2017-2019 TRIENNIAL REVIEW: CONSIDERATION AND SELECTION OF BASIN PLANNING PRIORITY PROJECTS

Draft Staff Report

Los Angeles Regional Water Quality Control Board March 5, 2018

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1. Introduction

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. 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. 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).

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." Additionally, section 303(c)(1) of the federal Clean Water Act (CWA) 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. As part of a triennial review, components of statewide and regional basin plans are reviewed as new data and information become available or as specific needs arise. Updates to the Los Angeles Region's Basin Plan occur during this review, and/or in response to other factors, including State or federal legal requirements, or judicial mandates such as consent decrees. California State Water Resources Control Board (State Water Board) plans and policies and those of other state and federal agencies, related to water quality, are considered in the review process.

In recent years, the California Regional Water Quality Control Board, Los Angeles Water Region (Los Angeles Water Board) conducted triennial reviews of the Basin Plan in 2001-2004, 2005-2007, 2008-2010, 2011-2013 and 2014-2016. The 2017-19 triennial review process was initiated in the fall of 2017.

This staff report provides a status update on the Basin Planning projects addressed by the Los Angeles Water Board (Los Angeles Water Board) as part of the previous (2014 – 2016) triennial review, and summarizes both basin planning priorities identified by staff, and additional projects recommended by stakeholders for consideration during the current (2017-19) triennial review. The report is organized as follows. Section 2 provides background information on the triennial review process, including public participation components. Section 3 provides a status update on projects addressed during the 2014 – 2016 period. Section 4 discusses the Basin Planning projects identified by staff for consideration during this triennial review. Section 5 summarizes and

responds to stakeholder recommendations on basin planning issues they would like to be considered. Section 6 presents staff's recommendations on priorities to be addressed during the 2017 - 2019 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. A more recent administrative update to the Basin Plan was conducted from 2011 through 2016 to (i) include amendments that had not been physically incorporated into the Basin Plan since 1994, (ii) to reflect more current information on the Los Angeles Water Board programs, plans and policies, and (iii) to update geographical and background information for the Los Angeles Region.

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 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 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

[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 that provides the technical, legal and policy bases for the proposed amendment; CEQA substitute environmental documents; 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 held at a 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.

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.

At the start of the triennial review process, the Los Angeles Water Board develops and adopts through a resolution a prioritized list of Basin Planning issues that it determines should be considered over the next three years. Following the Los Angeles Water Board's adoption of the resolution, this list of priorities is transmitted to the California State Water Resources Control Board (State Water Board) and then to Region IX of the United States Environmental Protection Agency (USEPA).

The triennial review process is cyclical, meaning that at the end of one three-year review period, the review process begins again with another three-year period. In this sense, the review process is on-going, reflecting the continuing planning process followed by the California State and Regional 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,

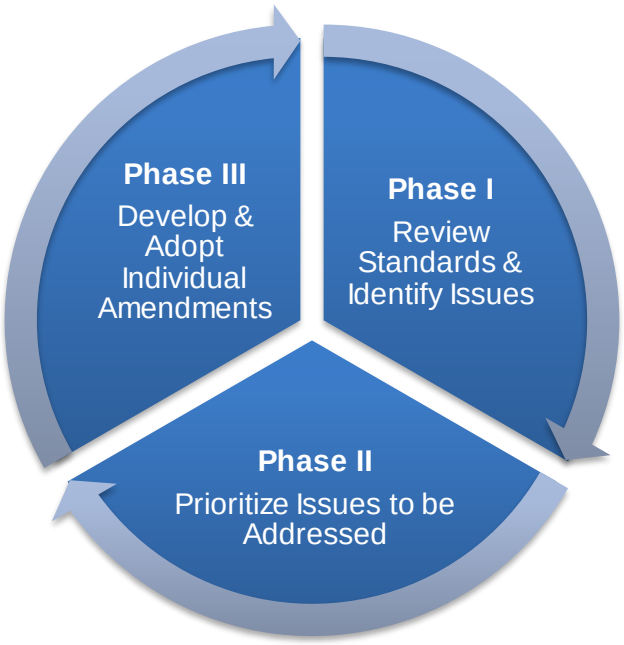
[2] To the extent that staff resources are available to develop an amendment and bring it to the Los Angeles Water Board for consideration.

programs and policies, including TMDLs. Some of these have been adopted in the context of a triennial review, and others outside that process.

A 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 consider 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. Stakeholder input is generally 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 2014-2016. On November 6, 2017, the Los Angeles Water Board sent out a 2017-19 triennial review notification letter to interested persons and entities informing them of the Los Angeles Water Board's intent to comply with USEPA's 2015 directive to states and authorized tribes to consider new or updated CWA section 304(a) water quality criteria recommendations (published by the USEPA since May 30, 2000) for adoption as water quality standards - during their next triennial review. The notification also solicited stakeholder comments on this decision and other basin planning issues of concern that they felt should be addressed during the triennial review. The comment submission deadline was December 6, 2017. The Los Angeles Water Board received 13 comment letters representing USEPA and various categories of stakeholders. These comments are summarized and addressed in Section 5 of this report. The detailed comments and staff responses are provided in a separate "Response to Comment" document also available with the staff report.

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 May 10, 2018, at which time the Los Angeles Water Board will consider adoption of a resolution confirming the basin planning priorities to be considered and addressed 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 Los Angeles Water Board is not establishing water quality objectives. Instead, and as required by section 303(c)(1) of the federal Clean Water Act, the Los Angeles Water Board is reviewing its water quality standards. (See *City of Arcadia v. State Water Resources Control Bd*. (2010) 191 Cal.App.4th 156).

3. 2014-2016 Triennial Review Period

3.1. Priority Projects for the 2014-2016 Triennial Review Period

The selected priorities for the 2014-2016 Triennial Review were listed in Resolution 2015-011 as follows:

a) 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;
b) Continue the development of a regional strategy to address the effects of climate change on water quality;
c) Evaluate Basin Plan water quality objectives, including freshwater ammonia objectives, based on new recommended water quality criteria published by USEPA; identify those that should be prioritized for updating and conduct preliminary work, where appropriate;
d) Administratively update Chapter 4 of the Basin Plan;
e) Provide support to other Los Angeles Water Board programs, including TMDLs;
f) Provide support to statewide standards-related initiatives;
g) Address legal and regulatory mandates that may arise during the remainder of the triennial review.

3.2. Adopted Basin Plan Amendments

During the 2014-2016 triennial review period, the Los Angeles Water Board adopted thirteen Basin Plan amendments, excluding those related to TMDLs (see Table 1). A brief description of each of them is provided following the table.

