2023 – 2025 Triennial Review: Consideration and Selection of Basin Planning Projects

Staff Report

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

September 2023

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1. Introduction

This staff report summarizes priorities for review of water quality standards, and associated implementation programs, and identifies other issues that may be addressed through amendments to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) for consideration during the current (2023–2025) triennial review.

The 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 comprehensive watershed and groundwater basin programs of implementation for water quality objectives, including total maximum daily loads (TMDLs) for surface waters and salt and nutrient management measures for groundwater basins, as well as descriptions of the Water Board's programs and actions to address discharges of waste to surface water and groundwater, including 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).

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 (Figure 1).

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 or State Board) plans and policies and those of other state and federal agencies, related to water quality, are considered in the review process.

The report is organized as follows. Section 1 is this introduction. 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 2020–2022 triennial review period. Section 4 presents U.S. EPA mandates. Section 5 summarizes the Basin Planning projects identified by staff for consideration during the current triennial review. Section 6 summarizes stakeholder recommendations on basin planning issues they would like to be considered and

staff's consideration of those issues. Finally, section 7 presents staff's recommendations on priorities to be addressed during the 2023–2025 triennial review period.

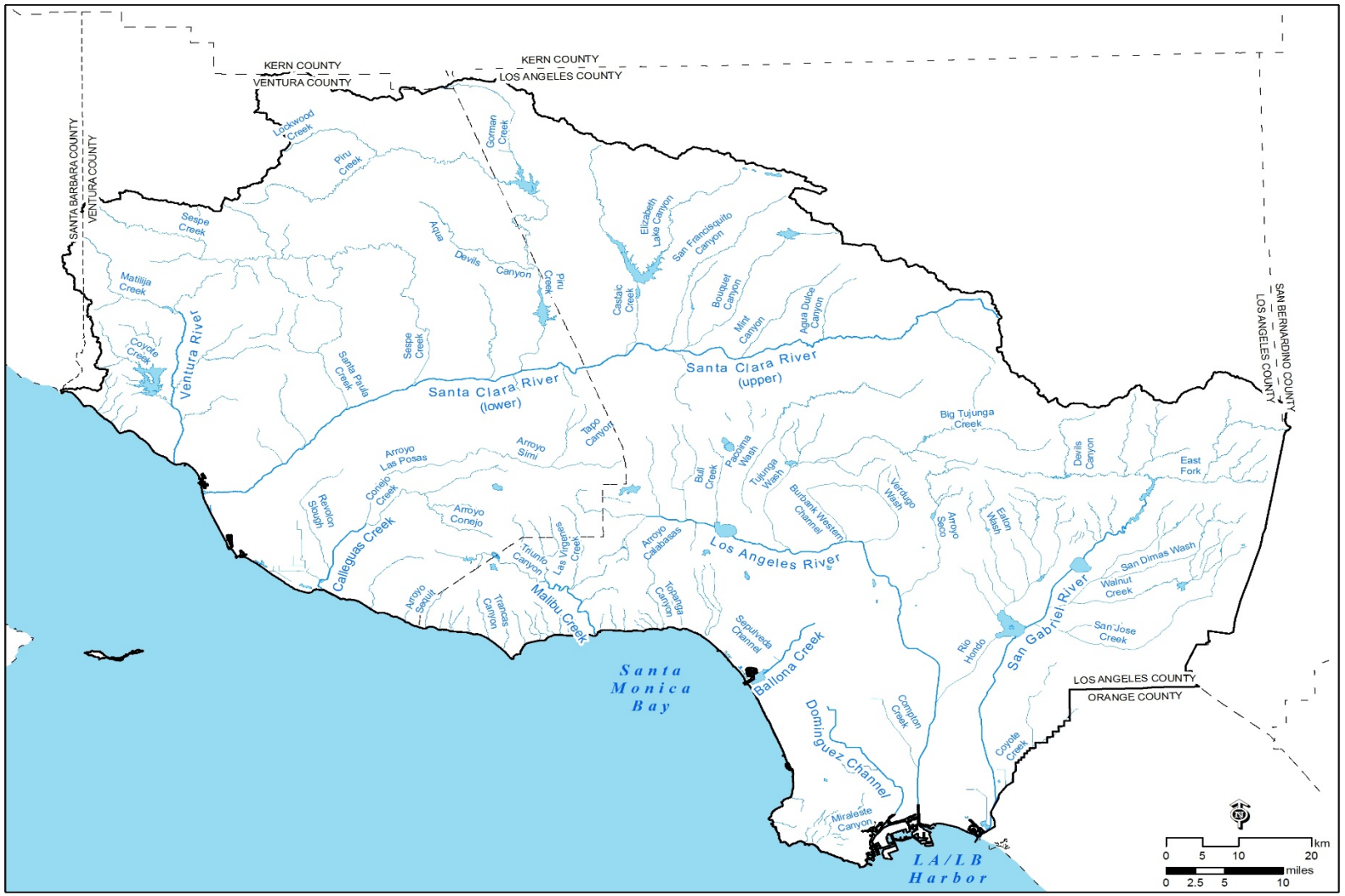

Figure 1: Map of the Los Angeles Region

2. The Triennial Review Process

The Los Angeles Regional Water Quality Control Board (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 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. Periodically, amendments are made to the Basin Plan, often to update water quality standards or to add TMDLs. 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 most recent amendments to the Basin Plan have included updating the water quality objectives for bacteria (February 2020), incorporating Tribal Beneficial Use Definitions so that tribal beneficial uses can be designated for waters in the region (March 2022), adopting a TMDL for bacteria in Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon (March 2022) and updating the TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Water (October 2022).

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 the United States Environmental Protection Agency (U.S. EPA) directives, 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*" (CWA § 303(c)(1).) Modifications to the Basin Plan are usually

[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 U.S. EPA if the amendment involves surface water quality standards or implementation provisions for these standards.

made to incorporate new scientific and technical information; address new legal requirements; to respond to U.S. EPA's recommendations and guidelines; to address State Water Board policy requirements; to address stakeholder concerns, where it is appropriate to do so; and to address issues identified by the Los Angeles Water Board itself or its staff during the regular course of business. Additionally, the Los Angeles Water Board often adopts Basin Plan amendments to incorporate site-specific water quality 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 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,[2] 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.

In recent years, the Los Angeles Water Board conducted triennial reviews of the Basin Plan for the 2001-2004, 2005-2007, 2008-2010, 2011-2013, 2014-2016, 2017-2019 and 2020-2022 periods. The 2023-2025 triennial review process was initiated in December 2022. For each triennial review period, the Los Angeles Water Board develops and adopts, through a resolution, a list of Basin Planning projects that would be considered over the next three years. Following the Los Angeles Water Board's adoption of the resolution, this list of projects is transmitted to the State Water Board and then to U.S. EPA Region IX.

Each triennial review occurs in three phases (Figure 2).

- During the first phase, the Los Angeles Water Board reviews water quality standards and identifies potential projects for possible Basin Plan amendments. Potential projects are also solicited from tribes and stakeholders. Some projects can be carried over from one triennial review to the next because the extent and number of issues often outpace the availability of resources.
- In the second phase, the Board holds a hearing and list standards-related issues that will be further researched and potentially addressed through subsequent Basin Plan amendments. Placing a potential project on the triennial review list only indicates the

[2] The federal Clean Water Act (CWA) requires each state to have in place a "continuing planning process" (CPP) approved by the U.S. EPA (CWA 303(e)).

Los Angeles Water Board will consider the need for an amendment, but it does not necessarily mean a revision of the Basin Plan will be made for the reasons described in Footnote 1.

- 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. During the development of each individual Basin Plan amendment, tribes' and stakeholders' inputs are solicited.

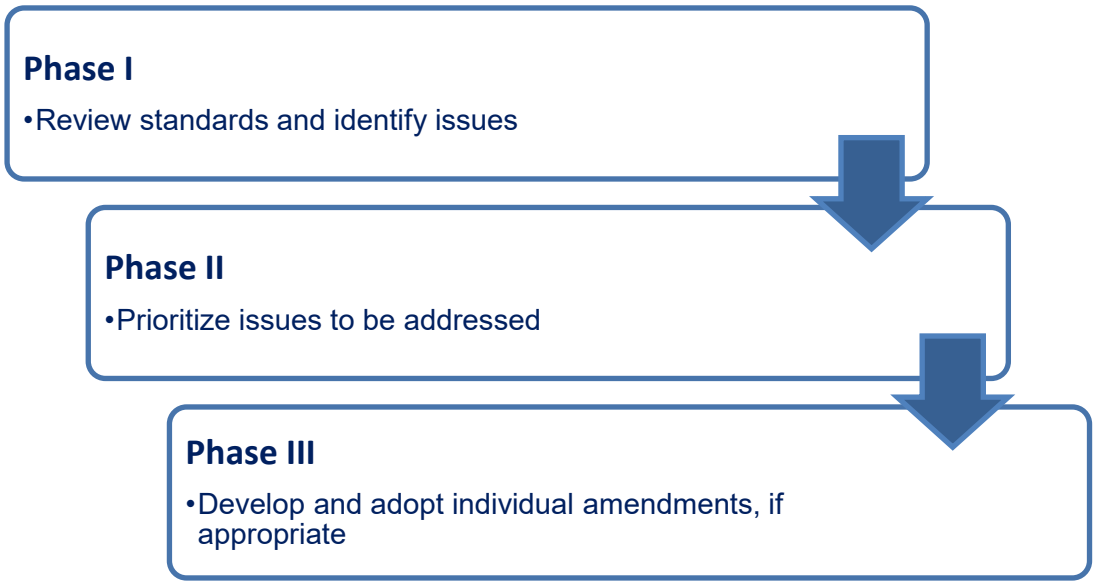

Figure 2: Schematic representation of the Triennial Review process

Phase I of this 2023-2025 triennial review began on December 28, 2022 when the Los Angeles Water Board sent out a solicitation letter to interested persons and entities including tribes inviting them to submit data, information, documents and other evidence regarding suggested revisions or additions to water quality standards applicable to waters in the Los Angeles Region that need to be addressed during this period. The comment submission deadline was February 6, 2023. The Los Angeles Water Board received nine comment letters from U.S. EPA and various categories of stakeholders. These comments are summarized and addressed in Section 4 (U.S. EPA) and Section 6 (other stakeholders) of this report.

