2019 TRIENNIAL REVIEW
DESCRIPTION OF PROPOSED ISSUES

February 14, 2019

Issue No. 1a

REVIEW AND REVISE BIG BEAR LAKE WATER QUALITY STANDARDS, MAY INCLUDE:

- Revision of the total inorganic nitrogen (TIN) and total phosphorus numeric water quality objectives for Big Bear Lake;
- Development of objectives for other indicators of impairment (e.g., chlorophyll a, macrophyte coverage and species composition);
- Development of biocriteria for Big Bear Lake; and,
- Investigate Sawmill Creek drainage and possibly add to the Nutrient Total Maximum Daily Load (TMDL) for Big Bear Lake

The discharge of nutrients into Big Bear Lake promoted the growth of nuisance aquatic plants that serve as both a sink and a source of nutrients and reduce the available dissolved oxygen. As a result, Big Bear Lake's beneficial uses were adversely affected. The Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) listed Big Bear Lake as water quality limited in accordance with Section 303(d) of the Clean Water Act (CWA) and required the establishment of a TMDL (Resolution No. R8-2006-0023).

The implementation plan included as part of the established Nutrient TMDL for Big Bear Lake identifies tasks for the consideration of revised nutrient objectives and development of biocriteria. The target compliance date for the TMLD is the year 2020. The Santa Ana Water Board will investigate/review the Big Bear Lake water quality standards starting in 2020. This work is expected to be accomplished using TMDL resources.

Issue No. 1b

REVIEW THE NUTRIENT OBJECTIVES FOR SAN DIEGO CREEK (PART OF NUTRIENT TMDL IMPLEMENTATION PLAN)

Numeric water quality objectives for nitrogen (as TIN) in San Diego Creek were established in 1975 for Reach 2 (5 mg/L) and in 1983 for Reach 1 (13 mg/L). These objectives were frequently exceeded in the 1980s, and Newport Bay was placed on the CWA Section 303(d) list of impaired waterbodies in 1990 due to persistent macroalgal blooms. San Diego Creek was listed as impaired by nutrients in 1992.

The Santa Ana Water Board adopted the Nutrient TMDL for the Newport Bay/San Diego Creek Watershed in 1998 to address these impairments. The TMDL included a task for re-evaluating the San Diego Creek nitrogen objectives. Staff and stakeholders subsequently conducted studies to investigate nutrient sources and macroalgal blooms and effects in Newport Bay. Information developed by these studies was used to build a macroalgae model for Newport Bay to predict in-bay macroalgae biomass in response to different alternative nutrient loading scenarios from San Diego Creek. Santa Ana Water Board staff also used two other approaches (a reference approach and a simplified modeling approach within San Diego Creek), to identify suitable total nitrogen objectives. These approaches suggested appropriate dry-weather total nitrogen objectives in the range of 0.5 mg/L to 3 mg/L.

In 2008 Santa Ana Water Board staff held a CEQA scoping meeting to present these preliminary results and solicit CEQA comments for a proposed Basin Plan Amendment (BPA) to revise the San Diego Creek nitrogen objectives. Ultimately, staff decided to delay the BPA in order to prioritize work on the related selenium TMDL for San Diego Creek. In the interim, implementation of Best Management Practices (BMPs) to reduce nitrogen discharges to San Diego Creek have resulted in steep declines in nitrogen concentrations. Dry weather concentrations in San Diego Creek at Campus Drive over the past three years have generally been below 2 mg/L. These reduced concentrations, combined with reduced flow rates, have resulted in greatly reduced nutrient loading and virtually eliminated excessive macroalgal blooms in Newport Bay.

Santa Ana Water Board staff will use the most recent data from San Diego Creek and Newport Bay along with new science and policy guidance developed by the State Board's Biostimulatory Substances Project to propose new nitrogen objectives for San Diego Creek.

Issue No. 1c

REVISE THE FECAL COLIFORM TMDL FOR NEWPORT BAY. REVISE THE RECREATIONAL (REC) AND SHELL HARVESTING (SHEL) BENEFICIAL USES SECTIONS OF THE TMDL INTO SEPARATE SECTIONS IN THE BASIN PLAN. ADOPT ENTEROCOCCUS AS THE FECAL INDICATOR BACTERIA

The Basin Plan includes bacteria quality objectives for the water contact recreational (REC1) use of enclosed bays and estuaries based on fecal coliform. These fecal coliform objectives have been made obsolete by the U.S. Environmental Protection Agency's (USEPA) 1986 and 2012 Water Quality Criteria for Recreational Waters, and by USEPA's promulgation of enterococci criteria for these waters in 2004. The USEPA found that fecal coliform is not a reliable indicator of health risk associated with REC1. However, a BPA is required to delete the obsolete fecal coliform objectives.

As noted, USEPA now recommends the adoption of enterococci criteria to protect the REC1 beneficial use in enclosed bays and estuaries, and in 2004, promulgated enterococci objectives for all enclosed bays and estuaries. The State Water Board

adopted the Statewide Bacteria Provisions and Water Quality Standards Variance Policy (Statewide Bacteria Provisions) for the California Inland Surface Waters Enclosed Bays and Estuaries (ISWEBE) Plan on August 7, 2018. The Statewide Bacteria Provisions established enterococci as the sole indicator for saline inland surface waters, enclosed bays, and estuaries; and enterococci as one of the indicators in ocean waters. The Statewide Bacteria Provisions are not yet in effect. The Provisions will become effective under State law upon approval by the Office of Administrative Law.