Table 1: Basin Plan amendments adopted during the 2014-2016 Triennial Review, excluding TMDLs

Resolution Number	Title	Adoption Date	Priority Project?
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	Conducted by other Board Program
R14-007	Amendments to the Water Quality Control Plan for the Los Angeles Region to incorporate the Statewide Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems	8-May-2014	2014-16 (State Mandate)

Resolution Number	Title	Adoption Date	Priority Project?
R14-009	Non-Regulatory Amendments to the Water Quality Control Plan for the Los Angeles Region to Administratively Update Chapter 1 "Introduction", Chapter 5 "Plans and Policies" and Chapter 6 "Monitoring and Assessment"	11-Sept-2014	2008-10 Priority
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	9-Oct-2014	2014-16 (Support other Board Programs –TMDLs)
R14-011	Resolution Retaining the Current Beneficial Use Designations of the Engineered Channels of the Los Angeles River Watershed	4-Dec-2014	2008-10 Priority
R15-001	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate Stakeholder-Proposed Groundwater Quality Control Measures for Salts and Nutrients in the Central and West Coast Groundwater Basins	12-Feb-2015	2014-16 Priority
R15-001	Amendment 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 and to Revise the Total Maximum Daily Load for Metals in the Los Angeles River and Tributaries	9-Apr-2015	2014-16 (Support other Board Programs –TMDLs)
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	2014-16 Priority
R16-004	Non-Regulatory Amendments to the *Water Quality Control Plan for the Los Angeles Region* to Administratively Update Chapter 4 " Strategic Planning and Implementation" and Specific Geographic Information in Chapter 2 "Beneficial Uses"	9-June-2016	2014-16 Priority

Resolution Number	Title	Adoption Date	Priority Project?
R16-005	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 Malibu Valley Groundwater Basin	14-Jul-2016	2014-16 Priority
R16-008	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 Upper Santa Clara River Basin	8-Dec-2016	2014-16 Priority
R16-010	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 Main San Gabriel Groundwater Basin	8-Dec-2016	2014-16 Priority
R16-011	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 Raymond Basin	8-Dec-2016	2014-16 Priority

3.2.1. Reconsideration of Table 4-zz of Resolution R4-2009-007

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.

3.2.2. Statewide Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems

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 Los Angeles Water Boards with principal responsibility for overseeing implementation of the policy. In adopting the OWTS Policy, the State Water Board required that Los Angeles 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 (ROWD) 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 WDRs. 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.

3.2.3. Non-Regulatory Administrative Update of the Basin Plan

A comprehensive administrative update of the Basin Plan was identified as a priority project to be addressed during the 2008-2010 triennial review (Resolution No. R10-001). This update was conducted in five phases with Chapter 2 "Beneficial Uses" (Resolution No. R11-011), Chapter 3 "Water Quality Objectives" (Resolution No. R13-003), and Chapter 7 "Total Maximum Daily Loads" (Resolution No. R11-013) completed during the 2011-13 triennial review period.

During the 2014-16 triennial review, updates to Chapter 1 "Introduction," Chapter 5 "Plans and Policies" and Chapter 6 "Monitoring and Assessment" were completed as one Basin Plan amendment (Resolution No. R14-009) in 2014, and the final phase of the Basin Plan update, which included Chapter 4 "Strategic Planning and Implementation" and updates to some geographical information in Chapter 2, was completed in 2016.

3.2.3.1. Chapters 1, 5 and 6

The administrative update of Chapters 1, 5, and 6 was the fourth phase of the comprehensive Basin Plan update. 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 included:

- 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 addition of summaries 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; and
- 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.

3.2.3.2. Chapters 4 and 2

Chapter 4 "Strategic Planning and Implementation" contains descriptions of all the Los Angeles Water Board's programs. The administrative update of Chapter 4 was the final phase of the comprehensive update to the Basin Plan. This administrative update was adopted on June 9, 2016 (Resolution No. R16-004) and included:

- Incorporation of previously adopted Basin Plan amendment language;
- Updates to descriptions of Los Angeles Water Board programs including the Los Angeles Water Board's new Oil and Gas Program;
- Addition of new sections discussing "Funding for Water Quality Improvement Projects," and "Climate Change Considerations;" and
- Updates to tables, maps, and figures to reflect current Los Angeles Water Board program information, as well as background and geographical information.

As part of Resolution No. R16-004, administrative updates to specific geographic information in Chapter 2 were also adopted. These administrative updates included:

- Updates to certain hydrologic unit codes (HUCs) in the beneficial use tables and tributary tables to reflect changes made since its administrative update in 2011; and
- Revisions to certain reach descriptions in the beneficial use tables and tributary tables to provide clarification and to correct previous clerical errors.

3.2.4. Upper Santa Clara River - 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

To address high chloride levels in the Upper Santa Clara River (USCR), which exceed the water quality objective and impair beneficial uses for agricultural supply, the Los Angeles Water Board adopted a chloride TMDL 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 USCR, 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 Upper 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).

3.2.5. Retaining the Current Recreational Beneficial Use Designations of the Engineered Channels of the Los Angeles River Watershed

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 Los Angeles Water Board's 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 affects the specific requirements that the Los Angeles Water Board imposes 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 mainstem - 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 of the assessment 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 of the assessment, 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, 2014, 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).

3.2.6. SSOs 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 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 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 statewide 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:

After evaluating two methods for developing SSOs[3], the lead SSOs were developed using the Recalculation Procedure. The USEPA Ambient Water Quality Criteria (WQC) for lead that were used in the original TMDL were published in 1984. However, since then, additional studies have been conducted that provide more information for previously tested species and new information on additional species or water quality conditions that impact the criteria. The Recalculation

[3] For water quality to protect aquatic life, USEPA has developed three methodologies for deriving SSOs. These are the water-effects ratio (WER) procedure, recalculation procedure, and resident species procedure. [U.S. EPA. 1984. Guidelines for Deriving Numerical Aquatic Site-Specific Water Quality Criteria by Modifying National Criteria. EPA-600/3-84-099 or PB85-121101. National Technical Information Service, Springfield, VA]

Procedure provided a method for utilizing toxicity data from all available national studies to calculate updated criteria for lead.

Copper SSOs were developed using the Water-Effects Ratio (WER) Procedure. This method provides for the use of a WER to take into account observed differences between the toxicity of a chemical in laboratory water and 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 WER ratio ensures that the metals criteria are tailored to the chemical conditions under which they are applied. The procedure for deriving a site-specific WER compares the bioavailability and toxicity of a specific pollutant in receiving waters to laboratory water and provides a ratio by which the CTR criterion is adjusted.

3.2.7. Development of SNMPs per the State Water Board's Recycled Water Policy

In February 2009 the State Water Board adopted a Recycled Water Policy (State Board Resolution No. 2009-0011), which was amended in 2013 (State Board Resolution No. 2013-0003). 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 SNMP developed by stakeholders, with Los Angeles Water Board staff participation. The basin-specific management measures in the SNMPs will then be incorporated into each regions' Basin Plans through amendments adopted by each regional board.

The Recycled Water Policy is clear that the SNMP process should be stakeholder-led and conducted in a collaborative manner among interested parties. The Los Angeles 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. Continuing facilitation of SNMP development was also prioritized during the 2014-16 triennial review.

The Los Angeles Water Board adopted six Basin Plan amendments incorporating stakeholder-proposed/developed salt and nutrient management measures for seven basins in the Los Angeles Region during the 2014-16 triennial review. This included (i) Central Basin and West Coast Basin - Resolution No. R15-001, (ii) Lower Santa Clara River Basins - Resolution No. R15-007, (iii) Malibu Valley Basin - Resolution No. R16-005, (iv) Upper Santa Clara Basin - Resolution No. R16-008, (v) Main San Gabriel Basin - Resolution No. R16-010, and (vi) Raymond Basin - Resolution No. R16-011.

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 the first set of stakeholder-proposed groundwater quality control measures for salts and nutrients (Resolution No. R15-001). Chapter 8 will also contain any future implementation provisions pertaining to groundwater quality management that result from State or Los Angeles Water Board policies.

3.2.8. TMDLs

During the 2014-2016 triennial review period, the Los Angeles Water Board adopted seven Basin Plan amendments addressing eight TMDLs. These TMDLs address various pollutant-waterbody combinations. Five of the Basin Plan amendments revised six previously adopted TMDLs, while one incorporated an implementation program for an existing TMDL, and another established a new TMDL.

