2015 TRIENNIAL REVIEW
DESCRIPTION OF ISSUES

Issue No. 1

Recreational Standards for Inland Surface Waters:

a. With stakeholders, develop bacteria indicator monitoring plan(s) identified in 2012 Recreation Standards Amendments.
b. Participate with State Water Resources Control Board (State Board) staff to develop a statewide policy for bacteria objectives for recreation beneficial uses based on the 2012 USEPA Water Quality Criteria for Recreational Waters.
c. Consider modifications to Basin Plan recreation objectives/implementation strategies based on an adopted statewide policy. If necessary, consider development of Region-specific reference or natural source exclusion policy.

a. The 2012 Recreation Standards Amendments to the Santa Ana Region Basin Plan (2012 Amendments) require the development and implementation of a comprehensive, watershed-wide bacteria quality monitoring program for inland surface waters. This program is now being developed, with principal support from the Orange, Riverside, and San Bernardino County stormwater agencies, working in conjunction with Regional Board staff. The proposed comprehensive monitoring program is to be submitted by the stormwater agencies later in 2015 and will be implemented upon Regional Board approval. [*Ongoing*]

b. State Board staff is working with subject matter experts selected from staff of the regional boards to develop a statewide policy for bacteria objectives for recreation uses based on the 2012 USEPA Water Quality Criteria for Recreational Waters. The policy is expected to include revised bacterial quality objectives based on *E. coli* (freshwaters) and enterococcus (marine waters). These are the bacterial indicators now recommended by USEPA to assess and protect primary contact recreation (REC1) uses. The policy is also expected to include implementation strategies, such as the high flow suspension of recreational standards under certain stream flow conditions, and a reference/ or natural source exclusion policy to account for uncontrollable bacteria indicator inputs from natural sources in regulatory actions such as Total Maximum Daily Loads (TMDLs).

   Region 8 staff provided written and oral comments concerning the policy in response to a CEQA scoping meeting conducted by State Board staff. We will continue to review documentation provided and make appropriate recommendations as development of the policy proceeds. Consideration of the policy in spring 2016 is anticipated but this action may be delayed as the result of drought-related priorities. [*Ongoing*]

c. The statewide bacteria objectives policy will likely conflict with certain provisions of the 2012 Recreational Standards Amendments. The 2012 Amendments were based, in part, on the 1986 USEPA Water Quality Criteria for Recreational Waters. The 1986 criteria differ from the 2012 criteria now recommended to the states by USEPA. The differences are policy driven rather than science driven: USEPA's stated purpose in revising the criteria recommendations is to assure nationwide consistency in the level of health protection provided to the nation's recreational waters. Any differences between the 2012 Amendments and the statewide policy based on USEPA's 2012 criteria will likely require consideration of further amendments to the recreation standards for freshwaters in the Santa Ana Region Basin Plan.

   As noted in b., above, the statewide bacteria objectives policy may include a reference system and/or natural source exclusion policy to allow regional boards to assure that regulatory actions, including TMDLs, are properly focused on controllable bacteria indicator sources that have public health significance. Such a policy is already employed by some other regional boards. Board staff supports this approach and recommends the development of a Santa Ana Region-specific approach should the statewide bacteria objectives policy not include it.

Issue No. 2

Consider pathogen indicator objectives for recreation beneficial uses of enclosed bays and estuaries based on USEPA's 2012 criteria (and statewide bacteria objectives policy if/when available). Delete obsolete fecal coliform objectives for enclosed bays and estuaries.

The Santa Ana Region Basin Plan includes bacteria quality objectives for enclosed bays and estuaries that are based on fecal coliform. These fecal coliform objectives have been made obsolete by USEPA's 1986 and 2012 Water Quality Criteria for Recreational Waters, and by USEPA's promulgation of enterococci criteria (objectives) for these waters in 2004 (40 CFR 131.41). USEPA found that fecal coliform are not a reliable indicator of health risk associated with primary contact recreation (REC1). However, a Basin Plan amendment is required to delete the obsolete fecal coliform objectives.

As noted, USEPA now recommends the adoption of enterococci criteria to protect the REC1 use in enclosed bays and estuaries and, in 2004, promulgated enterococci objectives for enclosed bays and estuaries, including those in the Santa Ana Region. These promulgated objectives were based on USEPA's 1986 Water Quality Criteria for Recreational Waters. USEPA revised those criteria in 2012. It is expected that the statewide bacteria objectives policy now under development (see Issue 1.b.) will incorporate enterococci objectives for enclosed bays and estuaries based on the 2012 Criteria, and that the USEPA will de-promulgate and revise the enterococci objectives in 40 CFR 131.41.