The Santa Ana Water Board has established a fecal coliform TMDL for Newport Bay that is intended to assure that the fecal coliform objective currently in place for Newport Bay's REC1 and SHEL beneficial uses are achieved. Given that the fecal coliform objectives established to protect recreation have been found obsolete, continued reliance on those objectives and implementation of the applicable portions of the fecal coliform TMDL are no longer scientifically justified. The deletion of the recreation use fecal coliform objectives is necessary.
Staff will coordinate the deletion of the fecal coliform objectives and adoption of new enterococci objectives for all enclosed bays and estuaries with the adoption of the Statewide Bacteria Provisions. Santa Ana Water Board staff have been working with stakeholders to revise the REC1 part of the TMDL in a parallel fashion in preparation of the final approval by the USEPA.

To address this issue a first step will be addressed in a Time Schedule Order (TSO) projected for adoption at the August 2019 Board meeting. During the 5-year course of the TSO, there will be a development of a BPA to revise the REC beneficial uses objectives from fecal coliform to enterococcus, consistent with the California ISWEBE Plan.

Once new objectives to protect recreation are in place, it will be appropriate to conduct a new impairment assessment based on those objectives to determine whether a new TMDL is needed. It should be noted that those parts of the established Fecal Coliform TMDL that address shellfish harvesting and compliance with applicable fecal coliform objectives will remain in place.

This work will rely on TMDL, not Basin Planning resources.

Issue No. 1d

REVISE THE SHEL NEWPORT BAY TMDL AND WORK TO DEVELOP A SHEL OBJECTIVE AND INCORPORATE INTO THE TMDL

As defined in the Basin Plan, waters designated SHEL "support habitats necessary for filter feeding shellfish (e.g., clams, oysters, and mussels) collected for human consumption, commercial, or sports purposes." The fecal coliform objectives (fecal coliform median concentration of not more than 14 most probable number (MPN) /100 ml and not more than 10% of samples exceed 43 MPN/100 ml) are included in the

Basin Plan to protect human consumers of shellfish. Compliance with this objective has become increasing difficult to achieve.

There are no commercial shellfish growing/harvesting operations in the Santa Ana Region, at this time. However, according to the California Department of Fish and Wildlife (CDFW) biologists and local CDFW game wardens stationed in Orange County, a variety of shellfish are, or potentially, are harvested for sport/recreational purposes in all of Santa Ana Region's ocean waters, enclosed bays, and estuaries. The extent of human consumption of the shellfish is unknown; some of the shellfish collected is used as bait.

Statewide, there is inconsistency among the Regional Boards/State Board (California Ocean Plan) in the definition of SHEL and the SHEL beneficial use. Similarly, there is an inconsistency concerning the bacteria indicator objectives established to protect the SHEL beneficial use.

A Regional Board/State Board task force has been considering recommendations for revisions to the statewide water quality standards for the commercial and sport/recreation collection of shellfish. The matters under review include:

- Develop a consistent objective for all Regions (some coastal Regional Boards and the Ocean Plan currently list 70 MPN/100ml as the SHEL objective) for the SHEL beneficial use;
- Consider the use of a Reference/Natural Source Option for implementation of SHEL bacteria objective; and
- Apply the Aquaculture beneficial use for waters where commercial shellfish operations are occurring, using the 14 MPN/100ml fecal coliform objective

TMDL resources will be used to investigate this issue.

Issue No. 1e

REVISE NEWPORT-SAN DIEGO ORGANOCHLORINE COMPOUNDS TMDL

On June 14, 2002, USEPA established TMDLs for 14 toxic pollutants, including five organochlorine compounds, for San Diego Creek, Upper, and Lower Newport Bay, and Rhine Channel. The organochlorine compounds included four legacy pesticides (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane [DDT], chlordane, dieldrin and toxaphene) and polychlorinated biphenyl (PCBs).

San Diego Creek and Newport Bay are identified on the State's CWA 303(d) list of impaired waters. Impairment in these water bodies has previously been attributed to fecal coliform, pesticides, metals, and priority organics. The potential sources of these pollutants include urban runoff, contaminated sediments, boatyards, agriculture, and unknown nonpoint sources.

To address the impairments, the Santa Ana Water Board developed, for the organochlorine compounds, TMDLs that will ensure attainment of water quality standard for San Diego Creek, Upper, and Lower Newport Bay. On September 7, 2007, the Santa Ana Water Board adopted Resolution No. R8-2007-0024, which adopted an amendment to the Basin Plan that incorporated the Organochlorine Compounds TMDL.

Currently, the TMDL includes both marine and freshwater systems, which is problematic when assessing water quality attainment. The proposed BPA, when developed, will separate the Newport Bay marine system from the San Diego Creek/ Peters Canyon Channel (watershed) freshwater system. These two separate BPAs will then be addressed in tandem, with the initiation of the document development for the freshwater system to begin sometime mid-2020.

The marine section of the BPA will proceed during the schedule of a TSO that is projected for adoption at the August 2019 Board meeting. In addition to separating the marine waters portion from the current (2013) TMDL, the objectives will be revised to be consistent with the California ISWEBE Plan and the 2015 amended 303(d) Listing Policy. TMDL resources will be used to address this issue.

Issue No. 1f

ADOPT THE COPPER (Cu) TMDL AND NON-TMDL METALS ACTION PLANS FOR ZINC (Zn), MERCURY (Hg), ARSENIC (As), AND CHROMIUM (Cr) IN NEWPORT BAY (COPPER TMDL)

In 1998 and 2002, both Upper and Lower Newport Bay were 303(d) listed for metals. In 2006, copper (Cu) was listed for both Upper and Lower Newport Bay, and the general metals category was delisted for the Lower Bay. In 2010, both Upper and Lower Newport Bay remained listed for Cu, the Upper Newport Bay remains listed for the general category of metals.

