new water quality objectives for bacteria for both fresh and marine waters based on the newly released USEPA criteria, but also a reference beach/natural source exclusion process, high flow exemptions for both natural and engineered channels, and revised beach notification requirements. The Los Angeles Water Board will continue to work with the State Water Board during the development of the revised objectives, and will evaluate if the revisions affect the Basin Plan for the Los Angeles Region. The adoption of the revised objectives by State Water Board is scheduled for May-June 2016.

6.5. Adoption of the Salt and Nutrient Management Plan / Adoption of Water Quality Objectives Changes as Needed for the Upper Santa Clara Groundwater Basin

Stakeholders requested that the Los Angeles Water Board adopt the SNMP for the Santa Clara River Valley East Groundwater Subbasin, together with any water quality standards changes that may be identified in conjunction with the SNMP.

As mentioned in the previous sections, the development by stakeholders of the SNMP for the Upper Santa Clara River basin is in progress. Staff is providing regulatory and technical guidance to stakeholders throughout the process, and the final document is expected to be submitted to the Los Angeles Water Board by May 16, 2016. In conjunction with the development of the SNMP, the need for the development of water quality objectives for the Saugus Formation underlying the Alluvium Aquifer in the Valley was outlined. This item was identified as one of the projects recommended by the Los Angeles Water Board for this Triennial Review (see section 5.9).

6.6. Development of an Aquatic Toxicity Monitoring Guidance for Stormwater

Stakeholders requested that the Los Angeles Water Board develop guidance for toxicity monitoring for stormwater.

Stakeholders commented that current toxicity test methods and protocols were originally developed for continuous point source wastewater discharges and may not be appropriate for stormwater runoff, which is much more variable and transient. In recognition of this issue, the State Water Resources Control Board developed a guidance entitled "Toxicity Test Tool for Storm Water Dischargers" as part of its Toxicity Policy development (State Water Board, 2012). Although the guidance contains several recommendations, stakeholders have commented that it lacks details on implementation issues such as a trigger for Toxicity Identification Evaluation and appropriateness of chronic toxicity testing for stormwater, and requested monitoring protocols to be developed by the Los Angeles Water Board as part of the 2014-2016 Triennial Review. The development of such document is not in the purview of the Triennial Review; however, this issue is being addressed through the municipal separate storm sewer system (MS4) permitting program. Guidance to MS4 permittees within Los Angeles County, clarifying aquatic toxicity monitoring requirements in the monitoring and reporting programs of the LA County MS4 Permit and the City of Long Beach MS4 Permit, was issued recently in a memorandum dated August 7, 2015.

6.7. TMDL Reconsiderations and Clean Water Act Section 303(d) De-listings

Stakeholders requested that the Los Angeles Water Board reconsider some existing TMDLs in Calleguas Creek, and remove some pollutants from the Clean Water Act section 303(d) list of impaired water bodies in the Santa Clara River and Calleguas Creek.

TMDL reconsiderations and section 303(d) waterbody-pollutant combination delistings are addressed under the Los Angeles Water Board's TMDL program. The current Clean Water Act section 303(d) list review is considering data submitted before August 2010. A Los Angeles Water Board meeting on this issue is scheduled for the end of 2016. Data submitted after the cutoff date will be reviewed during the next review cycle.

Stakeholders requested that the Los Angeles Water Board consider moving all pollutants in the Santa Clara River that remain on the Clean Water Act section 303(d) list that anticipate a TMDL in the future, as well as all pollutants that might be added to the list, to the category of "being addressed by action other than a TMDL."

As mentioned above, TMDL reconsiderations and Clean Water Act section 303(d) listings are addressed through the TMDL program. However, the requested action is based on the assumption that these pollutants will be addressed by the development and implementation of the Enhanced Watershed Management Plan (EWMP) for the Upper Santa Clara River pursuant to the Los Angeles County MS4 Permit. In order for this to be considered, the Los Angeles Water Board would require the demonstration that the totality of the pollutant load to the watershed is addressed by the EWMP, and if not, that the remainder is addressed by other programs.