Table 2: TMDLs adopted during the 2014-2016 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
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
R16-007	Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Total Maximum Daily Load for Metals and Selenium for the Calleguas Creek, its Tributaries, and Mugu Lagoon	13-Oct-2016
R16-009	Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate an Implementation Plan for the Total Maximum Daily Loads for Nutrients in the Malibu Creek Watershed and Sedimentation and Nutrients to Address Benthic Community Impairments in Malibu Creek and Lagoon	8-Dec-2016

3.3. Prioritized Projects Still 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.

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

Staff initiated this 2014-2016 Triennial Review priority project with the development and release in 2015 of the "Los Angeles Region Framework for Climate Change Adaptation and Mitigation - Current State of Knowledge & Water Quality Regulatory Program Considerations." This document took 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. Since then, staff has been working on developing Part 2 of this Framework - Potential Regulatory Adaptation and Mitigation Measures, which will outline specific regulatory adaptation measures that could be further considered by the Los Angeles Water Board.

Additional efforts have included the development of permit language addressing climate change that the Los Angeles Water Board started implementing in Waste Discharge Requirements (WDRs) in 2016, as well as the development of two research contracts executed in spring 2017. The first contract, awarded to the University of California, Los Angeles (UCLA), will use climate models to predict future precipitation, including precipitation extremes, and stream temperatures in Los Angeles and Ventura Counties. The second contract, awarded to the Southern California Coastal Water Research Project (SCCWRP), will use the data generated by UCLA to consider the impacts of future changes in flow and stream temperature on the riparian populations in the Los Angeles Region.

Outreach efforts included the organization in February 2016 of a Board information item to share with the Board and stakeholders the results of the latest research assessing climate change effects on a regional level, and in August 2017 of a public workshop to discuss the development of the Regional Board Climate Change strategy.

3.3.2. Development of SNMPs per the State's Recycled Water Policy

As mentioned in section 3.2.7, staff has been working with stakeholders in the Los Angeles Region to develop SNMPs for local groundwater basins. Six of these plans have been completed thus far and management measures from these SNMPs have been incorporated into the Basin Plan. One more SNMP is in development and staff continues to work with the groundwater basin stakeholders in the San Fernando Valley Basin on this effort. The SNMP is expected to be completed by summer 2018.

In addition to the incorporation of salt and nutrient management measures into the Basin Plan from these plans, funding was 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 final results of the study are expected to be available by summer 2018.

3.3.3. Evaluate Basin Plan Water Quality Objectives, Including Freshwater Ammonia Objectives, Based on New Recommended Water Quality Criteria Published by USEPA

In August 2013, USEPA published its updated, final national recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (USEPA 822-R-13-001). The new recommended criteria take into account data for several sensitive freshwater mussel species in the Family Unionidae that had not previously been tested. As a result, the 2013 acute criterion is determined primarily by effects on freshwater unionid mussels for water temperatures greater than 15.7°C (at lower temperatures, the acute criterion is based primarily on effects on salmonids and other fish), and the chronic criterion is determined primarily by the effects on freshwater mollusks, particularly unionid mussels throughout the temperature range.

However, recognizing that unionid mussels may be absent in some waters, USEPA allows for site-specific criteria to be developed, using recalculation procedures to remove the mussel species from the national criteria dataset to better represent the species present at the site. Therefore, in order to address the applicability of these new USEPA criteria, the presence of unionid mussels in the Los Angeles Region's freshwater bodies needs to be determined.

As a first step towards the reconsideration of the freshwater ammonia criteria, in 2016 the Los Angeles Water Board entered into a contract with the University of California, Santa Barbara (UCSB) to determine whether native unionidae mussels, which have been historically found in the Los Angeles County and Ventura County coastal drainages, are currently present.

The specific objectives of the project include:

- Evaluation of existing literature and archival material to better establish historical distributions, environmental conditions and taxonomic composition of native unionids in order to guide field studies and interpret results;
- Conducting field surveys (snorkel/visual observations, benthic sampling, etc. as needed) for the target species;
- Characterization of current water quality status for ammonia and other nutrients;
- Analysis of the presence of DNA from the target species (environmental DNA or eDNA), particularly to detect presence of taxa expected to be rare within the project region.

This project is currently underway.

4. 2017 - 2019 Triennial Review: USEPA Mandate and Other Considerations

In October 2015, revisions to the federal Water Quality Standards (WQS) regulations at 40 C.F.R. Part 131 went into effect. The final rule addressed certain key WQS program areas, including triennial reviews pursuant to CWA section 303(c)(1). Per the final rule, during their next triennial review, states and authorized tribes are to consider for adoption as WQS new or updated CWA section 304(a) water quality criteria recommendations[4] published by the USEPA since May 30, 2000.

The Los Angeles Water Board's 2017-2019 triennial review directly follows this rulemaking. Accordingly, the main focus of the 2017-2019 triennial review will be the consideration of these CWA section 304(a) recommended criteria for incorporation into the Los Angeles Water Board's Basin Plan. This process will involve evaluating which of the new or revised criteria to consider for adoption and incorporation into the Basin Plan. Where an update or adoption is not recommended, the reasons for this determination will be documented. Following these determinations, staff will proceed with the water quality objective updates. This effort is expected to form the bulk of basin planning work conducted during the 2017-2019 triennial review period. Stakeholders will have the opportunity to comment on the initial determinations, as well as each of the updates or additions prior to its consideration by the Los Angeles Water Board as part of the public notice and comment process for each individual Basin Plan amendment.

In addition, where resources allow, Basin Planning staff may consider other projects that were identified during the 2014-16 triennial review for future prioritization. These may include potential actions related to the State Water Board's Bacteria Provisions, as well as continued development of guidance or policy to address naturally occurring chemical constituents that may be elevated above their water quality objectives or may exceed the objective more frequently than currently allowed.

Finally, work will continue on projects carried over from the previous (2014-16) triennial review that are still being addressed by staff – such as development of SNMPs, as well as a strategy to address effects of climate change on water quality. A description of these projects follows.

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[4] Section 304(a)(1) of the Clean Water Act (CWA) requires USEPA to develop and publish, and from time to time revise, recommended criteria for the protection of water quality that accurately reflect the latest scientific knowledge. USEPA's recommended section 304(a) criteria provide technical information for states and authorized tribes to consider and use in adopting water quality standards that ultimately provide the basis for assessing water body health and controlling discharges of pollutants into waters of the United States.

4.1. Evaluate New or Revised Section 304(a) Recommended Criteria for Incorporation into the Basin Plan as Water Quality Objectives

Revisions to the federal Water Quality Standards (WQS) regulations at 40 C.F.R. Part 131 direct states and authorized tribes to consider for adoption as water quality objectives, new or updated CWA section 304(a) water quality criteria recommendations published by the USEPA since May 30, 2000 during their next triennial review. The Los Angeles Water Board's 2017-2019 triennial review is the first triennial review following this rulemaking. Therefore, the consideration of the USEPA's section 304(a) recommended criteria for incorporation into the Los Angeles Water Board's Basin Plan will be undertaken during this review period. More information about the criteria to consider is provided in Appendix A.

As the list of 304(a) water quality criteria recommendations first published by the USEPA on May 30, 2000 include 118 chemicals, prioritization is necessary to determine how to address them. This process will begin with an evaluation of which new or revised criteria will be considered for adoption and incorporation into the Basin Plan. Where the Los Angeles Water Board does not recommend an update to, or adoption of, a water quality objective based on a 304(a) water quality criterion, the reasons for this determination will be documented.