In Newport Bay, Cu exceeds the water quality standards, and the largest source is Cu antifouling paints (AFPs) on boat hulls. Santa Ana Water Board staff have developed a draft revision to the Cu TMDL to reduce the amount of Cu released from boat hulls. In addition, other metals exceed sediment and fish tissue guidelines in Newport Bay. These metals include Zn and Hg in Lower Newport Bay; As and Cr in the Upper and Lower Bay. Santa Ana Water Board staff are developing recommended Non-TMDL Action Plans (Action Plans) for other metals.

To meet the water quality standards as stated in the draft Cu TMDL, Cu discharges from paints (AFPs) on boat hulls must be reduced. Santa Ana Water Board staff and partners have been working with paint manufacturers and boatyards to provide an alternative non-toxic paint that is both viable and cost-effective. Staff have also been working to investigate potential funding options to assist with the conversion from Cu to non-toxic or less toxic paints.

Prior to an adoption hearing for the Cu TMDL, Santa Ana Water Board staff will hold two Public Workshops during the summer of 2019. Consideration for Santa Ana Water Board adoption is expected following the Public Workshops. The Basin Planning activities for this triennial review cycle will possibly be required to adopt the Cu TMDL and add to the Basin Plan. This work will rely on TMDL resources.

Issue No. 1g

DEVELOP/CONSIDER SITE-SPECIFIC OBJECTIVES (SSOs) FOR SELENIUM IN FRESHWATER (Se) WITHIN THE NEWPORT BAY WATERSHED

Selenium is a naturally occurring trace mineral found in geological formations of marine origin. Selenium readily bioaccumulates through the food chain, and at high levels, can cause adverse effects to aquatic life and wildlife. Although selenium is a mineral essential for reproductive health and immune system function in humans, fish, and wildlife, the margin between nutritionally optimal and detrimental amounts are very narrow. In aquatic ecosystems, selenium can bioaccumulate at concentrations that can impair reproduction in sensitive fish and bird species.

As part of the Selenium TMDL for the Newport Bay Watershed (Resolution No. R8-2017-0014), the determination was made that site-specific objectives (SSOs) for selenium in freshwater should be adopted because selenium is significantly affected by site-specific factors, and preliminary recommendations for those objectives have been made. Those recommendations are reflected as numeric targets in the revised selenium TMDLs, currently under review by the Office of Administrative Law (OAL).

However, additional work is necessary to complete and refine the BPA to adopt the recommended selenium SSOs. Santa Ana Water Board staff will continue to work with stakeholders and partners to develop the SSOs. This work will rely on TMDL resources.

Issue No. 1h

Adopt Basin Plan Amendment for the Lake Elsinore and Canyon Lake Nutrient TMDLs

Lake Elsinore and Canyon Lake are identified in the Basin Plan as water quality limited, and both lakes were listed as impaired in accordance with Section 303(d) of the CWA. Impairment for these waterbodies is a result of excess nutrients, low dissolved oxygen, and algae growth. In 2004, the Santa Ana Water Board adopted the Lake Elsinore and Canyon Lake Nutrient TMDLs (Resolution No. R8-2004-0037).

The Santa Ana Water Board is required to review and revise the 2004 TMDLs for Lake Elsinore and Canyon Lake every three years. However, it has now been 15 years since the TMDLs were adopted and staff has been working closely with the TMDL stakeholders to prepare a Technical Report for revising these TMDLs.

On December 1, 2018, the Technical Report proposing revisions to the TMDLs was complete. To date, staff has held formal tribal consultations and CEQA scoping meeting to discuss the proposed revisions to the TMDLs and BPA. Prior to an adoption hearing for the Lake Elsinore and Canyon Lake TMDLs, Santa Ana Water Board staff will hold additional Public Workshops during the summer of 2019. Consideration for Santa Ana Water Board adoption is expected following the Public Workshops and Peer Review (tentative adoption date December 2019). This work will rely on TMDL resources.

Issue No. 2

CONSIDER MODIFICATIONS TO THE BASIN PLAN WATER CONTACT RECREATION OBJECTIVES/IMPLEMENTATION STRATEGIES BASED ON AN ADOPTED STATEWIDE POLICY. CONSIDER DEVELOPMENT OF REGION-SPECIFIC REFERENCE/NATURAL SOURCES EXCLUSION POLICY, DEVELOPMENT OF A LIMITED REC1 USE AND/OR POSSIBLE USE ATTAINABILITY ANALYSIS (UAA) TO REMOVE REC1

The Statewide Bacteria Provisions policy will conflict with certain provisions of the Regional Board's 2012 Recreational Standards Amendment. USEPA's 2012 Bacteria criteria is the basis for the Statewide Bacteria Provisions. The Statewide Bacteria Provisions will allow the use of a reference system and/or natural source exclusion policy and a Limited REC1 use.

A reference system and/or natural source exclusion policy will allow Regional Boards to assure that regulatory actions, including TMDLs, are appropriately focused on controllable bacteria indicator sources that have public health significance. Some Regional Boards already employed such a policy. The Santa Ana Water Board is considering the development of a Santa Ana Region specific reference system for certain waters.

Stakeholders and Santa Ana Water Board staff may be interested in developing a Limited REC1 objective (the Statewide Bacteria Provisions has not given specific guidance on what the objective should be). In addition, stakeholders may be interested in de-designating REC1 from certain waters following the use attainability analysis format used in the 2012 Recreational Standards Amendment. Designating a Limited REC1 objective or de-designating REC1 will require the completion of site-specific UAAs.