Water Code section 189.7 directs the Water Boards to engage in appropriate outreach to identify issues of environmental justice as early as possible in planning, policy, and permitting processes. Consistent with Water Code section 189.7, the Los Angeles Water Board has conducted outreach to potentially affected disadvantaged and/or tribal communities concerning this 2023-2025 triennial review.

Phase II of the triennial review will conclude after a public comment period and public hearing on November 16, 2023, at which time the Los Angeles Water Board will consider adoption of a resolution confirming the basin planning projects to be considered and addressed during this triennial review.

Phase III will take place over reminder of the three-year period as the Los Angeles Water Board considers amendments to the Basin Plan. Because the triennial review process is cyclical, 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 conducted by the Los Angeles Water Boards. While the triennial review process may ultimately result in some amendments to the Basin Plan to adopt or modify water quality standards and implementation provisions, 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.[3] Such amendments need not coincide with the triennial review process. Indeed, over time, numerous Basin Plan amendments have been adopted including revisions to water quality objectives and beneficial uses and new and revised implementation provisions, programs and policies, including TMDLs[4]. Some of these have been adopted in the context of a triennial review, and others outside that process.

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, supra,* 191 Cal.App.4th 156).

Water Code section 13149.2 requires the Water Boards to make concise, programmatic findings on potential environmental justice, tribal impact, and racial equity considerations related to the adoption of water quality control plans, including amendments that incorporate implementation programs or adopt or modify water quality objectives. This 2023-2025 triennial review does not consist of the adoption or modification of a Basin Plan amendment, implementation program, or water quality objective, thus no findings are required under section 13149.2. When considering the adoption or modification of water quality objectives in the future, the Los Angeles Water Board will engage in the required public participation and notice requirements and will make appropriate findings as required by section 13149.2.

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

[4] In the case of TMDLs, which are usually adopted as amendments to the Basin Plan, the process occurs outside the triennial review process, which tends to be focused on the components of the water quality standards themselves rather than the programs of implementation. The Los Angeles Water Board has a separate organizational unit for TMDL development, and thus priority setting for the TMDL program is conducted separately from the Basin Planning program. Nonetheless, the two programs work in close coordination such that the Basin Planning program considers priority projects that are needed to support the TMDL program.

3. The 2020-2022 Triennial Review Period

3.1. List of Projects for the 2020-2022 Triennial Review Period

Resolution 2020-004 listed the following projects for the 2020-2022 triennial review period:

a) Consider any amendments to the Basin Plan ammonia objectives according to 2013 U.S. EPA aquatic life ambient water quality criteria for ammonia – freshwater;
b) Consider any amendments to the Basin Plan's copper objectives according to 2007 U.S. EPA aquatic life ambient freshwater quality criteria for copper that use biotic ligand model (BLM) and evaluate steps necessary to address zinc in a similar manner;
c) Consider any amendments to the Basin Plan to incorporate TBUs, followed by designation of the beneficial uses;
d) Consider any amendments to the Basin Plan's toxicity objectives in response to the Statewide Toxicity Provisions that were adopted on December 1, 2020, revised on October 5, 2021, approved by the Office of Administrative Law (OAL) and U.S. EPA on April 25, 2022 and May 1, 2023, respectively, as state policy for water quality control for all waters of the state;
e) Consider the development of site-specific objectives for lead using recalculation procedure were evaluated in the context of sensitive species occurring at the site, including threatened or endangered species and commercially or recreationally important species;
f) Re-evaluate temperature water quality objective;
g) Provide support for efforts towards developing region-specific bio-objectives;
h) Initiate the development of implementation tools to address natural sources of pollutants;
i) 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 (State Board Resolution No. 2009-0011, amended by State Board Resolution No. 2013-0003);
j) Address legal and regulatory mandates that may arise during the remainder of the triennial review.

3.2. Projects Addressed

During the 2020-2022 triennial review period, Basin Planning staff completed the following Basin Planning projects:

3.2.1. Incorporation of Tribal Beneficial Use (TBU) Definitions to Chapter 2 of the Basin Plan

On May 2, 2017, the State Water Board adopted Resolution No. 2017-0027, entitled "Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of

California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions". Resolution No. 2017-0027 contains three new beneficial use definitions for use by the State Water Board and regional boards in designating Tribal Tradition and Culture (CUL), Tribal Subsistence Fishing (T-SUB), and Subsistence Fishing (SUB) beneficial uses of inland surface waters, enclosed bays, or estuaries in the State. State Water Board Resolution No. 2017-0027 states that the regional boards shall use the three new beneficial uses and abbreviations (CUL, T-SUB, SUB) to the extent such activities are defined in a Basin Plan after June 28, 2017. The CUL beneficial use reflects uses of water that support the cultural, spiritual, and traditional ways of living by California Native American Tribes (defined as a federally-recognized California tribal government listed on the most recent notice of the Federal Register or a non-federally recognized California tribal government on the California Tribal Consultation List maintained by the California Native American Heritage Commission). The T-SUB and SUB beneficial uses recognize uses of some surface waters by populations that are likely to consume more fish than the average recreational angler in California; the latter is protected under the Commercial and Sport Fishing (COMM) and Water Contact Recreation (REC-1) beneficial uses.

In its 2020-2022 Triennial Review, the Los Angeles Water Board listed the incorporation of TBU Definitions into the Basin Plan as a priority project to be considered. During the Triennial Review process, the Gabriele?o Band of Mission Indians-Kizh Nation, Heal the Bay, and U.S. EPA Region IX expressed support for adding tribal beneficial uses to the Basin Plan. No comment letters in opposition were received.

On March 10, 2022, the Los Angeles Water Board adopted the addition of CUL, T-SUB and SUB to Chapter 2 of the Basin Plan for the Los Angeles Region (Resolution No. 2022-001). This Resolution was approved by the State Water Board on October 18, 2022 (State Board Resolution No. 2022-0043) and by OAL on April 3, 2023. The addition of TBU definitions to the Basin Plan is the first phase of the TBU project, which will be followed by the second phase of the project, the designation of water bodies with TBUs. The Los Angeles Water Board will designate specific waterbodies where the use applies through a separate basin planning process in accordance with Water Code sections 13240 (periodic review and revision of Basin Plan), 13244 (hearing and notice requirements) and 13245 (approval by the State Water Board). For the Los Angeles Water Board to designate the CUL or T-SUB beneficial uses in the Basin Plan for a particular waterbody segment and time(s) of year, a California Native American Tribe must confirm whether the designation is appropriate (as required by Part 2 of the Inland Surface Waters, Enclosed Bays and Estuaries Plan—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions). Input from California Native American Tribes and other stakeholders will be a vital part of the upcoming designation process.

3.3. Projects Still in Progress

This section discusses projects that were identified during previous triennial review cycles, are still ongoing, and will be continued during the 2023-2025 triennial review period, but they have not yet been brought to the Los Angeles Water Board for formal action. They require further work before they may, if appropriate, be developed into Basin Plan amendments. The brief evaluation and the status of each project are provided below:

3.3.1. Amendment to the Water Quality Control Plan for the Los Angeles Region to Update Ammonia Objectives based on 2013 U.S. EPA Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater

The water quality objectives for ammonia in freshwater currently contained in the Los Angeles Region's Basin Plan are based on the 1999 U.S. EPA recommended criteria. Ammonia toxicity and, consequently, ammonia objectives vary under different temperature and pH environments and also by fish species exposed. The acute objectives are dependent on pH and fish species (salmonids present or absent), but not temperature. It is assumed that salmonids may be present in waters designated in the Basin Plan as "COLD" or "MIGR" and that salmonids are absent in waters not designated in the Basin Plan as "COLD" or "MIGR," in the absence of additional information to the contrary. The chronic objectives are dependent on pH, temperature, and the presence or absence of early life stages of fish (ELS). In addition, for some of the region's freshwater streams, the Basin Plan ammonia chronic objectives are expressed as Site Specific Objectives (SSOs), calculated using water effect ratio (WER).

In April 2013, U.S. EPA published its updated, final national recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (U.S. EPA 822-R18-002). The new recommended criteria reflect new data on sensitive freshwater mussels and snails, incorporate scientific views U.S. EPA received on its draft 2009 criteria, and supersede U.S. EPA's previously recommended 1999 ammonia criteria. The new acute criterion is pH and temperature dependent. It is determined primarily by effects on freshwater unionid mussels for water temperatures greater than 15.7°C, and by the presence or absence of rainbow trout at lower temperature. The chronic criterion is pH and temperature dependent, and is determined primarily by the effects of ammonia on freshwater mollusks, particularly unionid mussels, throughout the temperature range. In addition, recognizing that unionid mussels may be absent in some waters, U.S. EPA 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.