When incorporation into the Basin Plan is considered, a tiered approach will be developed to determine the order in which criteria should be addressed. Basin Planning staff will take into consideration how much of a priority to the Los Angeles Water Board and stakeholders the incorporation of a specific criterion would be, as well as the time required for any procedures necessary to adopt and incorporate a specific criterion into the Basin Plan. For example, incorporation into the Basin Plan of the 2013 recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (EPA 822-R-13-001) is a Board and stakeholder priority. However, the 2013 ammonia criteria are determined heavily by the effects of ammonia on freshwater mollusks, particularly unionid mussels. In order to address the applicability of these criteria to the Los Angeles Region, the presence of unionid mussels in the region's freshwater bodies first needs to be determined. To address this question, a research contract was awarded to UCSB) in spring 2017, and is currently underway. Any Basin Planning action will proceed after the results of the study are available.

4.2. Potential Actions Related to the State Water Board's Bacteria Provisions

On January 26, 2018, the State Water Board released proposed final statewide Bacteria Provisions as *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California (ISWEBE)* and as amendments to the *Water Quality Control Plan for Ocean Waters of California (Ocean Plan)*.

The proposed Bacteria Provisions, if adopted, would apply to fresh, estuarine, and ocean waters and establish bacteria water quality objectives for the protection of REC-1, *Escherichia coli* (*E.*

coli) as the indicator of pathogens in freshwater and Enterococci as the indicator for estuarine waters and ocean waters, and a risk protection level of 32 illnesses per 1,000 recreators. The Bacteria Provisions also include implementation approaches for bacteria control including reference beach and natural source exclusion approaches that may only be applied within the context of a total maximum daily load.

The proposed Part 3 of the ISWEBE (and not the Ocean Plan Amendment) contains implementation approaches appropriate to reflect the attainability of REC-1 beneficial use designations, including a temporary high-flow suspension and a seasonal suspension of the REC-1 beneficial use, and a definition for a limited water contact recreation (LREC-1) beneficial use. The proposed Bacteria Provisions will supersede numeric water quality objectives for the REC-1 beneficial use in the water quality control plans established by the Los Angeles Water Boards prior to the effective date of the Bacteria Provisions. While the Bacteria Water Quality Objectives supersede applicable numeric water quality objectives contained in a Basin Plan prior to the effective date of the Bacteria Provisions, any TMDL associated with a superseded bacteria water quality objective would remain in effect. Narrative water quality objectives and numeric site-specific objectives established before or after the effective date of the Bacteria Provisions would also remain in effect.

Upon State Water Board adoption of the proposed revisions, Basin Planning staff will evaluate their effect on existing objectives and will begin work on any amendments to the objectives if necessary.

4.3. Continue the Development of 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 WLAs and load allocations to achieve the numeric targets in the TMDL.

The Los Angeles Water Board has previously initiated efforts towards developing either implementation provisions or some form of assessment tool to address this issue. In 2012, the Los Angeles Water Board obtained funding and executed a contract with the UCSB to develop preliminary technical guidance to assist with making determinations that exceedances of water quality objectives of a given pollutant are solely or predominantly a result of natural sources of that pollutant. Since completion of the study in 2013, work on this issue has stalled due to limited Basin Planning staff resources and competing priorities. This issue was identified during the 2014-

16 triennial review as one that should be prioritized in the upcoming 2017-19 period. Therefore, where time allows, staff will resume work on this project. Further work will involve a review of governing federal and state regulations and policy, and an assessment of approaches taken by other state and/or regional entities - in an effort to discern viable options for addressing natural sources of pollutants. Stakeholders will be kept informed of any developments and will be involved in any process that may lead to Board action.

4.4. Continue the Development of SNMPs

As mentioned in section 3.3.2, work on SNMPs continues and staff expects the final SNMP (for the San Fernando Valley) to be completed by summer 2018.

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

As discussed in section 3.3.1, Los Angeles Water Board staff continues to work on a proposed regional strategy to address the effects of climate change on water quality. Further efforts during the 2017-2019 Triennial Review period will include the finalization and publication of Part 2 of the Los Angeles Region Framework for Climate Change Adaptation and Mitigation - Potential Regulatory Adaptation and Mitigation Measures, and the preparation of a Board resolution documenting the Los Angeles Water Board's intention and strategy to address climate change within its programs. In addition, staff will continue oversight of the contract work on climate change that is being conducted by UCLA and SCCWRP.

5. 2017 - 2019 Triennial Review: Additional Potential Projects Proposed by EPA and Stakeholders

Through a notice dated November 6, 2017, stakeholders were informed of the Los Angeles Water Board's intent to focus the bulk of basin planning work for the 2017-19 triennial review on the consideration of EPA's new and revised section 304(a) water quality criteria. Input was solicited on the specified projects presented in the notice as well as other issues of concern, including additional projects that stakeholders would like the Los Angeles Water Board to consider during this period. In total, thirteen (13) letters were received in response to this solicitation. Commenters included USEPA, Los Angeles Waterkeeper (LA Waterkeeper), Copper Development Association (CDA), City of Los Angeles LA Sanitation (LASAN), Ecokai Environmental Inc. (Ecokai), Earth Law Center (ELC), California Stormwater Quality Association (CASQA), County Sanitation Districts of Los Angeles County (Sanitation Districts), stakeholders implementing TMDLs in the Calleguas Creek Watershed (Calleguas Creek Watershed Management Plan (CCWMP)), County of Los Angeles and the Los Angeles County Flood Control District (County & LACFCD), Los Angeles Department of Water and Power (LDWP), TECS Environmental (TECS), and Boeing.

A summary of the general issues raised within each category is provided below in italicized text. These issues are grouped under four main categories – Water Quality Objectives, Implementation Provisions, Beneficial Uses, and Other Issues. Where any of the issues are being addressed or may be addressed in the future by the Basin Planning program or other Los Angeles Water Board programs, staff has indicated so following the issue summary. The issues in their entirety and staff responses to them are contained in the responsiveness summary, which is provided as a separate document and is also available for public review.

Stakeholders raised an issue related to effluent limits in WDRs/NPDES permits. Such concerns are outside the scope of the basin planning process and were therefore not included in the ensuing discussion. Stakeholders are encouraged to direct any concerns related to the translation of water quality objectives into effluent limits to the appropriate Board permitting program.

5.1. Water Quality Objectives

5.1.1. Revise Pentachlorophenol (PCP) Water Quality Objectives where Appropriate

EPA recommended that the Los Angeles Water Board identify freshwaters that support early life stages of salmonids and revise PCP water quality objectives, where appropriate.

PCP is a biocide/pesticide once commonly used as a wood preservative, but now restricted and no longer available to the general public. It is considered toxic to humans and aquatic life and has been classified as a probable human carcinogen. Exposure pathways include ingestion, inhalation, and dermal contact.

While EPA has promulgated recommended PCP criteria for human health and aquatic life as part of the California Toxics Rule, it has requested that the Los Angeles Water Board revise those for aquatic life. This request is a result of EPA's Endangered Species Act consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (the Services) for the California Toxics Rule (CTR). The Services' Biological Opinion for the CTR concluded that the CTR criteria for PCP were not protective of early life stages of salmonids under conditions of low dissolved oxygen and high temperatures. EPA provided replacement criteria for the State Water Board's and Los Angeles Water Boards' consideration.

Given that the suggested criteria are to be applicable statewide, it may be more practical for the State Water Board to adopt the criteria rather than have each Region do so individually. Therefore, revisions to the PCP water quality objectives will not be recommended for consideration during the 2017-2019 triennial review.

In the interim, however, these protective criteria could be applied in translating the Los Angeles Water Board's narrative toxicity criteria for permit effluent limits and/or TMDL WLAs.

5.1.2. Adopt EPA's Recommended Freshwater Criteria for Copper

Stakeholders (CDA, CASQA and CCWMP) requested that the Los Angeles Water Board consider adopting the copper Biotic Ligand Model (BLM) - USEPA's 2007 recommended criteria for copper.