7. 2014 - 2016 Triennial Review: Prioritized Stakeholder Issues

During the stakeholder workshop held on July 22, 2015, participants were presented the projects proposed by both staff and stakeholders following the data solicitation, and were encouraged to present their top three priorities. They were also given additional time (until July 29, 2015) to submit these priorities in writing. Stakeholder priorities presented both verbally (at the workshop) and in subsequent comment letters are summarized in Table 6 below.

Table 6: Stakeholder's top priorities for consideration during the 2014-2016 Triennial Review.

	Basin Plan Category																
	Beneficial Uses					Water Quality Objectives						Implementation		Other	Projects addressed by State Board/other Regional Board programs		
	BU for Surface Water Recharge	High Flow Suspension – Ventura County	BU for coastal & spring-fed streams	LSGR Estuary designation	REC-1 & High Flow Suspension – Santa Clara River	Natural Sources Exclusion	Ammonia WQO	PCBs WQO	Temperature WQO	Bacteria WQO	WQO for USCR groundwater	SNMP	Climate Change	Chapter 4 Update	Groundwater Workplan	Aquatic Toxicity Monitoring Guidance	Stormwater Strategic Initiative
City of Santa Clarita					X	X					X						
City of Thousand Oaks						X									X		
Friends of Los Angeles River	X						X										
Metropolitan Water District	X					X	X										
City of LA Watershed Protection Program	X					X				X							
Heal The Bay	X		X										X			X	
LA County Department of Public Works						X				X							X
LA Department of Water and Power				X		X			X	X							
Comment Count	4	0	1	1	1	6	2	0	1	3	1	0	1	0	1	1	1

8. 2014 - 2016 Triennial Review: Staff Recommendations on Priorities

8.1. Staff Prioritization of Proposed Projects

After identifying the various projects discussed above, prioritization was necessary, since the resource needs to address the list of proposed issues exceeds available State and Regional Water Board resources. When prioritizing issues, staff considered several factors. Ideally, selected projects will address more than one of these factors in order to make the best use of available resources. These include whether the project:

- ✓ Ensures protection of water quality and beneficial uses
- ✓ Addresses legal requirements
- ✓ Facilitates implementation of other Water Board programs
- ✓ Provides regulatory flexibility
- ✓ Improves the clarity of the Basin Plan
- ✓ Addresses concerns of Board staff, USEPA and stakeholders
- ✓ Is already ongoing
- ✓ Can be addressed within the time frame remaining for the 2014-2016 Triennial Review

Staff recommendations on the projects identified in the previous sections are contained in Table 7 below. Given the limited time (roughly one year after Board adoption) and resources available to complete this Triennial Review period, staff recommends some of the projects identified to be set as high priorities for the next Triennial Review period (2017-2019) rather than the current 2014-2016 Triennial Review. Staff will present these final recommendations to the Board for adoption at the November 5, 2015 Board meeting.

Table 7: Staff prioritization of projects to be addressed during the 2014-2016 Triennial Review Period

Project	Stakeholder Issue	Staff Recommendation
Explore surface water recharge as a new beneficial use	Yes	Recommended for 2017-2019 Triennial Review This project was highlighted as a priority by stakeholders. Given the limited resources and time for the current triennial review, and the extensive work this project requires, staff recommends this project for the next Triennial Review.
Work on a high flow suspension of recreational uses for engineered channels in Ventura County, where applicable	No	As resources allow Work was previously initiated on this project, but stopped due to a lack of resources. This