Issue No. 3

UPDATE NITROGEN (N)/TOTAL DISSOLVED SOLIDS (TDS) SALT MANAGEMENT PLAN, INCLUDING:

a. Revision of TDS and TIN wasteload allocations;

b. Adoption of the Salt and Nutrient Management Plan for the Upper Temescal Basin;

c. Adoption of a maximum benefit program for the Elsinore Groundwater Management Zone (GMZ);

d. Consideration of need for/nature of policy re TDS compliance during drought conditions;

e. BPA to revise the implementation program for Inland Empire Utilities Agency (IEUA)/Chino Basin Watermaster

A significant element of the Santa Ana Region Basin Plan is the N/TDS Salt Management Plan, which is contained in Chapter 5, Implementation. Salt management has long been and remains a high priority for the Santa Ana Water Board, water supply, and wastewater agencies in the Santa Ana Region since it has profound effects on the protection of surface and groundwater for domestic supply, groundwater recharge, and other beneficial uses.

This Salt Management Plan coupled with nitrogen and TDS objectives is the basis for waste discharge requirements. The Salt Management Plan includes nitrogen and TDS wasteload allocations for discharges to the Santa Ana River (SAR), “maximum benefit” programs to be implemented by specific agencies in certain groundwater management zones, nitrogen loss coefficients that are applied in determining nitrogen discharge limitations, etc.

The N/TDS Salt Management Plan must be reviewed and updated periodically as conditions in the region change. As the quality and quantity of available water supplies change over time, and the need to recycle wastewater to conserve potable sources increases, monitoring and sophisticated modeling is necessary to determine the efficacy of water resource management strategies and the need for and nature of modifications.

Santa Ana Water Board staff is presently engaged in work to update the nitrogen and TDS wasteload allocations. We anticipate that an amendment to the N/TDS Salt Management Plan will also be necessary to address revisions to the boundaries of the Upper Temescal GMZ, establishment of the TDS and nitrate-nitrogen objectives, and the monitoring and reporting program to ensure protection of the beneficial uses for the Upper Temescal GMZ. Another Basin Plan amendment project is the adoption of a maximum benefit program for the Elsinore GMZ to accommodate increased recycled water use. In additional, IEUA and the Chino Basin Watermaster have requested to update the maximum benefit commitments, such as changing the average period for the TDS trigger for IEUA wastewater quality improvement and schedule submittals, from a 12-month running average to 120-month running average.

In response to previous a triennial review comments from Eastern Municipal Water District, Santa Ana Water Board staff have also considered the allocation of a limited amount of staff resources to consider the need for and nature of a policy to address

TDS compliance during drought conditions. Issues of TDS compliance can significantly affect opportunities to use recycled water in place of potable water. This portion of the issue requires stakeholder support for the development of such a policy. Issue No. 3 is expected to be completed during this triennial review cycle.

Issue No. 4

CONSIDER DEVELOPMENT OF BIOSTIMULATORY SUBSTANCES OBJECTIVES AND PROGRAM TO IMPLEMENT BIOLOGICAL INTEGRITY. ADDITIONALLY, CONSIDER THE DEVELOPMENT OF BIOLOGICAL OBJECTIVES, THIS INCLUDES:

a. Participating with State Water Board staff to develop statewide objectives for biostimulatory substances and an implementation program for biological integrity;

b. Incorporate the new objectives and program into the Basin Plan. Review/revise the language in our Basin Plan that relates to biostimulatory substances and biological degradation;

c. Consider development of numeric biological objectives for the Santa Ana Region

A vital goal of this effort is to establish consistent, statewide methods for conducting biological assessments and interpreting biological data as indicators of biological integrity in California's surface waters. It is envisioned that biological assessments may be used to assess the biological community condition of streams and the effectiveness of management plan implementation and evaluate whether additional management actions are necessary to improve biological community condition. State Board staff and staff of the Regional Boards are participating in the development of this plan, which, if and when adopted by the State Board, will be incorporated in the Basin Plan.

As part of the ongoing issue, Santa Ana Water Board staff will attend regulatory and stakeholder meetings. Additionally, Santa Ana Water Board staff will outline a possible strategy/workplan for development of numeric biological objectives for the Santa Ana Region.

Once adopted in the Basin Plan, the plan is expected to necessitate substantial additional work over time by each of the Regional Boards to incorporate bioassessment requirements in waste discharge requirements, evaluate bioassessment data, and to identify stream or stream reaches where biological conditions warrant improvement. Actions to achieve this improvement will need to be identified and implemented.

Issue No. 5

COMPLETE REVIEW OF WATERS FOR WHICH REC1 OR REC1/REC2 BENEFICIAL USES WERE DE-DESIGNATED VIA APPROVED UAAS TO DETERMINE IF THE DE-DESIGNATIONS REMAIN JUSTIFIED

The 2012 Recreational Standards Amendment de-designated REC1 from reaches of Santa Ana Delhi Channel, Temescal Creek, Cucamonga Creek, and REC1/REC2 from Greenville-Banning Channel. Following USEPA regulations (40 CFR 131.10) UAAs were completed on each waterbody. USEPA regulations also require that the de-designated uses be reviewed each triennial review to determine if the use is still not attained. Santa Ana Water Board staff plan on reviewing site conditions in the summer of 2019 at these waters to determine whether the de-designation is still valid.

Issue No. 6

CONSIDER REVISION OF TOTAL DISSOLVED SOLIDS OBJECTIVES FOR RATTLESNAKE, SYPHON, AND SAND CANYON RESERVOIRS BASED ON USE FOR STORAGE OF RECYCLED WATER

Irvine Ranch Water District (IRWD) staff has asked the Santa Ana Water Board to consider revising the TDS water quality objective for Rattlesnake, Sand Canyon, and Syphon Reservoirs. IRWD owns and operates these reservoirs. Sand Canyon and Rattlesnake Reservoirs are currently utilized for seasonal storage of recycled water produced at the Michelson Water Recycling Plant. Syphon Reservoir is being expanded to be integrated into the IRWD's recycled water system. The current Basin Plan TDS water quality objective for these reservoirs is 720 mg/L. IRWD staff state that in recent years it has been increasingly challenging to meet the water quality objective because of higher TDS levels in the recycled water produced at the Michelson Water Recycling Plant. IRWD staff believe that a higher TDS water quality objective could be established while fully protecting the beneficial uses of the reservoirs. The beneficial uses currently designed in the Basin Plan for these reservoirs are Agricultural Supply (AGR), REC-1, Non-Contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), and Wildlife Habitat (WILD).