The Biotic Ligand Model (BLM) – a metal bioavailability model that uses receiving water body characteristics to develop site-specific water quality criteria – utilizes the best available science and serves as the basis for the new national recommended criteria. The BLM requires ten input parameters to calculate a freshwater copper criterion: temperature, pH, dissolved organic carbon (DOC), calcium, magnesium, sodium, potassium, sulfate, chloride, and alkalinity. The BLM is used to derive the criteria rather than as a post-derivation adjustment as was the case with the hardness-based criteria. This allows the BLM-based criteria to be customized to the particular water under consideration. BLM-based criteria can be more stringent than the current hardness-based copper criteria and in certain cases, the current hardness-based copper criteria may be more stringent than the BLM-based criteria for particular water bodies.

The Los Angeles Water Board recognizes the effectiveness of the BLM as a tool to address the site-specific bioavailability of metals such as copper, as it accounts for multiple factors that affect toxicity. Since the copper BLM is a revised 304(a) criterion, it will be among the criteria considered for adoption as a water quality objective during the 2017-2019 triennial review. With that in mind, stakeholders are encouraged to initiate the collection of site-specific data on the input parameters that support the BLM. It bears noting, however, that as was the case for the recalculation of the lead water quality objectives for the Los Angeles River, further action by the USEPA will likely be necessary in order for the Los Angeles Water Board to apply the BLM in its regulatory actions.

5.1.3. Update of the Bacteria Objectives and Associated TMDLs

Stakeholders (County & LACFCD) requested that the Los Angeles Water Board update the bacteria objectives in the Basin Plan, as well as the Bacteria TMDLs following the State Water Board's adoption of the Bacteria Provisions.

On January 26, 2018, the State Water Board released proposed final statewide Bacteria Provisions as *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California (ISWEBE)* and as amendments to the *Water Quality Control Plan for Ocean Waters of California (Ocean Plan)*.

The proposed Bacteria Provisions, if adopted, would apply to fresh, estuarine, and ocean waters and establish bacteria water quality objectives for the protection of REC-1, *Escherichia coli* (*E. coli*) as the indicator of pathogens in freshwater and Enterococci as the indicator for estuarine waters and ocean waters, and a risk protection level of 32 illnesses per 1,000 recreators. The Bacteria Provisions also include implementation approaches for bacteria control including reference beach and natural source exclusion approaches that may only be applied within the context of a total maximum daily load.

As indicated earlier (section 4.2), upon State Water Board adoption of the proposed revisions, Basin Planning staff will evaluate their effect on existing objectives and will begin work on any amendments to the Basin Plan's bacteria objectives if necessary. Regarding the Los Angeles Regions bacteria TMDLs, the Los Angeles Water Board will consider what, if any, revisions would be appropriate; and any such revisions will be addressed by the TMDL Program as resources allow and in consideration of upcoming deadlines and scheduled reconsiderations.

5.1.4. Develop Water Quality Objectives for Flow

Stakeholders (LAWK and ELC) requested prioritization of developing water quality objectives for flow.

EPA's Water Quality Standards Handbook discusses the use of water quality criteria for to protect beneficial uses. Per Section 3.8 of the Handbook, "[Clean Water Act] programs can incorporate strategies to protect aquatic ecosystems from the harmful effects of hydrologic alteration, and WQS programs in particular can include water quality criteria for flow to protect designated uses such as aquatic life, recreation, fishing, or shellfish harvesting" (p. 21).

In California, flow considerations are generally the purview of the State Water Board, and specifically the Division of Water Rights. Therefore, any development of flow objectives or policy for the protection of beneficial uses would likely be initiated and led by the State Water Board. However, the Los Angeles Water Board will be an active partner in the development of statewide flow objectives and any site-specific implementation measures that may be a necessary accompaniment to the flow objectives.

5.1.5. Develop Water Quality Objectives to Implement Beneficial Uses with respect to Hydromodification as a Pollutant

Stakeholders (LA Waterkeeper requested that the Los Angeles Water Board at a minimum develop narrative criteria consistent with the rest of the Basin Plan to fully protect all designated beneficial uses from hydromodification as a pollutant. Stakeholders contend that the channelization of several waterbodies in the region have resulted in the destruction of natural hydrology and the inability of these waterways to fully support their designated beneficial uses. Sampling of one such river has shown higher temperatures and greatly reduced biodiversity in sections with concrete bottoms as compared to sections with earthen bottoms.

The alteration away from a natural state of stream flow or the beds or banks of rivers, streams, or creeks, including ephemeral washes, is generally referred to as hydromodification. Over time, many of the water courses in the Los Angeles Region have been altered from their natural state into constructed waterways. While constructed waterways have aided regional development and flood control, there have been undesirable consequences as well. These modifications impair beneficial uses by modifying or eliminating instream and riparian habitat; degrading or eliminating benthic communities; increasing scour and erosion as a result of increased velocities; and changing the ability of natural systems to filter pollutants from surface waters.

While hydromodification does impact, or have the potential to impact, several beneficial uses as noted above, it is not in itself a pollutant and therefore cannot be addressed through the development of water quality objectives. Instead, the Los Angeles Water BoardLos Angeles Water Board primarily relies upon a three-pronged approach to regulating hydromodification: (1) WDRs issued pursuant to Water Code section 13263 and waivers issued pursuant to Water Code section 13269 to protect waters of the State, (2) certifications issued in accordance with CWA section 401 to protect waters of the U.S., and (3) municipal stormwater permits issued pursuant to section 402 (p) of the CWA to address stormwater related impacts to waterbodies.

Together, these programs serve to limit negative impacts to beneficial uses, and in some cases, strive to improve/restore conditions, within a watershed, in support of beneficial uses. Accordingly, developing water quality objectives for hydromodification will not be recommended for consideration during the 2017-20179 triennial review.

5.1.6. Re-evaluate Temperature Water Quality Objectives

Stakeholders (County & LACFCD) requested that the Los Angeles Water Board re-evaluate and update the Los Angeles Region's temperature water quality objectives.

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.

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

The application of the temperature objectives require determination of the "natural temperature" of waterbodies. This determination is complex and requires analysis of many different kinds of 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.

The re-evaluation of the temperature objective is an item of interest to Los Angeles Water Board staff and was identified as a potential project in the 2014-2016 Triennial Review. However, it was not adopted as a priority project during that Triennial Review period because it was not highlighted as a high priority by stakeholders, and it would require significant staff resources given the complexity of the issue. Also, staff has been unable to secure funding for this particular project as it is not generally viewed as a high priority.

While the Los Angeles Water Board is cognizant of the importance of this issue, there will not be an opportunity for it to be addressed during this triennial review period as the main focus of the 2017-19 triennial review is to evaluate EPA's new and revised 304(a) criteria.

5.1.7. Identify Water Quality Standards that do not comply with CTR and/or the 303(d) Listing Policy

Stakeholders (TECS) stated that the Los Angeles Water Board should identify those water quality standards that do not comply with the CTR and the Water Quality Control Policy for Developing California's CWA Section 303(d) List (Listing Policy).

The Basin Plan includes, by reference, federally promulgated water quality criteria applicable to California waters for the 126 priority pollutants included in the CTR for the protection of aquatic life and human health. Therefore, the Basin Plan objectives are in compliance with CTR. In addition, as part of the 2017-19 triennial review, staff will consider, for adoption as water quality standards, new or updated CWA section 304(a) water quality criteria recommendations published by the USEPA since May 30, 2000. The list contains a number of water quality criteria for pollutants that are part of the CTR. Accordingly, further action by the State Water Board and/or the USEPA to de-promulgate the existing CTR criteria may be necessary prior to incorporation of these criteria into the Basin Plan.