In order to address the applicability of the 2013 U.S. EPA criteria to the Los Angeles Region, the presence of unionid mussels in the region's freshwater bodies needed to be determined. Therefore, in 2016, the Los Angeles Water Board entered into a contract with the University of California, Santa Barbara to determine the status of native unionid mussels in the Los Angeles and Ventura County coastlines. Historically, three mussel species occurred in southern California: the California floater (*Anodonta californiensis*), Western pearlshell mussel (*Margaritifera falcata*) and Western ridged mussel (*Gonidea angulata*), of which only *A. californiensis* and *G. angulata* are recorded from the Los Angeles Region. The visual surveys did not locate any live mussels; however, shells of the *Anodonta* mussel clade (*A. californiensis/nuttaliana*), which includes the California floater, were found at one site, Malibou Lake. This introduced population was locally abundant in Malibou Lake in 2016 but the mussels appear to have been lost in a winter storm that buried the mussels in sediment prior to the 2017 surveys. While the study suggested that native unionid mussels have been extirpated from the Los Angeles Region, some restoration efforts are

underway to remove Matilija Dam in Matilija Creek, Ventura County and Rindge Dam in Malibu Creek, Los Angeles County, which may facilitate the return of mussels. In this triennial review period, the Los Angeles Water Board is planning to re-survey mussel population, to do the re-calculation procedure and consult with National Oceanic and Atmospheric Administration (NOAA), United States Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife in order to ensure any proposed revision to ammonia criteria are also protective of endangered or threatened species as recommended by the U.S. EPA technical support document (EPA 800-R-13-003; August 2013).

In addition, for chronic ammonia objectives, the 1999 criteria relax the chronic ammonia objectives at temperature <15°C when fish Early Life Stage (ELS) are not present. The 2013 criteria, however, only relax the chronic ammonia objective at temperatures <22°C when ELS are not present. Correspondingly, a determination of where ELS are present is necessary because chronic ammonia objectives are more stringent where ELS are present. Since there are potentially more fish species that reproduce at temperatures <22°C than at temperatures <15°C, the Water Board staff proposes a conservative approach to protect aquatic life: assuming that fish ELS would be presumably present in all streams in the Los Angeles Region, except for very few reaches that have seasonal ELS absent period. A region-wide change from ELS absent to ELS present will lead to more stringent ammonia criteria at low temperature to protect developing fish.

3.3.2. Consideration of U.S. EPA's 2007 Freshwater Quality Criteria for Copper (BLM) for incorporation into the Los Angeles Region's Basin Plan as a Water Quality Objective

In 2007, based on new data on the toxicity of copper to aquatic organisms in fresh and salt waters, U.S. EPA revised its freshwater copper criteria from a hardness-based approach to a water-quality dependent approach that uses a mechanistic model – the Biotic Ligand Model (BLM). The BLM is a metal bioavailability model that uses receiving water body characteristics to develop site-specific water quality criteria. Different from the California Toxics Rule (CTR) criteria for aquatic life for copper (40 C.F.R. section 131.38) that are based on hardness and currently are incorporated by reference in the Los Angeles Basin Plan, BLM requires ten toxicity modifying factors to calculate a freshwater copper criterion: temperature, pH, dissolved organic carbon (DOC), calcium, magnesium, sodium, potassium, sulfate, chloride, and alkalinity. Therefore, BLM-based criteria can be more or less stringent than the current hardness-based copper criteria. U.S. EPA believes that the revised criteria will provide improved guidance on the concentrations of copper that will be protective of aquatic life.

In 2018, the Los Angeles Water Board prioritized consideration of U.S. EPA's new and revised Clean Water Act Section 304(a) recommended criteria for adoption during the 2017-2019 triennial review period. Considering the incorporation of U.S. EPA's 2007 copper criteria into the Los Angeles Region's Basin Plan is part of this effort. Following this, Basin Planning staff developed a draft document titled "Preliminary Implementation Considerations for Application of BLM-derived Copper Criteria in the Los Angeles Region." This document provided an overview of the BLM and its input parameters and discussed implementation elements to be considered in the

development of BLM-derived objectives, which included data requirements, objective derivation, and options for applying these objectives in the Los Angeles Region. Subsequently, in July 2019, the Los Angeles Water Board held a stakeholder workshop on preliminary considerations for the application of U.S. EPA's 2007 aquatic life freshwater quality criteria for copper in the Los Angeles Region. The purpose of the workshop was to present and discuss these elements, and to solicit stakeholder input that could be incorporated into the final document intended to assist Los Angeles Water Board staff and stakeholders in developing BLM-derived freshwater copper criteria in a consistent manner throughout the region.

Alongside these efforts, the Los Angeles Water Board contracted with SCCWRP between 2019 and 2022 to develop a database of existing data that could be used in the application of BLM-derived copper criteria in the Los Angeles Region. The scope of the contract also included identification of data gaps and limited sampling and analysis to add to the database. Also, stakeholders have been encouraged to initiate the collection of site-specific data on the input parameters that support the BLM.

In December 2017, U.S. EPA signed a Cooperative Research and Development Agreement (CRADA) with eight metals associations (Aluminum Association, Aluminum REACH Consortium, Cobalt Institute, International Copper Association, Copper Development Association, International Lead Association, International Zinc Association, NiPERA Inc.) to develop a modeling framework for bioavailability models for individual metals to better support states, territories and tribes with criteria that reflect the latest science and are easier to implement than previous approaches. In 2018, U.S. EPA recommended the first criteria based on an empirical model (i.e., multiple linear regression or MLR) to quantify the bioavailability of aluminum. U.S. EPA intends to use MLR models as the metal bioavailability-modeling approach because of the relative simplicity, transparency, decreased number of input data needed to use the model, and the ease of use of the MLR approach compared to the BLM approach.

While U.S. EPA has not yet developed MLR-based criteria for copper, comparison between BLM and MLR using data collected by SCCWRP suggested significant discrepancies in freshwater quality objectives for copper. Plausible reason for the difference could be how the species sensitivity distributions (SSD) were normalized for both models. Another important factor is the range of toxicity modifying factors such as DOC, temperature, pH, hardness encompassed within the SSD dataset. Many samples from the Los Angeles River and San Gabriel River watersheds were elevated for pH, DOC and hardness as compared to the datasets used to develop the MLRs. Other than understanding the cumulative effect of the toxicity modifying factors acting together to increase or decrease copper bioavailability, future work will involve final determination of an approach to implement the criteria, review and analysis of additional data and information, external scientific peer-review process to meet this statutory requirement during the rulemaking process, stakeholder interaction, and a Basin Plan amendment process to adopt the copper water quality objectives.

After extensive discussions with U.S. EPA staff, State Water Board staff, and toxicologists from International Zinc Association and Windward Environmental LLC, Water Board staff came to the conclusion that BLM is more appropriate for California because of the variability of environmental

conditions in California, which presents a challenge for empirical model development like MLR. MLR were calibrated using a range of environmental data that may not be representative of many conditions in California and especially in the Los Angeles Region. In fact, in some California natural conditions, MLR will generate acute objectives that may be as much as 10-fold lower than the chronic objectives.

Basin Planning staff has been working closely with staff from the State Water Resources Control Board (State Water Board) who are considering the development of a state-wide policy for copper and zinc using a BLM. Staff is also providing inputs to the State Water Board and Windward Environmental LLC[5] to develop BLM software that is specifically tailored for California. The policy that is being developed will include the required data and information (e.g., number and distribution of samples, analytical methods, sampling schedule), protection of downstream waters, periodic evaluation, and implementation plans (e.g., NPDES permitting). Basin Planning staff will continue to inform and involve stakeholders and interested persons during the process. Upon Los Angeles Water Board adoption, further action by U.S. EPA to de-promulgate the existing CTR freshwater copper criteria may be necessary (i.e., when the new objectives are less stringent than the CTR) for the Los Angeles Water Board to apply the BLM or MLR in its regulatory actions. In addition, see section 6.1.3.

3.3.3. Developing Site-Specific Objective for Chloride in Los Angeles River Reach 6

The Tapia Water Reclamation Facility (Tapia WRF) is a wastewater treatment plant that discharges tertiary-treated wastewater to the Los Angeles River and Malibu Creek. In 1999, the Los Angeles Water Board permitted Tapia WRF to discharge effluent through a newly constructed discharge point into Dry Canyon Creek, a tributary to Arroyo Calabasas, which is a tributary to the Los Angeles River. The Los Angeles Water Board prescribed a chloride effluent limit of 190 mg/L, which was consistent with other Publicly Owned Treatment Works (POTWs) in the Los Angeles River as defined by Resolution No. 98-027.

In 2017, a review of the Basin Plan led to the clarification that Resolution No. 98-027 was not applicable to Tapia WRF's discharge point, because the Resolution predated its construction. Therefore, the Los Angeles Water Board adopted Order No. R4-2017-0124, assigning the discharge point a chloride effluent limitation of 150 mg/L based on the water quality objectives in Reach 6 as designated in the Basin Plan. Since Tapia WRF was unable to immediately meet the effluent limitations for chloride for discharges to the Los Angeles River upstream of the Sepulveda Flood Control Basin (Reach 6), the Los Angeles Water Board issued a Time Schedule Order with an interim chloride effluent limitation of 190 mg/L for Tapia WRF's Reach 6 discharge point and required Tapia to complete several actions, including a study to evaluate whether a site-specific objective for chloride is appropriate for the Los Angeles River Reach 6.

[5] Windward Environmental LLC is the company that developed BLM Software for the 2007 U.S. EPA Freshwater Copper Criteria

Accordingly, Tapia conducted a study to support the development of a site-specific objective. The Los Angeles Water Board will consider a proposed Basin Plan amendment to establish a site-specific chloride objective of 190 mg/L in the Los Angeles River Reach 6 based on staff's review of Tapia's study. It is anticipated that the Basin Plan amendment will be brought to the Board for consideration in November 2023.

3.3.4. Development of Salt and Nutrient Management Plans (SNMPs), per the State'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), and updated in 2018 (State Board Resolution No. 2018-0057).