Issue No. 7

ADD/REVISE THE FOLLOWING WATERS TO TABLE 3-1 AND 4-1 AND DESIGNATE APPROPRIATE BENEFICIAL USES AND WATER QUALITY OBJECTIVES:

a. **List Rhine Channel separately from Lower Newport Bay**

The revision of the boundary definition of the Rhine Channel portion of Lower Newport Bay is considered a high priority issue for this triennial review cycle. Discussions are underway about the specifics of the boundary definition, and if existing boundaries defined by USEPA and U.S. Army Corp of Engineers (USACE) can be used directly in the Basin Plan. Revision of the boundary is necessary for both legal and remedial planning reasons.

b. Waters tributary to Anaheim Bay and Huntington Beach Wetlands: Bolsa, Westminster, East Garden Grove Wintersburg, Huntington Beach, and Talbert Channels;

Santa Ana Water Board staff's preliminary recommendation are to designate these waters the following beneficial uses existing or potential ("X") REC1, REC2, WILD, WARM, EST, and Rare, Threatened or Endangered Species (RARE), if appropriate.

The East Garden Grove Wintersburg and Bolsa Chica Channels are soft-bottomed, engineered flood control channels that discharge into Huntington Harbour and Anaheim Bay. The East Garden Grove Channel flows into Outer Bolsa Bay of the Bolsa Chica wetlands prior to discharging into Anaheim Bay. The most downstream reaches are dominated by tidal waters. Huntington Beach and Talbert Channels discharge into the Huntington Beach wetlands. The flows from these waters impact the beneficial uses in the National Wildlife Refuge at Seal Beach, Huntington Beach Wetlands and Huntington Harbour.

c. Semeniak Slough;

Semeniak Slough was created by a channel of the SAR that flowed from the ocean beach parallel to the east toward Newport Bay. Development of the city of Newport Beach, particularly construction of the Pacific Coast Highway has cut off the channel. Currently, Semeniak Slough meanders from the SAR jetty adjacent homes on the south and the SAR Marsh on the north and dead ends at the Pacific Coast Highway. Tidal gates on the levee provide marine flows into the Slough. Semeniak Slough is referred to in the Basin Plan in Table 3-1 as Newport Slough under Tidal Prisms of the SAR. To clearly delineated the entire reach of the Newport Slough it is proposed to rename it with its more common name, Semeniak Slough.

d. Define tidal prism extents for specific water bodies which include channels, rivers, and streams that flow into marine waters;

This will facilitate implementation of bacteria provisions. The Statewide Bacteria Provisions will mandate the use of the bacteria indicator enterococcus or *Escherichia coli* (E. coli) depending on concentration of TDS.

e. Consider/revise redefining boundaries of Bolsa Bay and Bolsa Chica Reserve;

Santa Ana Water Board staff are considering combining Bolsa Bay and the Bolsa Chica Reserve identified in both Tables 3-1 and 4 and naming it as Bolsa Chica Ecological Reserve. The CDFW includes Bolsa Bay and Bolsa Chica Reserve in the Bolsa Chica Ecological Reserve.

f. Consider changing the San Diego Creek Reach designations

The existing reach designations divide San Diego Creek into two reaches: an approximately eight-mile reach (Reach 1) extending from Newport Bay to Jeffrey Road, and a six-mile reach (Reach 2) continuing from Jeffrey Road to the Loma Ridge foothills. Due to extensive land use and other changes in the watershed, these reach designations are no longer representative of hydrogeological conditions along the creek. Redefining the reaches to better match the local hydrogeology will allow more effective application of water quality standards to the creek.

g. Add reach designations to Peters Canyon Wash

Peters Canyon Wash is not divided into reaches although the character of the wash changes significantly where it intersects the area of shallow groundwater in the lower portion of the Tustin Plain. Dividing the wash into two reaches based on the location where groundwater begins to exert a significant impact on the hydrology and water chemistry will facilitate implementation of targeted water quality standards.

h. Consider designating SHEL and Estuaries (EST) beneficial uses to all enclosed bays and estuaries;

Every bay and estuary in the Santa Ana Region support shellfish that could potentially be collected as food or bait. Therefore, the SHEL beneficial use is an existing or potential use for these waters.

i. Add Reche Canyon and San Sevaine streams

Santa Ana Water Board staff's preliminary recommendations are to designate these waters with the existing or potential ("X") REC1, REC2, WILD, and WARM beneficial uses and the RARE beneficial use is appropriate.

Reche Canyon is a large tributary to the SAR that flows out of the western part of the hills that straddle the San Bernardino Riverside County Line through Grand Terrace between Mt. Vernon and La Cadena streets. Given the fact that Reche Canyon is a large tributary of the SAR, staff suggest adding this waterbody to the Bain Plan.

The headwaters of San Sevaine Creek are San Sevaine Canyon near the crest of the eastern section of the San Gabriel Mountains. San Sevaine Creek transitions from a mountain stream into an engineered concrete channel and discharges into the SAR near the city of Mira Loma. The creek flows through a recharge basin at the base of the mountains.