The Regional Board has established a fecal coliform TMDL for Newport Bay that is intended to assure that the fecal coliform objectives currently in place for the Bay are achieved. Given that fecal coliform objectives have been found obsolete, continued reliance on those objectives and implementation of the fecal coliform TMDL is no longer scientifically justified. Deletion of the fecal coliform objectives, reconsideration of the bacteria indicator impairment assessment and reconsideration of the fecal coliform TMDL (see Issue No. 3, below) are all necessary.

In light of the resource implications of ongoing compliance efforts to meet the fecal coliform objectives/TMDL that are no longer scientifically defensible, it is important that these actions be taken in the near future. Regional Board staff will coordinate the deletion of the fecal coliform objectives and adoption of new enterococci objectives for enclosed bays and estuaries with the development of the statewide bacteria objectives policy, to the extent feasible. However, recognizing that there may be delays in the development and adoption of the statewide bacteria objectives policy, Board staff recommends moving forward with appropriate amendments to revise the objectives in parallel fashion so that Region-specific amendments can be considered independently by the Regional Board, if necessary, in a timely manner.

Issue No. 3

Reconsider Fecal Coliform TMDL for Newport Bay

Please see discussion of Issue No. 2. Fecal coliform objectives, which are the basis for the established fecal coliform TMDL for Newport Bay, are obsolete and need to be deleted. In turn, the fecal coliform TMDL for the Bay must be reconsidered. A new impairment assessment will be required, based on anticipated enterococci objectives needed to conform to USEPA's 2012 Water Quality Criteria for Recreational Waters. Based on that impairment assessment, the determination will be made of whether a new TMDL is required.

Issue No. 4

Develop/consider a TMDL BPA for selenium in the Newport Bay Watershed. Regional Board adopted TMDLs will supplant the USEPA-promulgated TMDLs and will include an implementation plan.

USEPA promulgated selenium (and other toxic substance) TMDLs for Newport Bay and its watershed in 2002. With support from the Nitrogen and Selenium Management Program Working Group, Board staff is developing revised selenium TMDLs that are expected to supplant the USEPA TMDLs. The revised TMDLs will include an implementation plan. It is expected that the Regional Board will be asked to consider the revised TMDL Basin Plan amendment in fall 2015. [*Ongoing*]

Issue No. 5

Develop/consider site specific objectives (SSOs) for the Newport Bay Watershed waters for selenium

As part of the effort to develop revised selenium TMDLs for the Newport Bay Watershed (Issue No. 4), the determination was made that site-specific objectives for selenium should be adopted, and recommendations for those objectives have been made. Those recommendations are reflected as numeric targets in the revised selenium TMDLs. However, additional work is necessary to complete the development of a Basin Plan amendment to adopt the recommended selenium site-specific objectives. It is expected that this amendment will be considered by the Regional Board in FY 2016-17. [*Ongoing*]

Issue No. 6

Develop/consider a TMDL BPA for metals in Newport Bay. TMDL will supplant the USEPA-promulgated TMDL and will include an implementation plan.

USEPA promulgated TMDLs for metals (and other toxic substances) for Newport Bay and its watershed in 2002. Regional Board staff has been developing a revised TMDL for copper in Newport Bay, and conducting an updated impairment assessment to determine whether and what additional TMDLs or other actions are necessary to address other metals. The copper TMDL is expected to supplant that promulgated by USEPA. Regional Board staff consideration of the other metals indicates that certain TMDLs for other metals that were promulgated by USEPA are not justified and should be de-promulgated.

It is anticipated that Regional Board consideration of Regional Board staff's recommendations regarding metals, including a Basin Plan amendment to incorporate a revised TMDL and implementation plan for copper, will be initiated in summer 2015 and that the Regional Board will be asked to consider adoption of staff's recommendations in fall 2015. [*Ongoing*]

Issue No. 7

Develop/consider a bacteria indicator (*E. coli*) Total Maximum Daily Load (TMDL) for Knickerbocker Creek

Knickerbocker Creek is one of the main tributaries to Big Bear Lake. As a result of the 2012 Recreation Standards Amendments, the Creek is now segmented into two reaches. Reach 1 is the concrete channel section from the lake upstream to Village Drive. Reach 2 is the earthen section from Village Drive upstream to the headwaters. The Creek is listed on the Clean Water Act Section 303(d) list due to exceedances of

the fecal coliform objectives established in the Basin Plan. Per the 2012 Recreation Standards Amendments, the fecal coliform objectives have been deleted, making a new impairment assessment based on the new, *E. coli* objectives appropriate. If a finding of impairment is made based on this new assessment, Board staff will proceed with the development of a TMDL or other effective control measures. Recommendations for future de-listing of the Creek based on fecal coliform impairment will also be made as part of the Clean Water Act Section 303(d) administrative process. [*Ongoing*]