The purpose of the Recycled Water Policy is to encourage the safe use of recycled water in a manner that is protective of public health and the environment. The Policy requires that Salt and Nutrient Management Plans (SNMPs) be developed for groundwater basins or sub-basins in California where salts and/or nutrients are a threat to water quality. The Recycled Water Policy is clear that the SNMP process should be stakeholder-led and conducted in a collaborative manner among interested persons. 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.

To date, the Los Angeles Water Board has adopted six Basin Plan amendments incorporating stakeholder-proposed/developed salt and nutrient management measures from such plans for seven basins in the Los Angeles Region as identified during the 2014-2016 triennial review. They include (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.

During the 2017-2019 and 2020-2022 triennial reviews, the San Fernando Valley Basin and Calleguas Creek Watershed had SNMPs in development, but they were not completed. As a result, the SNMP development on those basins will continue during the 2023-2025 triennial review period.

4. The 2023-2025 triennial review: U.S. EPA Mandates

In October 2015, revisions to the federal Water Quality Standards (WQS) regulations at 40 C.F.R. Part 131 went into effect. In its comment during this 2023-2025 triennial review, U.S. EPA again highlighted section 40 CFR §131.20(a) which requires that "if a state does not adopt new or revised criteria for parameters for which EPA has published new or updated CWA section 304(a) criteria recommendations, then the state shall provide an explanation when it submits the results of its triennial review".

The Los Angeles Water Board's 2023-2025 triennial review directly follows this rulemaking. The focus of the 2023-2025 triennial review will be the consideration of CWA section 304(a) recommended criteria for incorporation into the Los Angeles Water Board's Basin Plan, as described in the earlier sections (i.e., the adoption of U.S. EPA 2013 freshwater ammonia criteria and the ongoing work on U.S. EPA's 2007 freshwater copper criteria) and in section 5 below, Projects Identified by Staff. 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 2023-2025 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.

The 40 CFR §131.20(a) also states that "the state shall also re-examine any waterbody segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act every three years to determine if any new information has become available" and if the uses are attainable, the state must revise its standards accordingly (40 CFR §131.20(a)). On March 10, 2022, the Los Angeles Water Board adopted Resolution No. R22-002, which, in conjunction with the TMDL for bacteria in Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon, amended the Basin Plan to suspend the recreational beneficial uses (REC-1 and REC-2) in Los Cerritos Channel (above Atherton Street) during certain high flows. In Chapter 2 of the Basin Plan, the recreational beneficial uses are suspended in engineered channels during days with rainfall greater than or equal to 0.5 inches and the 24 hours following the end of the 0.5-inch or greater rain event. These flow conditions physically prevent the use of a waterbody for recreation. While the Los Cerritos Channel is not currently included as a waterbody subject to the HFS in Chapter 2 of the Basin Plan, Los Cerritos Channel is an engineered channel that meets the criteria for suspension of recreational uses. The State Water Board approved the amendment under Resolution No. 2022-0053 on December 6, 2022. The Los Angeles Water Board staff has recently submitted the documents for the TMDL and the high flow suspension of recreational uses to OAL and U.S. EPA for final approval.

Other beneficial uses in the Los Angeles Region and their definitions are listed in Chapter 2 of the Basin Plan, and these 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 U.S. EPA's Water Quality Standards Handbook. 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, different distinction is made for ammonia freshwater quality objectives in reaches with COLD and/or MIGR aquatic beneficial uses from other beneficial uses under the assumption that waterbodies with COLD and/or MIGR beneficial uses support salmonid species.

The Los Angeles Water Board also recognizes that there is a need for new designations of beneficial uses in some water body reaches in the Los Angeles Region, consistent with the recent adoption of TBU definitions to the Basin Plan. Staff therefore prioritize the designation of TBUs and the associated mercury water quality objectives during this 2023-2025 triennial review. Tribal

governments and stakeholders are invited to compile and present to the Board relevant data and information to support designation of TBUs for future consideration by the Los Angeles Water Board.

5. The 2023-2025 triennial review: Projects Identified by Staff

In addition to projects that are still in progress (Section 3.3), Basin Planning staff has identified potential projects as important to consider addressing during the 2023-2025 triennial review period. As mentioned earlier, these potential projects were selected based on U.S. EPA's directives and/or recommendations, considerations of on-going work on statewide plans and policies, needs and suggestions from various Los Angeles Water Board programs, and information and comments submitted by stakeholders during previous triennial reviews. They also include projects carried over from previous triennial reviews that are still being addressed by staff and were described in more detail in Section 3. A description of these projects are as follows:

5.1. Begin the Process of Tribal Beneficial Use (TBU) Designations

On March 10. 2022, the Los Angeles Water Board adopted Resolution 2022-001, adding three new beneficial use definitions in Chapter 2 "Beneficial Uses" of the Basin Plan: Tribal Traditional Culture (CUL), Tribal Subsistence Fishing (T-SUB), and Subsistence Fishing (SUB) beneficial uses of inland surface waters, enclosed bays, or estuaries in the State. The CUL beneficial use reflects uses of water that support the cultural, spiritual, and traditional ways of living by California Native American tribes (California tribes). T-SUB and SUB recognize populations that are assumed to consume more fish than the average recreational angler in California (protected under the Commercial and Sport Fishing or COMM and/or water contact recreation or REC-1 beneficial uses).

With the incorporation of the TBU definitions into the Basin Plans, the Los Angeles Water Board begins the process of identifying the waterbodies which should be designated with those uses and determining if the uses are existing or attainable. To designate CUL or T-SUB beneficial uses for a particular waterbody segment, a California tribe must confirm that the designation is appropriate. No confirmation is required to designate SUB beneficial use. Tribes and stakeholders are encouraged to submit letters requesting the Los Angeles Water Board to designate a waterbody with certain TBU(s).

Once designated, the mercury water quality objectives associated with each of the TBUs will be applied to protect uses related to humans or wildlife that eat fish from these waterbodies. Uses pertaining to fish consumption are the most sensitive uses related to mercury because of the bioaccumulation of methylmercury in the food web. In 2022, the Los Angeles Water Board entered into a contract with SCCWRP to conduct a fish consumption survey for the potential designation of the SUB beneficial use in urban lakes in the region. The consumption survey will also include a survey on demographics, fishing habits, and fish species caught. The fish consumption rate derived from waterbody- and population-specific data and information on the subsistence fishers' rate and form (e.g., whole, fillet with skin, skinless fillet) of fish consumption will be used to determine the applicable mercury objective. The scope of the contract also included identification of data gaps, sampling and analysis necessary for the designation. Concurrently, the Los Angeles

Water Board initiated discussions to support tribes in conducting their own surveys for CUL and T-SUB designation. Los Angeles Water Board staff have also initiated discussions with State Water Board staff on identifying potential sources of funding to assist tribes in identifying waterbodies to designate.

5.2. Re-evaluate and Consider Updating the Temperature Water Quality Objectives

Water temperature has profound effects on both aquatic chemistry and aquatic life. It 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 other water quality objectives such as dissolved oxygen or ammonia. The Basin Plan objectives for temperature are as follows:

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

The application of the temperature objectives requires determination of the "natural temperature" of waterbodies. This determination is complex and requires analysis of information, such as historical data records, which may or may not be available. In addition, the portion of the water quality objective for the WARM aquatic life beneficial use that states, "*as a result of waste discharge"* is difficult to determine due to the site-specific conditions, such as flow and substrate, that can affect temperature in receiving waters.

The Los Angeles Water Board staff have long recognized the need for a re-evaluation of the temperature objective and the re-evaluation 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 as, given the complexity of the issue it would require significant staff resources which were limited, and attempts to secure funding for the project were unsuccessful.

More recently, reconsideration of the temperature objectives has been frequently raised by staff from the Los Angeles Water Board's permitting program as a high priority that needs to be addressed in a timely manner. The Los Angeles Water Board has collaborated with SCCWRP and the Los Angeles County Sanitation District to: (i) survey aquatic-dependent taxa given the current habitat conditions in San Gabriel River and Santa Clara River, (ii) determine the relationship between temperatures and the probability that life stages of each of taxa is supported, (iii) determine how the relationship between waterbody temperature and the support of each taxon vary according to habitat location and seasonality in the watershed, and (iv) determine how critical exposure time, duration and/or frequency associated with temperature relationships described in point (ii) and (iii).

5.3. Consider Updating the Residual Chlorine Water Quality Objectives

Discharges of chlorine are common because of its use in disinfecting effluent, controlling fouling organisms in cooling water systems, and in industrial processes, particularly the food and paper industries. When chlorine is added to fresh water, the solution will usually contain two forms of free chlorine: hypochlorous acid (HOCl) and the hypochlorite ion (OCl^-). If the water contains ammonia, the solution will probably also contain two forms of combined chlorine: monochloramine and dichloramine. The term "total residual chlorine" (TRC) is used to refer to the sum of free chlorine and combined chlorine in fresh water. All four forms of chlorine are toxic to aquatic life.

The Basin Plan objectives for total residual chlorine, which have been in place since a 1994 amendment are as follows:

- The first part states that, "*Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L*."

- The second part states that, *"…[chlorine residual] shall not persist in receiving waters at any concentration that causes impairment of beneficial uses*."

In their May 2000 approval of the 1994 Basin Plan amendments, U.S. EPA expressed concern that the adopted objectives for total residual chlorine were based on consideration of equipment reliability and monitoring limitations at sewage treatment plants. They stated that the discharge limitation was not sufficiently stringent to ensure the protection of aquatic life beneficial uses in regional surface waters since it was not water quality based. They directed the Los Angeles Water Board to expand the existing narrative objective for total residual chlorine to include numeric objectives for the protection of aquatic life in the next triennial review. U.S. EPA also directed the objectives should be based on a consideration of the U.S. EPA's 1984 national recommended water quality criteria for chlorine.