Issue No. 8

CONSIDER REVISION OF PRADO BASIN MANAGEMENT ZONE BOUNDARY TO INCLUDE U.S. GEOLOGICAL SURVEY (USGS) GAUGE STATION AND THE SANTA ANA WATER BOARD'S BELOW PRADO DAM MONITORING STATION OR CHANGE THE SANTA ANA RIVER REACH 3/REACH 2 BOUNDARY TO INCLUDE THE MONITORING STATION IN REACH 3

The location of the Prado Dam monitoring and U.S. Geological Survey (USGS) gauging station is physically on Reach 2, not Reach 3 of the SAR. Stakeholders have expressed concerns that data collected below Prado Dam is used to evaluate compliance with Reach 2 water quality objectives and not Reach 3, the intended reach, because of the location of the monitoring station. However, simply moving the boundary between Reach 2 and Reach 3 may not address concerns from stakeholders. Further discussion and coordination with the Salt and Nutrient unit are needed.

Issue No. 9

UPDATE CHAPTER 2 IN THE BASIN PLAN BY REVISING/ADDING CURRENTLY APPROVED STATEWIDE PLANS AND POLICIES (e.g., NONPOINT SOURCE ENFORCEMENT POLICY, 303(d) LISTING POLICY, ETC.)

The list of approved plans and policies shown in the Basin Plan (Chapter 2) has not been updated since 1995. Explicit references to new policies adopted by the State Board since that time may need to be included in the Basin Plan, and the descriptions of other plans and policies already included in this Chapter may need to be updated. Plans and policies such as the Ocean Plan and the Nonpoint Source Management Plan have been revised several times since 1995 and the latest versions could be added to Chapter 2 of the Basin Plan. Other policies such as the Water Quality Control Policy for Developing California's Clean Water Act Section 303 (d) List (referred to as the 303 (d) Listing Policy), and the expanded California ISWEBE Plan also could be added.

Issue No. 10

UPDATE AND REVISE BASIN PLAN NARRATIVE PROGRAMS/POLICIES IN THE BASIN PLAN, INCLUDING:

a. Update "Disposal of Hazardous and Nonhazardous Waste" in Chapter 5 to reflect the loss of Solid Waste Water Quality Test (SWAT) program;

Chapter 5 of the Basin Plan references the Solid Waste Assessment Test (SWAT) program that was implemented in 1985. The purpose of the SWAT program was to determine whether hazardous or toxic substances above regulatory thresholds or any other constituents which may threaten water quality, were migrating from a solid waste disposal facility. As of 1995, funding for this program ceased and is not expected to be reinstated. The Basin Plan could be amended to reflect this change.

b. Update Spills, Leaks, Investigation and Cleanups (SLIC) Program Discussion;

The Basin Plan currently contains a description of the SLIC program (now called the Site Cleanup Program), the purpose of which is to address groundwater contamination from volatile organic compounds (VOCs). The information/data in the description need to be updated to reflect current conditions.

c. Update Animal Confinement Facilities (Dairies and Related Facilities) discussion in Chapter 5;

The Santa Ana Water Board's program to address waste discharges from confined animal facilities has evolved significantly, and the Basin Plan could be revised to reflect the current direction of these ongoing activities.

d. Update Nonpoint Source (NPS) Program Discussion in Chapter 5;

Much has been added to the NPS Program since the relevant text in the Basin Plan was last updated in 1995. Two significant policies that have been added to the NPS program are the California Nonpoint Source Pollution Control Plan (NPS Plan), and the Implementation and Enforcement Policy. In 2000, in a statewide approach to managing NPS pollution, the NPS Plan was adopted. The NPS Plan required implementation of NPS control Management Measures in the six land use categories of agriculture, marinas and boating, urban, forestry, hydromodification, and wetlands. A key element of the 2000 NPS Plan was implementing these management measures using a three-tiered approach in which the first tier, self-determined implementation, is favored. The second and

third tier of implementation incorporates escalating regulatory involvement to achieve program objectives.

In 2004, the Policy for Implementation and Enforcement (I&E) Policy was adopted to provide guidance for enforcement of the state's NPS pollution control program. The NPS I&E Policy abandons the three-tiered approach for implementation of management measures contained in the 2000 NPS Plan as not being supported by the CWA and inconsistent with the State Board's Enforcement Policy. The NPS I&E Policy gives direction to the Regional Boards to regulate all non-point sources of pollution using the administrative authorities provided by the Water Code's Porter-Cologne Act. Regulatory actions to address NPS pollutant discharges include, but are not limited to, Basin Plan prohibitions, Waste Discharge Requirements (WDRs), and Waivers of WDRs. The NPS discussion in Chapter 5 could be updated to reflect this evolution.

e. Update narrative on efforts to remediate groundwater contamination from perchlorate, Underground Storage Tanks (USTs), and other sources in the Region in Chapter 5;

In 1997, California's Department of Health Services found levels of perchlorate in drinking water wells throughout the State of California, including wells in the City of Rialto. Perchlorate can interfere with the iodide uptake of the thyroid gland, which can result in decreased production of thyroid hormones necessary for prenatal and postnatal growth and development, as well as for normal metabolism and mental function in adults. Perchlorate is used as an ingredient in the manufacturing process of such items as solid fuel propellant for rockets, missiles, and fireworks and in industrial applications where it is used in the manufacture of matches, flares, pyrotechnics, ordnance, and explosives.
It is apparent that previous defense and/or industrial activities have contributed to perchlorate groundwater contamination in the Rialto area. The Santa Ana Water Board has been directing site assessment and remediation efforts in this area for the last several years. The Santa Ana Water Board has been active in working with the responsible parties and other affected agencies to develop an appropriate remedial action plan. This major activity could be described in the Basin Plan.

f. Update the Wetlands Section in Chapter 3 and discussion of the Santa Ana Water Board 401 Certification process in Chapter 5. Include USEPA, State Board, CDFW, and USACE wetland and/or waters of the State regulatory measures. Incorporate State Board's Wetlands Policy into the update. Update the discussion of the region's treatment and mitigation wetlands

Staff proposes to update the Wetlands and the 401 Water Quality Standards Certifications (401 Certifications) sections in Chapter 3 and 5 as they are outdated. In addition, Santa Ana Water Board staff are considering developing regional criteria for determining appropriate mitigation when wetlands and other waters of the State are impacted by various construction activities, primarily those involving dredging and filling.