Regarding compliance with the Listing Policy, the policy does not contain water quality objectives, rather it provides guidance on the determination of water quality impairment based on water quality objectives contained in Regional Basin Plans. Accordingly, it is unnecessary to recommend this issue for consideration during the 2017-2019 triennial review.

5.1.8. Revisit the Mineral Water Quality Objectives for Surface and Groundwater in the Pacoima Area

Stakeholders (LADWP) requested that the Los Angeles Water Board re-evaluate surface and groundwater mineral water quality objectives in the Pacoima area. Stakeholders assert that the TDS, sulfate and chloride surface water quality objectives are based on insufficient information (per footnote "a" in Table 3-10 of the Basin Plan) and should be updated to represent more current conditions.

There appears to be a misinterpretation of Footnote "a" of Table 3-10 of the Basin Plan, which states that "*As part of the State's continuing planning process, data will continue to be collected to support the development of numerical water quality objectives for waterbodies and constituents where sufficient information is presently unavailable. Any new recommendations for water quality objectives will be brought before the Regional Board in the future."* (Emphasis added).

Throughout the table, the reaches where insufficient data exists for SSOs to be determined are identified with a further footnote providing values or ranges of values that could be used in lieu of mineral SSOs. The only mineral for which insufficient data was available to determine an SSO in Pacoima Wash is Boron. TDS, sulfate and chloride are not identified as lacking sufficient data.

The main focus of the 2017-19 triennial review will be to evaluate EPA's new and revised 304(a) criteria. Where time allows, Basin Planning staff recommend prioritizing projects of region-wide significance, such as the statewide bacteria provisions and natural source considerations, for the final list of triennial review priorities. Therefore, the re-evaluation of water-body specific mineral objectives is not recommended as a priority during this triennial review.

5.1.9. Consider costs associated with achieving Water Quality Objectives

Stakeholders (Boeing) stated that the Los Angeles Water Board must take into account the economic, social, and technological factors in establishing water quality objectives as required under Section 13241 of the California Water Code. Stakeholders argue that where background conditions, geology and morphology of the receiving stream, or a design storm[5] are not taken into account, water quality objectives are especially burdensome from both an economic and technological basis when addressing stormwater discharges. They insist that any unanticipated

[5] A storm of specific size, intensity and/or duration to use in the design of stormwater controls to achieve water quality standards.

negative consequences (both economic and ecological) must be included in any cost-benefit analysis of a water quality objective.

Section 13241 applies to the adoption of new and revised of water quality objectives. This initial phase of the triennial review is concerned with priority setting rather than proposed adoptions of new or revised standards. However, if and when water quality objectives are actually under consideration for adoption or revision, consideration of the factors identified in Water Code section 13241 will be part of those actions, as required by law. Such consideration will take into account economic considerations. It should also be noted that section 13241 establishes the fundamental obligation to ensure the reasonable protection of beneficial uses and prevention of nuisance. Accordingly, no consideration of the factors identified in section 13241 could support relaxing water quality objectives to levels that are not reasonably protective of beneficial uses.

5.2. Implementation Provisions

5.2.1. Develop a Policy to Address Natural Sources of Pollutants

Stakeholders (CASQA, LAC/LACFCD, CCWMP and Boeing) requested that the Los Angeles Water Board prioritize development of a policy for making natural source determinations to address exceedances of pollutants in waterbodies caused or contributed to by natural sources.

As discussed earlier, the Los Angeles Water Board has worked 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 as a first step towards developing 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. However, work on this issue was stalled by limited staff resources through the last triennial review period. Work will resume on the project, as resources allow, during the 2017-19 triennial review period.

5.2.2. Incorporate a Groundwater Mixing Zone Policy into the Basin Plan

Stakeholders (LASAN and CCWMP) requested that the Los Angeles Water Board prioritize incorporation of a mixing zone policy into the Basin Plan.

Stakeholders contend that when considering recycled water or groundwater projects, the ability to develop and implement projects that have some localized groundwater quality impacts, but no significant regional groundwater impacts may be important to long term sustainability planning for the region. They expect that a groundwater mixing zone will provide the Stakeholders with a needed tool to better coordinate these efforts and move effectively towards sustainable groundwater management in the watershed.

A mixing zone is "a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body[6]" Per the Los Angeles region's Basin Plan, the Los Angeles Water Board can allow mixing zones consistent with either the Ocean Plan or the State Water Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). At the same time, the Basin Plan acknowledges that mixing zones are not usually appropriate since many of the streams in the region have minimal upstream flows. There is no consideration of a mixing zone application to groundwater in the Basin Plan.

If, in requesting a mixing zone allowance in groundwater basins to accommodate recycled water recharge, proponents are seeking to exceed standards for parameters such as salts (TDS, chlorides and sulfates) and nutrients, this presents several issues. First, there are generally elevated concentrations of salts in recycled water. Since salts do not degrade in the environment, such an allowance will result in a build-up of salt concentrations over time with the potential for a growing area of elevated concentrations within a basin. In response to the argument that such practices will have localized impacts but no significant regional impacts, it is important to point out that groundwater is a local resource primarily relied on by populations in overlying areas. Therefore, the potential for localized impairment should not be disregarded.

Second, the majority of the Los Angeles Region's groundwater basins have levels of TDS and chlorides beneath the water quality objectives in the Basin Plan, which means assimilative capacity exists to accommodate increased loads of salts to the basins. Therefore, the SNMPs developed for the region's groundwater basins, in response to the State Water Board's Recycled Water Policy directive, are a more appropriate tool for coordinating recycled water and groundwater projects for sustainable groundwater management. SNMPs have provided a comprehensive look at each basin's capacity to handle loads from recycled water projects as well as other measures used to reduce salt loadings such as stormwater capture and recharge. In accordance with the intent of the Recycled Water Policy, this allows for the accommodation of such salt-loading projects while protecting beneficial uses of the basin.

Third, a number of existing major recycled water projects in the Los Angeles Region produce advanced treated wastewater - sometimes leading to salt concentrations far below the existing basin concentrations. Costs of such processes can be significantly reduced by

[6] State Water Resources Control Board (2005). Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, available at: https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/docs/final.pdf

treating a fraction of the effluent in a separate stream and mixing with the bulk of the effluent to reduce salt levels.

With growing dependence on local water sources such as groundwater, it is becoming increasingly important to be protective of local supplies. Therefore, a mixing zone policy for recycled water projects will not be recommended to the Los Angeles Water Board for consideration at this time - particularly as commonly applied technology can prevent impairment of the Los Angeles Region's groundwater basins.

5.2.3. Develop a Regional Variance Policy

Stakeholders (CASQA) requested that Los Angeles Water Board develop a regional variance policy specifically focused on the pollutants for which compliance is not currently feasible and also provide guidance on how dischargers can collectively pursue region-wide variances.

In October 2015, revisions to the federal Water Quality Standards (WQS) regulations at 40 C.F.R. Part 131 went into effect. The final rule addressed certain key WQS program areas including variances. The final rule establishes a clear regulatory framework for the adoption of WQS variances that states and authorized tribes can use to implement adaptive management approaches to improve water quality. It explicitly authorizes the use of WQS variances for certain CWA purposes and provides requirements to ensure that WQS variances are used appropriately. Per this rule, a WQS variance may be adopted for one or more permittees or for a waterbody or waterbody segment.