This issue was identified as a high priority during the 1995, 2001, and 2004 triennial reviews. However, as the State Water Board was in the process of addressing it through a statewide policy, Los Angeles Water Board staff did not move forward with an independent process but rather provided input to the State Water Board's effort.

In 2006, the State Water Board, Division of Water Quality, Freshwater Standards Unit developed, and made public, a draft Statewide Chlorine Policy to protect aquatic beneficial uses, promote consistency, and improve clarity for dischargers and Water Board permit writers. The draft policy included numeric objectives based on U.S. EPA's 1984 recommended criteria, along with implementation provisions and compliance determinations. This policy was never finalized, instead it has transitioned into a future amendment to the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. The timeline for this amendment has not yet been determined.

The Los Angeles Water Board considers residual chlorine an important issue, and will continue to follow-up with the State Water Board on the progression of the statewide effort, and provide

input as necessary. In the event that a Statewide action is taken, staff could potentially take steps towards its incorporation into the Basin Plan.

5.4. Incorporate the Statewide Toxicity Provisions into the Los Angeles Region's Basin Plan

Aquatic toxicity occurs when the effects of pollutants and combinations of pollutants in surface water negatively impact aquatic life. Toxicity tests estimate the effects of discharges to surface waters on the survival, growth, and reproduction of aquatic species in the receiving water. This is done through exposing test species to a laboratory test sample of either ambient water or effluent and comparing the effects to control water. When originating from an effluent, these effects are typically referred to as "whole effluent toxicity" (WET).

The Basin Plan for the Los Angeles Region contains a narrative toxicity objective as follows:

> "*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration or other appropriate methods as specified by the State or Regional Board.*"

The Basin Plan also includes directives on the demonstration of compliance with the objective, such as, for acute toxicity:

> *The acute toxicity objective for discharges dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival when using an established USEPA, State Board, or other protocol authorized by the Regional Board.*

and for chronic toxicity:

> *To determine compliance with this objective, critical life stage tests for at least three species with approved testing protocols shall be used to screen for the most sensitive species. The test species used for screening shall include a vertebrate, an invertebrate, and an aquatic plant. The most sensitive species shall then be used for routine monitoring.*

This narrative objective is interpreted and implemented on a permit-by-permit basis. In addition, Section 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, which is also known as the Statewide Implementation Plan (SIP), includes minimum chronic toxicity control requirements for implementing the Basin Plan's narrative toxicity objectives. Because interpretation and implementation of narrative objectives and SIP can differ from one regional board to another, the State Water Board then considered new statewide aquatic toxicity water quality objectives. The Toxicity Provisions (Provisions) were adopted on December 1, 2020 by the State Water Board, revised on October 5, 2021, and approved by OAL and U.S. EPA on April 25, 2022 and May 1, 2023, respectively.

The Provisions contain numeric water quality objectives for both acute and chronic toxicity, and a program of implementation to protect aquatic life beneficial uses.

While these Provisions will not supersede the existing narrative toxicity water quality objectives, they will supersede Basin Plan implementation provisions that specify methods of assessing compliance with any numeric or narrative toxicity water quality objective, or specific toxicity testing and/or interpretation of toxicity testing data. This potential project would revise the Los Angeles Region's implementation provisions for the toxicity objective to align them with the statewide provisions.

5.5. Develop Site-Specific Water Quality Objectives for Lead in the Los Angeles Region based on Recalculated Lead Criteria

To protect the region's waters, the Los Angeles Water Bord applies the lead water quality criteria contained in the California Toxics Rule (CTR) criteria, set forth in 40 C.F.R. section 131.38, and incorporated by reference in the Basin Plan. The CTR contains federally promulgated water quality criteria applicable to California waters for 126 priority pollutants for the protection of aquatic life and human health.

In 2015, the Los Angeles Water Board adopted Resolution No. 2015-004, which amended the Basin Plan to incorporate SSOs for lead in the Los Angeles River and its tributaries within the urbanized area of the watershed. The SSOs for lead were developed using U.S. EPA's Recalculation Procedure, which provided a method for utilizing lead toxicity data from all available national studies to calculate updated criteria from those in the CTR. Subsequent to State Water Board, Office of Administrative Law, and U.S. EPA approvals, U.S. EPA de-promulgated the CTR criteria for lead for the Los Angeles River specifically, in order to allow the SSO to replace it.

As part of the Recalculation Procedure, the recalculated criteria were evaluated in the context of sensitive species occurring at the site, including threatened or endangered species and commercially or recreationally important species. Because the procedure applied for the Los Angeles River watershed used a national U.S. EPA dataset, the results of this recalculation are potentially applicable to streams state-wide, provided a site-specific evaluation of sensitive species is conducted.

In 2016, the Los Angeles Water Board entered into a contract with California State University, Los Angeles, to conduct such sensitive species evaluation in the rest of the watersheds of the Los Angeles Region and adjust the recalculated lead criteria for each watershed as needed. The study was completed in 2019. The plan at the time was to use the results of the 2019 study to develop SSOs for lead in other watersheds of the Los Angeles Region during the 2023-2025 triennial review period. But, as discussed in section 3.3.2 in December 2017, U.S. EPA signed a CRADA with eight metals associations to develop bioavailability models for individual metals, including lead, that reflect the latest science and are easier to implement than the previously more complex metals bioavailability models for criteria development. Therefore, this project is pending U.S. EPA's CRADA-based metal recommendation for lead.

5.6. Consider 2018 U.S. EPA's Freshwater Quality Criteria for Aluminum for incorporation into the Los Angeles Region's Basin Plan as a Water Quality Objective

The Los Angeles Basin Plan only contains aluminum water quality objective for the protection of municipal (MUN) beneficial uses. In 2018, U.S. EPA recommended the first criteria based on a multiple linear regression model to quantify the bioavailability of aluminum. To protect beneficial uses related to aquatic life, the Los Angeles Water Bord would consider the incorporation of U.S. EPA's 2018 Freshwater Quality Criteria for Aluminum into the Basin Plan as a water quality objective during the current or subsequent triennial review periods.

5.7. Support the Development of Statewide Biostimulation, Cyanotoxin and Biological Condition Provisions

Biostimulatory substances (e.g., nitrogen and phosphorus) and conditions (e.g., altered hydrology and temperature of streams) have led to eutrophication across many parts of California. Degraded water quality as a result of eutrophication has impaired beneficial uses for human and aquatic life. Scientific foundation for the assessment of eutrophication for wadeable streams, non-wadeable rivers, lakes, reservoirs, estuaries and enclosed bays are currently being developed across California, including scientific bases for numeric targets of biostimulatory substances such as total nitrogen, total phosphorus and chlorophyll-a. When the provisions are adopted by the State Water Board, a potential project would arise for the Los Angeles Region Water Board to align the Basin Plan with the statewide biostimulation, cyanotoxin and biological condition provisions. Once the provisions are adopted by the State Water Board, the Los Angeles Water Board will consider their incorporation into the Basin Plan as water quality objectives during this or future triennial review periods. Given the importance of protecting all waters in the region including hardened channels, if the State Water Board develops biological condition provisions that do not specifically protect hardened channels, the Los Angeles Water Board may go further to establish necessary objective for hardened channels based on the available state of science at that time.

5.8. Consider 2021 U.S. EPA's Ambient Water Quality Criteria for Nutrients in Lakes and Reservoirs into the Los Angeles Region's Basin Plan as a Water Quality Objective

In 2021, U.S. EPA published a new recommendation using a risk hypotheses model, using data collected from National Lakes Assessment (NLA), which sampled lakes and reservoirs across the conterminous U.S. in 2007 and 2012 to protect water quality in lakes and reservoirs from harmful algae bloom and/or eutrophication. The model consists of a pathway in which increased nutrient concentrations increase phytoplankton biovolume (measured as chlorophyll *a* or Chl *a*), which can be used to protect aquatic life, recreational and municipal beneficial uses. On September 8, 2022, U.S. EPA updated the model, along with its building-block models (microcystin, hypoxia, and zooplankton models) by including more data from 2017 NLA. U.S. EPA is expected to release new guidelines on the implementations of these criteria, whose public comment period ended on March 13, 2023. Once the recommendations are finalized by U.S. EPA, the Los Angeles Water Board can either adopt the 2021 U.S. EPA Ambient Water Quality Criteria for Nutrients in Lakes

and Reservoirs or the proposed statewide biostimulation, cyanotoxin and biological condition provision. The selection would depend on resources and/or stakeholder recommendation during this or future triennial review periods.

5.9. Addressing Natural Sources of Pollutants

A number of chemical constituents which can, at sufficient concertation, be pollutants, are naturally occurring in the environment. These include, but are not limited to, bacteria, nutrients (nitrogen and phosphorus), minerals, and metals. In some cases, these constituents may be naturally elevated above the water quality objective and may exceed the objective more frequently than currently allowed by the objective. In these cases, where exceedances of an objective are due to natural sources, it may be appropriate to allow exceedances of the objective comparable to those observed in a reference system. Furthermore, it is important in the development of TMDLs to be able to quantify the background levels of the pollutant of concern when setting waste load allocations and load allocations to achieve the numeric targets in the TMDL.

The Los Angeles Water Board has made progress towards developing implementation provisions or an assessment tool to address this issue. In 2012, the Los Angeles Water Board obtained funding and executed a contract with the University of California Santa Barbara 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. After completion of the study in 2013, work on this issue was suspended due to limited Basin Planning staff resources and competing priorities.