Dredging and filling activities in waters of the United States are subject to:

- Permits issued by the USACE, pursuant to CWA Section 404; and
- 401Certifications issued by the State Board or Santa Ana Water Board pursuant to CWA Section 401.

In some cases, waste discharge requirements (WDRs) are adopted by the Santa Ana Water Board for dredge and fill projects when the USACE does not consider the impacted water a Waters of the United States and does not issue a 404 permit. These regulatory actions, 401 Certifications and WDRs for dredge and fill activities, implement federal and state requirements for "no net loss of wetlands" as a result of land practices, while encouraging the expansion of wetlands.

Issue No. 11

UPDATE AND REVISE THE MONITORING AND ASSESSMENT CHAPTER 7 TO INCLUDE CURRENT REGIONAL ACTIVITIES SUCH AS AN UPDATE OF THE PRADO BASIN MONITORING

The current Chapter 7 needs to be updated to reflect ongoing regional monitoring. Much of the monitoring described in Chapter 7 is no longer conducted. The Prado Basin monitoring description should be updated to reflect current conditions and sampling methodologies as the data that is generated is relied upon by many stakeholders and is ultimately used to report on water quality conditions. The monitoring program was last assessed as part of the 2004 N/TDS BPA and has since that time changed. Descriptions of the Prado Dam monitoring are spread throughout three (3) separate chapters in the Basin Plan –Chapters 4, 5 and 7. Santa Ana Water Board staff are considering coordinating an update of Chapter 7 not only with internal staff, but also with the affected stakeholders. Specific objectives needed to address the issues are:

- Complete the monitoring and assessment workplan;
- Coordinate with the Salt and Nutrient coordinator, Basin Planning section, and others as needed;
- Provide the Santa Ana Watershed Project Authority (SAWPA)-led Basin Plan Task Force with the proposed new language, sampling and analysis plan and Quality Assurance Project Plan for the Prado Dam monitoring for review; and
- Submit proposed revisions to the Basin Plan section for inclusion in a revised Chapter 7 of the Basin Plan.

- Requires updates to below Prado Dam monitoring program which requires revised Prado Basin Management Zone boundary or revised SAR Reaches 2 and 3 boundary.

Issue No. 12

CONSIDER UPDATING BASIN PLAN MAPS. ADD STATE BOARD AND REGIONAL BOARD STAFF DIGITAL OR OTHER MAPS TO THE BASIN PLAN SHOWING SURFACE AND GROUNDWATERS AND THE WATER QUALITY STANDARDS THAT APPLY TO THEM. INCLUDE RELATED HYDROLOGY BOUNDARY AND OTHER SPATIAL DATA LAYERS THAT REFLECT CURRENT DATA.

Funds obtained through the State Board have been used to support the creation of digital maps for every Region. The maps show Basin Plan surface waters and their major tributaries, groundwater basins, associated water quality standards and beneficial uses, and hydrologic units. California State University at Northridge and State Board GIS staff have produced the maps with assistance from Santa Ana Water Board staff. Santa Ana Board staff have assisted the contractors in reviewing the draft maps to insure accuracy. At the time the digital maps were created, the contractors were using the most up to date data (such as the Cal Waters GIS layers) to reflect the Santa Ana Region's waters as accurately as possible. This activity should clarify the Santa Ana Region boundary in the few locations where it is not clearly defined between Regions.

Issue No. 13

REVIEW THE CHEMICAL OXYGEN DEMAND (COD) OBJECTIVE FOR INLAND SURFACE WATERS

Chemical oxygen demand (COD) is an indirect measure of the amount of oxygen used by inorganic and organic matter in water. High COD levels decrease the amount of dissolved oxygen available for aquatic organisms. Low (generally under 3 mg/L) dissolved oxygen, or "hypoxia," causes adverse effects on aquatic organisms, including the death of individual organisms as well as large "dead zones." Hypoxic water can also release pollutants stored in sediment.

USEPA has not published recommended COD water quality criteria. Early Basin Plans for the Santa Ana Region established numeric COD objective for certain inland surface waters. The technical basis for these numeric objectives specified is unclear. These objectives have not been reviewed or revised. Given the implications of potential non-compliance with these objectives as the result of stormwater discharges, the review of these objectives to confirm their propriety and scientific defensibility is appropriate.

The current COD objective is a technology-based objective meant for publicly owned treatments works (POTWs). All POTWs effluents meet the objectives in the Basin Plan. The objective was not developed to control stormwater quality. The Santa Ana Water

Board requires stakeholder assistance to provide scientific justification for any revision of the COD objective.

Issue No. 14

CONSIDER DELETION OR REVISION OF ESTABLISHED SITE-SPECIFIC OBJECTIVES FOR COPPER, CADMIUM AND LEAD FOR THE SANTA ANA RIVER AND TRIBUTARIES. CONSIDER SITE-SPECIFIC OBJECTIVES FOR ALUMINUM, CHLORINE AND CYANIDE FOR THE SANTA ANA RIVER

Site-specific objectives (SSOs) for Cu, cadmium (Cd), and lead (Pb) for the SAR and certain tributaries were incorporated in the 1995 Basin Plan and submitted for review and approval by the USEPA (USEPA was also engaged in the development of these SSOs). USEPA reserved action on these SSOs considering its promulgation of the California Toxics Rule (CTR), which incorporated new scientific information concerning the appropriate objectives for these metals that were not available at the time the SSOs were adopted. USEPA reserved action to allow the Santa Ana Water Board to consider whether it would be appropriate to delete the SSOs and to rely instead upon the CTR. Given the new scientific information, it appears appropriate to withdraw the SSOs in favor of the numeric water quality criteria in the CTR. The Santa Ana River Dischargers Association (SARDA) has identified at least three pollutants for which SSOs may be warranted, including aluminum (Al), chlorine (Cl) and cyanide. The concern is that strict application of the national criteria/guidance for these constituents recommended by the USEPA may be overly stringent to protect aquatic life beneficial uses. The SSOs development efforts might employ the recalculation procedure, one of the methods recommended by the USEPA to tailor USEPA's recommended national criteria to site-specific conditions.