Project	Stakeholder Issue	Staff Recommendation
		project was not highlighted a priority by stakeholders. Work will resume as resources allow and upon action by the State Water Board on statewide bacteria objectives and implementation provisions.
Identify and assign/update beneficial uses for coastal and spring-fed streams	Yes	As resources allow This project was not highlighted as a high priority by stakeholders, and would require significant staff resources.
Reconsider the Lower San Gabriel River estuary designation	Yes	Not recommended A reconsideration of the estuary designation of the Lower San Gabriel River does not seem appropriate at this time, as explained in section 6.2.
Reevaluate the REC-1 beneficial uses in Santa Clara River/ Consider a high flow suspension	Yes	As resources allow This project would require significant staff resources. Furthermore, the upcoming adoption of bacteria objectives by the State Water Board may facilitate the process for the consideration of a high flow suspension.
Continue the development of technical guidance for making natural source determinations	Yes	Recommended for 2017-2019 Triennial Review This project was highlighted as a high priority by stakeholders. Given the limited resources and time for the current triennial review, and the extensive work this project requires, staff recommends this project for the next Triennial Review.
Update freshwater ammonia objectives based on new recommended water quality criteria published by USEPA	Yes	Recommended USEPA indicates that “states should consider the availability of these new data and criteria recommendations during their current or next WQS triennial review. “
Update PCBs Objective	No	As resources allow This project was not highlighted as a priority by stakeholders, but it is a high priority for Regional Water Board permitting staff. It would require significant staff resources.

Project	Stakeholder Issue	Staff Recommendation
Re-evaluate Temperature Water Quality Objective	Yes	As resources allow This project was not highlighted as a high priority by stakeholders, and would require significant staff resources given the complexity of the issue.
Update the Bacteria Objectives, as needed	Yes	Recommended for 2017-2019 Triennial Review The need for an update of bacteria objectives will be assessed after adoption of new water quality objectives by the State Water Board, scheduled for May-June 2016.
Set Mineral Water Quality Objectives for the Saugus Groundwater Aquifer	Yes	As resources allow The SNMP for the upper Santa Clara Basins will likely go through the Regional and State Water Board adoption process over the course of several months. Consideration of water quality objectives would take place as a separate process, after adoption of the SNMP. The extensive amount of information needed to be gathered to complete this project will likely necessitate significant staff resources.
Continue the development of SNMPs, including the incorporation of management measures from the SNMPs into the Basin Plan, per the State's Recycled Water Policy	Yes	Recommended This is a State Water Board mandate.
Continue the development of a regional strategy to address the effects of climate change on water quality	Yes	Recommended This is a State and Regional Water Board priority in light of current conditions.
Administratively update Chapter 4 of the Basin Plan	No	Recommended This is an ongoing project.

8.2. Staff Recommendations

The Los Angeles Water Board's Basin Planning Program currently consists of 1.7 "personnel years" (PYs). Carrying out the projects identified during the triennial review process is only one of the responsibilities of those staff whose time comprises the 1.7 PYs each year; some of these resources are used towards supporting other Regional Water Board programs and for on-going

Statewide projects. Therefore, the number of projects that can be addressed during the time remaining in this triennial review period is limited. During the current triennial review cycle, 0.5 Basin Planning PYs are required to participate in statewide Basin Planning initiatives and support other Los Angeles Water Board programs, leaving 1.2 Basin Planning PYs available to address the projects selected. Based on available resources, stakeholder input, Los Angeles Water Board program needs, and Los Angeles Water Board member interest (based on statements and interest presented at various Board meetings), staff recommends the following list of priority projects for consideration during the remainder of the 2014-2016 Triennial Review period:

- Continue the development of Salt and Nutrient Management Plans (SNMPs), including the incorporation of management measures from the SNMPs into the Basin Plan, per the State Water Board's Recycled Water Policy;
- Continue the development of a regional strategy to address the effects of climate change on water quality;
- Update freshwater ammonia objectives based on new recommended water quality criteria published by USEPA;
- Administratively update Chapter 4 of the Basin Plan;
- Provide support to other Los Angeles Water Board programs including TMDLs, Municipal Permitting, and Stormwater Permitting;
- Provide support to statewide standards-related initiatives, including:
 - The development of a groundwater workplan;
 - The development of watershed-based stormwater compliance and management guidelines and tools;
 - The development of nutrient objectives;
 - The development of a biological integrity assessment implementation plan;
 - The application of the State's Antidegradation Policy to groundwater;
 - The development of a CECs strategy; and
- Address legal and regulatory mandates that may arise during the remainder of the triennial review.

Staff recommends the following list of projects to be given high priority during the next triennial review period:

- Continue the development of Technical Guidance for Making Natural Source Determinations;
- Update the Bacteria Objectives, as needed; and
- Explore surface water recharge as a new beneficial use.