During the 2014-2016 triennial review this issue was listed as one that should be prioritized in the upcoming 2017-2019 period. As a result, staff resumed work on the project, as time allowed. A review of governing federal and state regulations and policy, and an assessment of approaches taken by other state and/or regional entities was initiated in an effort to discern viable options for addressing natural sources of pollutants. However, once again, the project was deprioritized. Further work will involve completing the review and assessment of the natural sources of pollutants, and an internal evaluation of possible next steps. Where time allows, work will continue on this project during the 2023-2025 triennial review period. Stakeholders and interested persons will be kept informed of any developments and will be involved in any process that may lead to Board action.

6. The 2023-2025 Triennial Review: Potential Projects Identified by U.S. EPA and Stakeholders

Stakeholder input on potential issues to be addressed during the 2023-2025 triennial review cycle was solicited through a request for input, data and information sent out on December 27, 2022. In the solicitation, Los Angeles Water Board staff requested data and other information on any suggested revisions or additions to water quality standards that stakeholders would like the Los Angeles Water Board to consider during this period. In total, nine letters were received in response to this solicitation. Commenters included:

- U.S. EPA,

- County of Los Angeles and the Los Angeles County Flood Control District,
- City of Pasadena (on behalf of other cities - Alhambra, Calabasas, Glendale, Montebello, Monterey Park, Rosemead, San Gabriel, San Marino, South El Monte, South Pasadena and Temple City),
- Los Angeles County Sanitation District,
- Ventura County Public Works,
- Heal the Bay and Los Angeles Waterkeeper,
- A coalition of non-governmental organizations (NGOs) consisting of Los Angeles Waterkeeper, California Coaskeeper Alliance, Heal the Bay, the Nature Conservancy, and San Diego Coastkeeper,
- City of Los Angeles, and
- Stakeholders Implementing TMDLs in the Calleguas Creek Watershed.

A summary of the general issues raised within four distinct categories – Water Quality Objectives, Implementation Provisions, Beneficial Uses, and Other Issues – is provided below in italicized text. A brief discussion in regular text follows the summary, and 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 such.

6.1. Water Quality Objectives

6.1.1. Prioritize the Development of Alternative Water Quality Objectives for Bacteria Other than Fecal Indicator Bacteria (FIB)

Stakeholders Implementing the Total Maximum Daily Load in the Calleguas Creek Watersheds through the Calleguas Creek Watershed Management Program (CCWMP) requested that the Los Angeles Water Board develop alternative indicators or implementation approaches for bacteria water quality objectives, such as risk-based approaches focused on human sources of bacteria rather than using fecal indicator bacteria (FIB).

In addition, The County of Los Angeles and the Los Angeles County Flood Control District (the County and the District) also requested that FIB standard focus on targeting high-risk sources and addressing sources that have the greatest impact on water quality rather than treating all FIB sources equally. The County and the District also requested that the Los Angeles Water Board prioritize participation in regional fecal indicator bacteria (FIB) study being funded by the Safe, Clean Water Program.

A similar concern is also raised by Ventura County Public Works Agency and the City of Pasadena on behalf of other cities – Alhambra, Calabasas, Glendale, Montebello, Monterey Park, Rosemead, San Gabriel, San Marino, South El Monte, South Pasadena and Temple City – which requested the Los Angeles Water Board to seek alternative water quality objectives for bacteria, such as the use of human marker (e.g., HF183). At minimum, the City requested that TMDL bacteria standards adopted in 2010 should be updated to reflect the 2018 Statewide Bacteria Provisions especially as implemented in the Los Angeles River bacteria TMDL.

The Los Angeles Water Board acknowledges that the combination of risk-based (e.g., quantitative microbial risk assessment) approach and epidemiological data can provide a robust alternative to protect REC-1 beneficial use. Other than FIB, U.S. EPA has identified four other types of indicators of risk in recreational waters: coliphages, cyanotoxins, antimicrobial resistant bacteria and genes, and human and non-human fecal source identification (FSI) genetic markers, but currently, the scientific work completed has not yet provided enough information to establish water quality objectives using these alternatives. The Los Angeles Water Board needs to know, via multiple studies, the levels of alternative indicators (e.g., HF183) that would ensure an acceptable health risk in order to establish alternative water quality objectives. In its recent report on the 2nd Five-Year Review of EPA's Recreational Water Quality Criteria published in May 2023 (EPA 822R23003), the agency plans to develop additional criteria recommendations for q-PCR-enumerated enterococci protective of children and thus all recreators, as well as to use human marker (e.g., HF183) for water quality management. Staff will closely monitor the development of these plans. Once the science is fully developed and the new objectives are established by U.S. EPA, the Los Angeles Water Board may consider their incorporation into the Basin Plan as water quality objectives during this or future triennial review periods.

6.1.2. Prioritize Participation in Site-Specific Zinc Recalculation Study for the Los Angeles River, Ballona Creek and Dominguez Chanel Watersheds

The County and the District requested that the Los Angeles Water Board prioritize participation in the site-specific study to recalculate zinc criteria for the Los Angeles River, Ballona Creek and Dominguez Channel Watersheds.

The Los Angeles Water Board staff are aware that in December 2017, U.S. EPA signed a CRADA with eight metals associations in order to leverage the knowledge and resources of scientists inside and outside of the agency to better protect aquatic life. In addition, the State Water Board is currently developing statewide provisions for zinc using BLM to calculate zinc site-specific objectives.

Given the ongoing CRADA and State Water Board effort, it may be premature for the Los Angeles Water Board to attempt to support site-specific zinc recalculation study. It is also not an effective use of limited Basin Planning Program resources. Therefore, this project will not be recommended for prioritization during the 2023-2025 triennial review.

6.1.3. Prioritize the Biotic Ligand Model for Zinc and Copper Freshwater Quality Criteria

The County and the District recommended that the Los Angeles Water Board continue prioritizing the incorporation of the Biotic Ligand Model (BLM) as an interim zinc and copper freshwater quality criteria to the Basin Plan. The County and the District have also collected data to support this adoption. However, the County and the District suggested that the application of BLM should be limited to watersheds that do not have site-specific criteria to avoid a duplication of effort.

The City of Pasadena on behalf of other cities echoed the same request, that BLM should be adopted as an alternative to the California Toxic Rule (CTR) for zinc and copper.

The Los Angeles Water Board has acknowledged the effectiveness of the BLM as a tool to address the site-specific bioavailability of metals as evidenced by on-going work to incorporate BLM-derived water quality objectives for copper into the Basin Plan. Thus, the adoption of U.S. EPA 2007 copper BLM criteria to the Basin Plan will remain a priority for the 2023-2025 triennial review projects. The Los Angeles Water Board staff is currently working with the State Water Board to develop provisions for both copper and zinc using BLM. Stakeholders are therefore encouraged to initiate the collection of site-specific data on the input parameters that support BLM-derived criteria development for both copper and zinc. Such data could also be used to derive site-specific objectives for metals in the event that both copper and zinc BLM statewide criteria are approved. In the case that BLM-derived site-specific objective is less stringent than the current CTR, further action by U.S. EPA to de-promulgate the existing freshwater copper and zinc CTR objective will be necessary in order for the Los Angeles Water Board to apply the BLM-derived copper and zinc objectives in its regulatory actions.

6.1.4. Develop Water Quality Objectives for Biological Conditions

The coalition of NGOs consisting of Los Angeles Waterkeeper, California Coastkeeper Alliance, Heal the Bay, the Nature Conservancy, and San Diego Coastkeeper recommended that the Los Angeles Water Board allocate sufficient resources, including staff time, for the development of biological objectives in all watersheds of Los Angeles Region, including in hardened streams and concrete channels. They recommended that the Project include the following phases: (1) compilation of a census of relevant existing monitoring efforts as well as all relevant existing data; (2) evaluation of the extent to which existing data could be used to calculate scientifically sound California Stream Condition Index (CSCI) scores and ensure that appropriate reference sites exist regionally and statewide; (3) targeted monitoring in any areas where data gaps may exist; (4) creation of a "clearinghouse" by assembling supporting data and associated CSCI scores in one user-friendly format accessible to the general public; and (5) completion of a final project report by the end of the 2023-2025 triennial review period that can function as a technical appendix in a Basin Plan amendment proposing biological objectives for the Los Angeles Region.

The CSCI is a predictive tool that compares observed benthic macroinvertebrate community composition to composition expected at environmentally similar reference (i.e., minimally disturbed) sites. The biological condition at a site is measured as the number of expected taxa that are actually observed and degradation of biological condition is quantified as loss of expected native taxa. The biological objective is thus the ratio of observed-to-expected taxa, with the best possible score of 1 (i.e., similar to reference site). There are no objectives based on CSCI score, but CSCI score data are included with the data considered when the State develops the CWA 303(d) list of impaired waters and maybe used in the future for listing decisions.

The Los Angeles Water Board recognizes the importance of the biological assessment of water quality and its potential to address degradation and/or impairment of aquatic life beneficial uses. The State Water Board is currently developing the Biostimulation, Cyanotoxins and Biological

Condition Provisions (Biostimulatory Provisions) as a priority project. The Los Angeles Water Board is directly involved and fully supportive of the statewide objectives developed in the Biostimulatory Provisions, which are intended to have statewide consistency and provide regional flexibility, with efforts involving scientists, regulators, and stakeholders. Because the statewide Biological Provisions and their technical tools are also meant to determine numeric objectives for different stressors (e.g., nutrients) before stream communities experience major changes in composition, the Los Angeles Water Board considers these provisions an initial step towards developing regional biological objectives.

In California, only the San Diego Regional Water Quality Control Board (San Diego Water Board) has tentative water quality objectives for biological condition in perennial and seasonal wadeable streams, not including hardened streambed segments. Staff have been closely following the progress of the San Diego Water Board, in addition to following the latest U.S. EPA recommendations, including Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs, which was last updated on September 8, 2022. While limited Basin Planning resources will dictate the extent of any effort towards developing region-specific biological objectives, support of this issue is also identified as a potential project by staff during the 2023-2025 triennial review (see Sections 5.7 and 5.8).