In August 2017, EPA made available a WQS Variance Building Tool, available at https://www.epa.gov/wqs-tech/water-quality-standards-variance-building-tool. This tool was designed to help navigate the requirements at 40 CFR Part 131.14 to determine what a legally binding WQS variance would look like and what additional information must be documented and submitted to USEPA to support the WQS variance. USEPA has also developed a FAQs (Frequently Asked Questions) document titled "Discharger-specific Variances on a Broader Scale: Developing Credible Rationales for Variances that Apply to Multiple Dischargers"[7] to help address questions that arise when states and tribes seek to streamline the adoption and approval of water quality standards (WQS) variances for pollutants that have an impact on multiple permittees (or dischargers). Such variances could be considered for groups of permittees that are experiencing the same challenges in meeting their water quality based effluent limits (WQBELs) for the same pollutant, regardless of whether or not the permittees are located on the same waterbody. USEPA notes, however, that multiple discharger variances may not be appropriate or practical for all situations, and may be highly dependent on the parameters considered and the number of affected permittees.

[7] https://nepis.epa.gov/Exe/ZyPDF.cgi/P100IRYU.PDF?Dockey=P100IRYU.PDF

On January 26, 2018, the State Water Board released a proposed statewide Water Quality Standards Variance Policy, along with the statewide bacteria provisions. This policy identifies the water quality standards variance regulatory framework established by USEPA (40 C.F.R. § 131.14) and explains the requirements the Water Boards must utilize to establish water quality standards variances, consistent with the federal rule for any pollutant.

Given the statewide applicability of the proposed WQS Variance Policy, and the availability of guidance documents and tools from EPA, developing a regional variance policy would be redundant and is not recommended to the Los Angeles Water Board for consideration during this triennial review.

5.2.4. Develop a Policy for the Application of Water Effect Ratios (WERs)

Stakeholders (LA Waterkeeper) requested that the Regional Board develop a policy for the application of water effect ratios.

While the Los Angeles Water Board does not have a separate policy for WER development and adoption in the Los Angeles Region, there are existing state and federal regulations, policies, and guidance that identify necessary considerations in WER development and adoption, establish limitations on the use of WERs, and provide direction on their derivation. The application of these existing state and federal regulations, policies, and guidance during the development and adoption of WERs ensures that all beneficial uses continue to be fully protected at the intended level in the waterbody for which a WER is being considered, as well as in downstream reaches. Any additional guidance would be redundant.

In addition to these considerations, the current momentum towards using the Biotic Ligand Model as a tool to develop site specific water quality criteria and objectives rather than WERs further supports the conclusion that the development of a WER policy is not necessary at this time.

5.2.5. Consider the Geology and Morphology of Waterbodies when establishing Water Quality Objectives

Stakeholders (Boeing) requested that the Los Angeles Water Board consider the geology and morphology of receiving streams when establishing water quality objectives.

The Los Angeles Water Board has indicated its intention to work on developing implementation provisions or guidance to address natural sources of pollutants during the 2017-2019 triennial review. To the extent that the geology of a waterbody may impact background concentrations of parameters, this would be a consideration in policy/guidance development.

5.2.6. Establish a Design Storm

Stakeholders (Boeing) requested that the Los Angeles Water Board establish a design storm, both to guide BMP sizing and to inform the compliance demonstration process.

In 2005, per direction of the Los Angeles Water Board during the project prioritization phase of the 2005 - 2007 Triennial Review, 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. The workplan was revised to become the "Strategy to Optimize Resource Management of Stormwater" (STORMS) and was approved by the State Water Board in January 2016. This strategy organizes projects that support the Storm Water Strategy into three implementation phases. The development of watershed-based compliance management guidelines and tools is

part of the first implementation phase, and is currently under development. These guidelines and tools are likely to address, to some degree, the establishment and application of design storms for compliance determination. Upon completion of this effort, should further work be necessary to implement the design storm as a compliance measure, the Los Angeles Water Board will consider prioritizing this work.

Accordingly, given current statewide efforts, establishment of a design storm will not be recommended for consideration during the 2017-2019 triennial review.

5.2.7. Incorporate Language into the Basin Plan Clarifying that MCLs should not always be applied to Waters used for Groundwater Recharge

Stakeholders (LADPW) requested that the Los Angeles Water Board develop Basin Plan language to clarify the application of water quality objectives for waters used for groundwater recharge (GWR). Stakeholders contend that applying drinking water maximum contaminant levels (MCLs) as effluent limitations for waters intended for groundwater recharge (GWR), has the potential to require waters to be treated twice, unnecessarily, and as a result is a barrier for local stormwater capture and use.

Stakeholders also requested that the Los Angeles Water Board reconsider applying MCLs to surface waters designated as MUN, as these objectives were developed for finished drinking water.

First, with respect to the designated GWR use, GWR beneficial use is defined as follows: "*Uses of water for natural or artificial recharge of groundwater for the purpose of future extraction, maintenance of water quality, or halting of saltwater into freshwater aquifers*". Since all the Los Angeles Region's groundwater basins are designated for existing or potential municipal and domestic supply (MUN), any waters used for recharge should be of such quality that would support extraction later for such use.

Second, regarding not applying MCLs to waters that may be treated prior to use as drinking water, the Safe Drinking Water Act (SDWA) [42 USC § 300f et seq.], amended in 1996, promotes a multiple-barrier approach to safeguarding the nation's water supply. This multiple-barrier approach goes beyond the traditional emphasis on treatment to address new challenges and reflects a better understanding of the need for a coordinated source water protection effort. Preventing contamination of drinking water sources is one of the key elements of the approach. Per EPA, "[r]eliance solely on drinking water treatment, beyond that which is needed to address naturally occurring pollutant concentrations, imposes an unfair burden on communities to address preventable problems caused by man-made sources of pollution" (EPA Memorandum to Regional Water Management Division Directors titled "Effective use of Water Quality Standards to Protect

Sources of Drinking Water". October 1, 2003). Accordingly, this issue will not be recommended for consideration during the 2017-2019 triennial review.

5.2.8. Specify in the Basin Plan that the Reference to the Secondary Drinking Water Standards are for Information Only

Stakeholders (CASQA) requested that the Los Angeles Water Board specify in the Basin Plan that the references to the secondary drinking water standards for turbidity and color are for information only. They also requested that clarification be provided regarding how the secondary MCLs for TDS and chloride would be applied to stormwater permittees.

The water quality objectives for turbidity, color, TDS, and chloride are objectives set to protect designated beneficial uses in the Los Angeles Region's waterbodies. For narrative objectives (such as color and turbidity), secondary MCLs can be used for translation into numeric effluent limitations. The Basin Plan also uses secondary MCLs for TDS and chloride in instances where waterbody specific objectives are not provided (see footnote f of Table 3-10 of the Basin Plan). Although USEPA recommends these levels as guidelines, USEPA recognizes that states may adopt them as enforceable standards[8].

The application of these secondary MCLs in permits, where appropriate, is justifiable, given these considerations. Staff will therefore not recommend to the Los Angeles Water Board that these issues be included as part of the triennial review.

5.3. General and Specific Beneficial Uses

5.3.1. Revise the Basin Plan's Beneficial Uses

Stakeholders (TECS) contend that the beneficial uses in the Basin Plan are too general and should be revised. They requested specificity in terms of which species of fish, other aquatic life, and terrestrial life are impaired for a reach when it is listed as impaired, or has a TMDL developed. They also felt beneficial uses should reflect the non-perennial nature of several of the streams in the Los Angeles Basin.

The Basin Plan's list of beneficial uses and associated definitions were developed by the State and Los Angeles Water Boards for use in their water quality plans. These uses stem from the Clean Water Act's goal of attaining water quality which provides for "*the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water* …" (CWA section 101(a)(2)), and are consistent with the use categories provided in EPA's Water Quality Standards Handbook.