Issue No. 15

REVIEW AMMONIA OBJECTIVES BASED ON 2013 USEPA NATIONAL CRITERIA

The 1995 Basin Plan incorporated new site-specific objectives for un-ionized ammonia (the toxic form of ammonia) for the SAR and certain tributaries. These objectives are implemented by limitations on ammonia in waste discharges to these waters. The requisite effluent ammonia limits are also specified in the Basin Plan. Finally, the 1995 Basin Plan includes revised, basin-wide un-ionized ammonia objectives. USEPA reserved action regarding approval of these new objectives and requested that Santa Ana Water Board staff submit additional technical justification.

USEPA published revised national criteria guidance for ammonia in the Federal Register on December 22, 1999, and then again in 2013. These revised criteria are based on updated scientific information concerning un-ionized ammonia toxicity. Santa Ana Water Board staff has advised USEPA that given this new science, it would not be worthwhile to pursue USEPA approval of the objectives in the Basin Plan. Staff advised

the USEPA that we will recommend a review of these objectives (and associated implementation provisions) to be included in the Triennial Review list. The USEPA is required to promulgate criteria (objectives) for states failing to adopt numerical objectives consistent with the new criteria.

Issue No. 16

REVIEW SEPTIC SYSTEM MINIMUM LOT SIZE REQUIREMENTS. INVESTIGATE WHETHER ELIMINATING REGION-WIDE MINIMUM LOT SIZE REQUIREMENTS WILL RESULT IN VIOLATION OF NITRATE OBJECTIVES IN GROUNDWATER. CONSIDER UPDATING DESCRIPTION OF CURRENT SEPTIC SYSTEM REGULATIONS

Local regulations for Onsite Wastewater Treatment Systems (septic systems) largely address design elements to ensure that waste does not rise to the ground surface and become a public health risk and that groundwater is protected. Septic system design elements differ from minimum lot size requirements because the latter addresses nitrogen levels in groundwater. Resolution No. 89-157 established a 0.5-acre minimum lot size requirement for discharges of waste from new septic systems.

The Onsite Wastewater Treatment System Policy (OWTS Policy) does not specify a minimum lot size requirement for existing lots. There are minimum lot size requirements for newly subdivided lots based on rainfall – more arid areas require larger lot sizes. The statewide 2012 Onsite Wastewater Treatment Policy was adopted into the Basin Plan under Resolution No. R8-2014-0005. The Regional Board resolution also established a sunset date of May 13, 2018, for Region-wide minimum lot size requirements for all lots, including existing lots. The OWTS Policy allowed for local permitting agencies to develop their own requirements for new septic systems. These do not establish an equivalent minimum lot of size requirements.

Staff are considering investigating to determine whether eliminating Region-wide minimum lot size requirements compromises the concentration of nitrate-nitrogen in groundwater. If it is found that Region-wide minimum lot size requirements are required, staff recommends that the protective density of septic systems be re-evaluated.

Issue No. 17

CONSIDER ADOPTING NEW (SINCE 2004) CWA 304 (A) RECOMMENDED CRITERIA WHICH INCLUDES FOR AQUATIC LIFE: ACROLEIN, AMMONIA, CADMIUM, CARBARYL, COPPER, DIAZINON, NONYLPHENOL, SELENIUM FRESHWATER, TRIBUTYLTIN, AND FOR HUMAN HEALTH; HUMAN HEALTH CRITERIA UPDATES FOR 94 POLLUTANTS

USEPA has informed the Regional Boards that States, should consider adopting new (since 5/30/2000) National 304 (a) recommended criteria. 40 CFR Section 131.20 (a)

Rule states: if a State does not adopt new or revised criteria for parameters for which USEPA has published new or updated CWA section 304(a) criteria recommendation, then the State shall provide an explanation when it submits the results of its triennial review to the Regional Administrator.

Santa Ana Water Board staff and stakeholders will consider adopting the following new criteria:

- Aquatic Life; Acrolein, Ammonia, Cadmium, Carbaryl, Copper, Diazinon, Nonylphenol, Selenium Freshwater, and Tributyltin
- Human Health; Human Health Criteria Updates for 94 pollutants and Recreational Waters Pathogen Indicators

The USEPA will accept brief responses as to why the Santa Ana Water Board has not adopted some of the criteria. For example, State Board is working on statewide Cadmium water quality objectives. The Recreational Waters Pathogen Indicators criteria will soon be incorporated into a Statewide policy. As a result, these criteria will be adopted for the Regional Boards, including the Santa Ana Region. Other acceptable responses could be that the Santa Ana Water Board does not have the resources and therefore the development of Statewide Water Quality Objectives may be more efficient.

Issue No. 18

ADD ADOPTED BASIN PLAN AMENDMENTS TO THE ELECTRONIC BASIN PLAN

Adopted amendments must be added to the electronic Basin Plan, available on the Santa Ana Water Board's website, to keep it up to date. Printed versions of the Basin Plan are no longer available. Timely action to incorporate the amendments contributes to accuracy and reduces the chance of error.