6.1.5. Develop Water Quality Objectives for Flow in Los Angeles River

Heal the Bay and Los Angeles Waterkeeper recommended that the Los Angeles Water Board develop water quality objectives for flow in light of the momentum towards recycling wastewater from treatment plants that currently discharge treated wastewater into the river.

The Los Angeles Water Board is aware of the importance of managing flow in Los Angeles River for the protection of aquatic life and recreational beneficial uses. Therefore, the Los Angeles Water Board collaborated with the State Water Board and SCCWRP in cooperation with local municipalities (including City of Los Angeles Bureau of Sanitation, City of Los Angeles Department of Water and Power, Los Angeles County Department of Public Works, and Los Angeles County Sanitation Districts) to conduct the Los Angeles River Environmental Flows Project. The goals of the project were to develop a process for establishing flow criteria, and to develop a management tool useful to determine how to balance the need for local water supply and beneficial uses that could be impacted by reduced flows. The State Water Board's Division of Water Rights may use the management tool as non-binding guidance regarding future Water Code section 1211 wastewater change petitions.

6.1.6. Modify Water Quality Objectives for Temperature in Santa Clara River and San Gabriel River

The Los Angeles County Sanitation Districts requested continued support from Los Angeles Water Board Basin Planning, Permitting, and other staff on the temperature studies and compliance efforts, in order to meet a condensed compliance timeline, including: facilitating relationships with stakeholders and technical advisors, assisting with gaining access to the San

Gabriel River, Rio Hondo, and Santa Clara River or right-of-way issues to support monitoring and other data collection, and providing staff time and expeditious review for water quality studies and planning documents that may be produced to support attainment of or modifications to water quality objectives for temperature (e.g., basin planning processes). In addition, the Sanitation District requested a re-evaluation of temperature objectives in the Basin Plan taking into consideration climate change when evaluating such objectives.

The Los Angeles Water Board acknowledges the significant amount of time, effort and staff resources needed to evaluate the temperature water quality objective in the Region's watersheds. Therefore, the Los Angeles Water Board will continue supporting the extensive temperature studies conducted by the Sanitation Districts. Approaches that have been used to develop the management tool for flow objectives (see Section 6.1.7) can be used as a reference to develop a management tool for temperature. The Los Angeles Water Board staff considers revising temperature objectives in the Basin Plan as a potential project that needs to be prioritized during the 2023-2025 triennial review period (see Section 5.2).

6.2. Implementation Provisions

6.2.1. Identify Implementation Actions for Climate Change Adaptation and Mitigation in the Los Angeles Region

Heal the Bay and Los Angeles Waterkeeper requested that the Los Angeles Water Board explicitly mention incorporating climate change considerations into the Basin Plan as a priority to the Board, consistent with the Los Angeles Region Framework for Climate Change Adaptation and Mitigation (Climate Change Framework). In addition, Heal the Bay and Los Angeles Waterkeeper requested that the tasks identified by the Los Angeles Water Board during each Triennial Review that will be taken to continue implementation of the Climate Change Framework, as well as to review and adjust the strategy during each triennial review, as needed.

In 2019, the Los Angeles Water Board issued the Climate Change Framework considering the adverse impacts of climate change. The Climate Change Framework is being implemented in all Los Angeles Water Board program areas in addition to multiple basin planning projects such as the Salt and Nutrient Management Plan that addresses the issues of, among others, sea water intrusion due to extensive groundwater use during drought, temperature studies in the San Gabriel, Santa Clara and Los Angeles Rivers that protect beneficial uses with rising temperature; all of which are considered priority projects in the 2023-2025 triennial review. In addition, there are other climate-friendly projects such as the promotion of stormwater capture, and the support of water recycling that involve different stakeholders.

6.2.2. Incorporate DDT Research Findings into Applicable Regulatory Processes and Use Integrated Approach to Coastal Remediation

Heal the Bay and Los Angeles Waterkeeper recommended that the Los Angeles Water Board should prepare to: (1) incorporate any finding of upcoming DDT research into any appropriate regulatory documents and processes as part of the Los Angeles Basin Plan, and (2) develop strategies with which to view any TMDL addressing enclosed bays, estuaries, or coastal waters,

in an integrated way that considers the context of the TMDL within the larger Southern California Bight.

The Los Angeles Water Board supports the Southern California Bight Regional Monitoring Program, a multi-agency regional monitoring and assessment program overseen by SCCWRP as described in Chapter 6 of the Basin Plan and has since 1994. Incorporating the findings of the program to statewide water quality plans has been an ongoing effort, such as findings on ocean acidification will be incorporated into the Ocean Plan. The Bight Regional Surveys also have improved comparability of data collected by monitoring organizations. Quality assurance and quality control have improved significantly following laboratory intercalibration exercises for chemistry, group training for field crews, and taxonomic resolution for biologists.

In addition, at a regional level, the Los Angeles Water Board is partnering with the California and University of Southern California (USC) Sea Grant Programs and the State Water Board to provide funding for research focused on the offshore DDT dumpsites to understand the extent, impacts, and risks of deep ocean DDT in the Southern California Bight, particularly as new methodologies have revealed a greater diversity of DDT breakdown compounds and related byproducts (DDT+) of unknown impacts and extent. California (CA) Sea Grant and USC Sea Grant have received just over $5.2 million in funding from the State Water Board to fund four new projects to give the state a greater understanding of the human health risk and ecological risk due to deep ocean DDT+ deposits (i.e., ocean disposal sites, other coastal sources, and DDT processes) in the Southern California Bight. A description of the projects funded can be found at: Sea Grant Programs Award $5.2 Million in State Funding to Address Deep Ocean DDT Contamination in Southern California | California Sea Grant (ucsd.edu).

Because the science is still in development, no specific projects have been identified and this issue will not be recommended for prioritization during the 2023-2025 triennial review. Once the necessary science is fully developed and resources become available, projects based on the results of the DDT research can be candidates for consideration and prioritization in upcoming triennial reviews.

6.2.3. Modify the Calleguas Creek Watershed Metals and TMDLs to reflect U.S. EPA's draft Selenium Criteria and U.S. EPA's 2007 Copper Criteria

The CCWMP requested that the Los Angeles Water Board modify the Calleguas Creek Watershed Metals and Selenium TMDL based on a special study in Revolon Slough and Beardsley Wash that was submitted to the Los Angeles Water Board in 2022, and U.S. EPA's 2018 draft selenium criteria. In addition, the CCWMP also requested that the Los Angeles Water Board revise the metals TMDL based on the 2007 USEPA Aquatic Life Ambient Freshwater Quality Criteria for Copper.

In December 2018, U.S. EPA released a proposed draft freshwater criterion for selenium in California. Once the criterion is finalized and promulgated, it will be applicable statewide. Prior to the release of the final criterion by U.S. EPA, the Los Angeles Water Board's Basin Planning

program will not attempt to revise selenium objectives in the Basin Plan. In the future, further actions pertaining to establishing or revising TMDL for selenium, including the potential of calculating natural selenium loading (see Section 5.10) may be considered necessary, but currently staff do not recommend a priority project during the 2023-2025 triennial review. However, the adoption of U.S. EPA's 2007 copper BLM criteria to the Basin Plan will remain a priority for the 2023-2025 triennial review projects. As mentioned earlier, the Los Angeles Water Board has acknowledged the effectiveness of the BLM as a tool to address the site-specific bioavailability of metals as evidenced by on-going work to incorporate BLM copper criteria into the Basin Plan.

6.3. General and Specific Beneficial Uses

6.3.1. Expand Tribal Outreach Efforts for Waterbody-Specific Designation of Tribal Beneficial Uses (TBUs)

Heal the Bay and Los Angeles Waterkeeper urged the Los Angeles Water Board to allocate necessary staff resources to meaningfully engage local Tribal Nations and Peoples and collaboratively determine the application of Tribal Beneficial Use designations for all appropriate waterways in the Los Angeles Region. In addition, Heal the Bay and Los Angeles Waterkeeper urged the Los Angeles Water Board to prioritize designation of new potential Beneficial Uses over development of site-specific objectives to ensure that new requirements based on any potential beneficial uses are taken into account.

As discussed in Section 5.1, the Los Angeles Water Board considers the designation of TBUs a priority project during the 2023-2025 triennial review period. Accordingly, any water quality objectives developed for the protection of these uses would apply to waters where the Regional Water Boards have made such specific beneficial use designations. In 2022, the Los Angeles Water Board entered into a contract with SCCWRP to conduct a fish consumption survey for the SUB beneficial use in a minimum of three urban lakes in the region. The Los Angeles Water Board has also engaged with tribes and has been actively working to find resources for tribes to conduct surveys and other work during the designation process.

6.3.2. Incorporate High Flow Suspension and Low Flow Suspension of the Water Contact (REC-1) Beneficial Use for Applicable Waterbodies and Engineered Channels

Ventura County Public Works requested that waterbodies within Ventura County watersheds that meet the definitions outlined in the 2003 Basin Plan Amendment for "engineered channels" be included in the Basin Plan as waterbodies to which the High Flow Suspension of the water contact recreation (REC-1) beneficial use apply.

CCWMP and Ventura County Public Works also requested that the Los Angeles Water Board allocate Basin Planning resources to conduct a Use Attainability Analysis, as required by the

Statewide Bacteria Provisions, to determine other waterbodies to which a seasonal (high or low flow) suspension would apply.