[8] https://www.epa.gov/dwregdev/drinking-water-regulations-and-contaminants#Secondary

The Basin Plan's beneficial uses provide sufficient distinction and variation to provide the necessary protection through the application of water quality standards. For example, distinctions are made between COLD, WARM, EST, SAL and MAR aquatic uses in recognition of the different conditions necessary for the support of cold, warm, estuarine, inland saline water, and marine aquatic life species, respectively.

Also, with respect to the non-perennial nature of several of the Los Angeles Region's waterbodies, the Basin Plan categorizes certain beneficial uses as intermittent for several stream reaches throughout the region in recognition of varying flow conditions in these waterbodies. For all of these reasons, this issue will not be recommended for consideration during the 2017-2019 triennial review.

5.3.2. Modify the Beneficial Uses of Silverlake Reservoir

Stakeholders (LADWP) requested that the Los Angeles Water Board modify the beneficial uses of the Silverlake Reservoir to reflect the change from its previous function as a drinking water reservoir to an isolated waterbody that relies on recycled water to maintain water levels.

The Los Angeles Water Board recognizes that there may be a need for a re-evaluation of the designated MUN beneficial use for the Silverlake Reservoir, given the recent operational changes. However, the main focus of the 2017-2019 triennial review is to evaluate EPA's new and revised 304(a) criteria. Where time allows, Basin Planning staff recommend prioritizing projects of region-wide significance, such as the statewide bacteria provisions and natural source considerations, for the final list of triennial review priorities. Therefore, the re-evaluation of water-body specific beneficial uses is not recommended for Los Angeles Water Board consideration during this triennial review.

Nonetheless, stakeholders have the option of compiling and presenting to the Board relevant data and information to support a comprehensive re-evaluation of the designated MUN beneficial use through a use attainability analysis (per 40 CFR 131.10(g)) for future consideration by the Los Angeles Water Board.

5.3.3. Revisit the Beneficial Uses Assigned to Elderberry Forebay

Stakeholders (LADWP) requested that the Los Angeles Water Board revisit the beneficial uses assigned to Elderberry Forebay and consider information to remove certain uses (including MUN, PROC, AGR, GWR, FRSH, WARM, RARE, SPWN, REC-1 and REC-2). Stakeholders state that Elderberry Forebay was constructed strictly to provide water storage for pumped-storage hydroelectric generation. It is concrete-lined and public access is prohibited, as high flow velocities and rapid fluctuations in water levels could be hazardous to the public.

The main focus of the 2017-19 triennial review will be to evaluate EPA's new and revised 304(a) criteria. Where time allows, Basin Planning staff recommend prioritizing projects of region-wide significance, such as the statewide bacteria provisions and natural source considerations, for the

final list of triennial review priorities. The re-evaluation of water-body specific beneficial uses is not recommended for Board consideration during this triennial review. However, stakeholders have the option of compiling and presenting to the Board relevant data and information to support a comprehensive re-evaluation of designated beneficial uses through use attainability analyses (per 40 CFR 131.10(g)) for future consideration by the Los Angeles Water Board.

5.3.4. Modify the Narrative Description of Reaches 1 and 2 of the San Gabriel River to eliminate Hydrologic Disparities

Stakeholders (Sanitation Districts) requested that the Los Angeles Water Board modify the narrative descriptions of San Gabriel River Reach 1 (San Gabriel River Estuary to Firestone Boulevard) and Reach 2 (Firestone Boulevard to Whittier Narrows Dam), to eliminate hydrologic disparities within Reach 2. Under the current description in the Basin Plan, Reach 2 includes areas of substantially different hydrologic characteristics: a natural bottomed zone with impoundments for groundwater replenishment, and approximately 14 miles of concrete lined channel (Figure 1). The boundary between Reaches 1 and 2 would be more appropriately defined by the edge of the concrete channel, making Reach 2 completely unlined.

As is the case with most reaches, Reach 1 and Reach 2 of the San Gabriel River do not have identical beneficial uses. Therefore, making such a reach change will not be as straight-forward as moving a boundary from one location to another. Since CWA section 303(d) impairments and TMDL waste load allocations are reach-dependent, any such modifications may trigger re-considerations of both. If a reach modification is deemed necessary, an alternative is to separate Reach 2 into different sections – one containing the concrete-lined channel, and the other containing the earthen bottom channel.

That said, the main focus of the 2017-19 triennial review will be to evaluate EPA's new and revised 304(a) criteria. Where time allows, Basin Planning staff recommend prioritizing projects of region-wide significance, such as the statewide bacteria provisions and natural source considerations, for the final list of triennial review priorities. Therefore, water-body specific reach revisions are not recommended for Board consideration during this triennial review.

5.4. Other Issues of Concern

5.4.1. Incorporate the Concept of a Reconciliation Ecology approach to the Management of Systems into the Los Angeles Water Board's Climate Change Policy

Stakeholders (CCWMP) requested that the Los Angeles Water Board incorporate the concept of a reconciliation ecology approach to the management of systems into the climate change policies being considered under the current triennial review.

Reconciliation ecology is a concept that involves re-designing anthropogenic habitats so that their use is compatible with use by a broad array of other species. Rather than protecting habitat from human use, reconciliation ecology works in and with the human dominated habitats that cover most of the terrestrial surface of the earth.[9]

Adapting the regulatory framework to changing conditions occurring as a result of climate change is a complex task. In this context, a variety of aspects need to be taken into account to protect water quality, including impacts to reference conditions. As climate change progresses, the definition of reference conditions themselves may change as ecological, physical and chemical conditions evolve in unperturbed systems. These issues were outlined in the "Los Angeles Region Framework for Climate Change Adaptation and Mitigation - *Current State of Knowledge & Water Quality Regulatory Program Considerations*" developed by the Los Angeles Water Board and available on the Board's website.

Staff is currently working on developing Part 2 of this Framework - *Potential Regulatory Adaptation and Mitigation Measures*, which will outline specific regulatory adaptation measures that could be implemented by the Los Angeles Water Board, and will consider incorporating the concept of reconciliation ecology as part of this document.

5.4.2. Prioritize 304(a) criteria evaluations to match schedules for TMDL adoptions and reopeners

Stakeholders (LADWP) suggested prioritizing the CWA section 304 (a) criteria recommendations, when applicable, to match the schedule for TMDL adoption or reopeners. This would increase efficiency for the adoption along with changes to be made in the Basin Plan.

Where feasible, prioritizing the CWA section 304(a) criteria evaluations to match schedules for TMDL adoption or revisions will be considered.

[9] Michael L. Rosenzweig. Reconciliation Ecology and the Future of Species Diversity. Oryx Vol 37 No. 2 April 2003.

6. 2017 - 2019 Triennial Review: Staff Recommendations on Priorities

6.1. Staff Recommendations

In light of USEPA's mandate that state and authorized tribes consider the new and revised section 304(a) criteria for adoption as water quality standards during their next triennial review, the usual project prioritization process was not used to develop staff recommendations. Priority was given to responding to the mandate.

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 Los Angeles 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 USEPA's directive and consideration of projects previously identified for prioritization in the 2017-19 triennial review, as well as available resources, staff recommends the following list of priority projects for consideration during the 2017-2019 triennial review period:

- Evaluate new recommended or revised CWA section 304(a) criteria for incorporation into the Basin Plan as water quality objectives;
- Consider any amendments to the Basin Plan's bacteria objectives that may be necessary in response to the Statewide Bacteria Provisions;
- Resume work on developing implementation tools to address natural sources of pollutants;
- Continue the development of 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;
- Provide support to other Los Angeles Water Board programs;
- Provide support to statewide standards-related initiatives; and
- Address legal and regulatory mandates that may arise during the remainder of the triennial review.