As discussed earlier in Section 4.8, in 2003, the Los Angeles Water Board adopted an amendment that temporarily suspends the recreational beneficial uses in a number of engineered channels in Los Angeles County during and immediately following significant storm events (Resolution R03-010) (high flow suspension). At that time, data on engineered channels in Ventura County were not readily available. Therefore, they were not included in the high flow suspension. However, since then the necessary data have become available and the Los Angeles Water Board has considered a similar application for Ventura County's engineered channels. In 2013, Basin Planning staff initiated the process by conducting preliminary field surveys of the engineered channels identified on the GIS layers. Limited staff resources put this effort on hold. As mentioned in Section 5.9, in order for this project to move forward, staff may have to rely on stakeholders and/or interested persons to conduct the required assessments and analyses, while providing oversight of the process.

Regarding the application of seasonal high or low flow suspensions to waterbodies as required by the Statewide Bacteria Provisions, the Los Angeles Water Board will give careful consideration to such actions on a case-by-case basis. Until water bodies are designated with high-flow suspensions in Ventura County, this issue will not be recommended for prioritization during the 2023-2025 triennial review. Still, this does not preclude stakeholders and/or interested persons from conducting the necessary analysis and presenting the results and other accompanying information for the Los Angeles Water Board's consideration. It should be noted that undertaking such an effort is not a guarantee that a proposed suspension of recreational beneficial uses and bacteria objectives will be approved by the Board.

6.3.3. Consider hydromodification as a pollutant that can impair beneficial uses

Heal the Bay and Los Angeles Waterkeeper recommended that the Los Angeles Water Board consider hydromodification as a Class IV impairment. Similar condition-based impairments have been used for 303(d) listings and the development of Total Maximum Daily Loads (TMDLs), such as invasive species, sedimentation, and benthic communities.

Hydromodification in the Los Angeles Region is widespread and there are only a few natural streams that have not undergone extensive hydromodification such as portions of the Santa Clara River, upper San Gabriel and Los Angeles Rivers, Malibu Creek, Topanga Canyon, coastal streams in the Santa Monica Mountains and their tributaries. Usually changes in the physical structure of a channel are often indicative of, and associated with, broader impacts to many beneficial uses, including water supply, water quality, habitat, and public safety. The Los Angeles Water Board identified the importance of regulating hydromodification in Regional Board Resolution No. 2005-002, on *the Impacts from Hydromodification on the Water Quality and Beneficial Uses of Water Courses in the Los Angeles Region,* Resolution No. 2005-002.

While hydromodification impacts, or has the potential to impact, several beneficial uses, it is not in itself a pollutant and therefore cannot be addressed through the development of water quality objectives. Instead, the Los Angeles Water Board primarily relies upon a three-pronged approach to regulating hydromodification: (1) Waste Discharge Requirements (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.

Whether a parameter such as hydromodification is considered an impairment is governed by California's Water Quality Control Policy for Developing California's CWA Section 303(d) List or Listing Policy. The Water Boards have not considered such non-pollutant parameters such as invasive species, flow or hydromodification since the adoption of the Listing Policy in 2004.

The Listing Policy provides listing factors based solely on pollutant impairments. As a result, any section 303(d) listings related to hydromodification are contrary to the Listing Policy.

Therefore, this project will not be recommended for prioritization during the 2023-2025 triennial review.

Staff note that managing the impacts of hydromodification is not an issue specific to the Los Angeles Region but throughout the State of California. The State Water Board recognized the widespread impacts of hydromodification and in 2012, in collaboration with the SCCWRP and University of California, published a report which evaluated the statewide extent of hydromodification.

6.4. Other Issues of Concern

6.4.1. Modify Compliance Schedules for all Bacteria TMDLs in Ventura County

Ventura County Public Works requested that the Los Angeles Water Board modify compliance schedules for all Bacteria TMDLs in Ventura County, including the Santa Clara River Bacteria TMDL, the Harbor Beaches of Ventura County Bacteria TMDL, and the Malibu Creek Bacteria TMDL. Per Ventura County Public Works, this modification is necessary as (i) additional time is needed to develop comprehensive watershed management plans for the stormwater permit for Ventura County currently under development and implement the projects associated with these plans, (ii) there is a significant amount of new science and information that may impact the decisions regarding which control measures are the most effective to address bacteria impairments, and (iii) the existing Bacteria TMDL requirements are not aligned with the recently adopted Statewide Bacteria Provisions.

Any actions or decisions regarding modification of Total TMDL compliance schedules or additional time for development and implementation of stormwater pollutant control measures such as may be allowed by Time Schedule Orders (TSO) are within the purview of the Los Angeles Water

Board's TMDL and Stormwater programs, respectively, and as explained earlier (see footnote 4), are outside the scope of this triennial review.

6.4.2. Reconsider Reasonable Assurance Analysis (RAA) in existing Watershed Management Programs (WMPs) and TMDL Schedules for Metals and Bacteria in Los Angeles Rivers and Lakes as part of for the Municipal Separate Storm Sewer System (MS4) Permit

The City of Pasadena on behalf of other cities requested that the Los Angeles Water Board extend TMDL schedules based on economic and environmental impacts and revise the RAA as referenced in the 2021 MS4 Permit to align with the latest scientific findings and watershed understanding. In addition, Watershed Management Programs and the associated program targets should include the impacts of climate change, within the context of what is controllable by permittees.

The Los Angeles Water Board is aware that the capital investments in climate adaptation, including those listed in RAA guidelines and WMPs to support resilient storm water management programs are expensive. To assist communities, U.S. EPA has dedicated a website for federal funding and technical assistance for climate adaptation. While any actions or decisions regarding modification of TMDL compliance schedules or additional time for development and implementation of stormwater pollutant control measures are within the purview of the Los Angeles Water Board's TMDL and Stormwater programs, implementation of climate change adaptation in the Los Angeles Region will remain a part of the triennial review process as resources allow.

6.4.3. Improve Sewage Spill Regulation and Public Notice within Individual Permit Network

Heal the Bay and Los Angeles Waterkeeper requested that the Los Angeles Water Board enforce the sewage spill reporting requirements within existing discharge permits, and enhance those reporting requirements where necessary to ensure timely and adequate public notice of spills. Heal the Bay and Los Angeles Waterkeeper also provided some examples on how to improve future permits.

Permits issued to individual facilities fall within the authority of the watershed regulatory section and are a separate process from the revisions of water quality standards in the Basin Plan that are prioritized during any triennial review process. Accordingly, Heal the Bay and Los Angeles Waterkeeper are invited to provide comments during the public comment period prior to the proposed issuance or renewal of any permits by the Los Angeles Water Board.

6.4.4. Address Once-Through Cooling (OTC) impacts at the Edison Canal Estuary and Channel Islands Harbor caused by Mandalay Generating Station

Heal the Bay and Los Angeles Waterkeeper requested that the Los Angeles Water Board classify the North Shore at Mandalay Bay, Doris Drain, 5th Street Drain, and Oxnard West Drain as potential polluting sources for the Edison Canal Estuary.

The City of Oxnard, working in conjunction with local citizens, is monitoring water quality at stations throughout the Channel Islands Harbor and the Edison Canal Estuary. The Los Angeles Water Board provided funding for the first year of monitoring and will continue to work closely with the City of Oxnard and the County to monitor conditions in Channel Island Harbor as part of the Board's commitment to ensure protection of water quality and beneficial uses. Further identification of potential polluting sources in a waterbody is generally done through the development of TMDLs or a discharge permitting process. These actions are outside the scope of the triennial review process. Therefore, this requested action will not be considered for prioritization during this 2023-2025 triennial review period. In general, the City has found that water quality in Channel Island Harbor is improving in dissolved oxygen (https://www.oxnard.org/channel-islands-harbor-water-quality-is-safe-and-improving/).Staff note that the proposed 2024 303(d) list of impaired waters includes new listings for Edison Canal for Malathion and Permethrin and for Channel Islands Harbor for Bifenthrin, Copper, and Permethrin. This proposed list will be considered by the State Water Board in the winter of 2023/2024.

7. The 2023-2025 Triennial Review: Staff Recommendations on Priorities

7.1. Staff Recommendations

The Los Angeles Water Board's Basin Planning Program currently consists of 1.7 "personnel years" (PYs). Carrying out the projects identified during the triennial review process is only one of the responsibilities of those staff whose time comprises the 1.7 PYs each year; some of these resources are used towards supporting other Los Angeles Water Board programs and for ongoing 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 Water Board programs, leaving 1.2 Basin Planning PYs available to address the projects selected.

Based on the status of the previous triennial review priority projects, stakeholder input, Los Angeles Water Board program needs, and available resources, staff recommends the following list of priority projects for consideration during the 2023-2025 triennial review period:

- Continue the work on updating the freshwater quality objectives for ammonia;

- Continue the work on updating the freshwater quality objectives for copper, and evaluate steps necessary to address zinc in a similar manner;
- Continue the work on developing a site-specific objective for chloride in Los Angeles River Reach 6;
- Initiate waterbody-specific designations of the tribal beneficial uses;
- Oversee studies evaluating the temperature water quality objectives;
- Initiate re-evaluation of the residual chlorine water quality objectives;
- Provide support for efforts towards developing statewide Biostimulatory, Cyanotoxin and Biological Condition Provisions as the initial step in developing region-specific biological objectives;
- Consider any amendments to the Basin Plan's toxicity objectives that may be necessary in response to the Statewide Toxicity Provisions;
- Continue to coordinate the development of Salt and Nutrient Management Plans (SNMPs), including the incorporation of management measures from the SNMPs into the Basin Plan;
- Initiate the 2026-2028 Triennial Review process

In addition, Basin Planning staff will continue to provide support to other Los Angeles Water Board programs and statewide standards-related initiatives. Staff will also address legal and regulatory mandates that may arise during the triennial review period.