Issue No. 8

Reconsider TMDL Basin Plan Amendment for Newport Bay for nutrients

The Regional Board approved a nutrient TMDL for the Newport Bay/San Diego Creek watershed in 1998. A great deal of information has been developed since the TMDL was adopted, and BMPs have been implemented. In addition, the watershed has undergone significant land use changes that have affected runoff quality and quantity. If impairment due to nutrients is no longer demonstrated, recommendations will be made for de-listing and removal of the TMDL. If impairment continues to be demonstrated, appropriate recommendations for revisions to the TMDL will be made.

The TMDL requires the Regional Board to review and revise the nitrogen objectives for San Diego Creek. Information developed to date from TMDL implementation will be used to recommend new nitrogen water quality objectives for San Diego Creek. The State Board's actions on statewide nutrient water quality objectives will also be considered. Revised objectives may also be applied to other freshwater creeks in the Newport Bay/San Diego Creek watershed. The new water quality objectives may result in revised numeric targets and load allocations for the nutrient TMDL. In addition, changes to the TMDL implementation plan may also be needed.

Issue No. 9

Reconsider TMDL Basin Plan Amendment for Newport Bay for sediment

The Regional Board approved a sediment TMDL for the Newport Bay/San Diego Creek watershed in 1998. The TMDL's overall goal was to reduce sediment loads by fifty percent and thereby increase the time between needed dredging events in Upper Newport Bay. Prior to the TMDL, the upper bay needed to be dredged about once every 10 years; the TMDL aimed to increase this interval to 20-30 years. The TMDL specified three numeric targets: maximum sediment loads to San Diego Creek and Upper Newport Bay; minimum in-bay basin depths; and, a maximum percent change to in-bay habitat acreages for the Upper Newport Bay Ecological Reserve. The sediment loading target was first achieved in 2009, and the in-bay basin depths target was achieved in 2010 with completion of the Army Corps' Upper Newport Bay dredging project. The

habitat target, specifying a limit of 1 percent on habitat acreage changes, has not yet been achieved.

The habitat acreages and habitat change target were based, in part, on the management plan for the Upper Newport Bay Ecological Reserve that was envisioned by the California Department of Fish and Wildlife at the time the TMDL was adopted. It is appropriate to reconsider this aspect of the TMDL based on revised management plans and the practical difficulties of measuring, let alone maintaining, a change in habitat acreages of no more than 1 percent.

Sediment loads to San Diego Creek and Upper Newport Bay have been significantly reduced through stabilization of eroding channels, conversion of agricultural land to urban uses, and removal of sediment from three in-channel basins in San Diego Creek. A change in the prevailing climate pattern to a lower frequency of intense storm events has also contributed to the reduction in sediment loads. These changes or the need to adjust TMDL targets may also make it necessary to revise the TMDL.

Issue No. 10

Update N/TDS (Salt Management Plan) plan to include: revision of TDS and TIN wasteload allocations; revision of management zone boundaries for the upper Temescal Basins; and adoption of maximum benefit program for the Elsinore Management Zone

A significant element of the Santa Ana Region Basin Plan is the Nitrogen/Total Dissolved Solids (TDS) management plan, which is contained in Chapter 5 Implementation. Salt management has long been and remains a high priority for the Regional Board and water supply and wastewater agencies in the Region since it has profound effects on the protection of ground and surface waters for domestic supply, groundwater recharge and other beneficial uses.

This salt management plan, coupled with nitrogen and TDS objectives in Chapter 4 of the Basin Plan, is the basis for waste discharge requirements. The plan includes nitrogen and TDS wasteload allocations for discharges to the Santa Ana River, “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 management plan must be reviewed and updated periodically as conditions in the Region change, especially as the quality and quantity of available water supplies change over time, as the need to recycle wastewater to conserve potable sources increases, and as monitoring and sophisticated modeling determine the efficacy of water resource management strategies and the need for and nature of modifications.

Board staff is presently engaged in work to update the nitrogen and TDS wasteload allocations. We anticipate that amendments to the salt management plan will be necessary also to address revisions to the boundaries of the upper Temescal groundwater management zones, and the adoption of a maximum benefit program for the Elsinore groundwater management zone to accommodate increased recycled water use. [*Ongoing*]

Issue No. 11

Participate with State Board staff in the development of the biological integrity assessment implementation plan. Incorporate new State Board policy on biological integrity into the Basin Plan.

A key 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. [*Ongoing*]

Once adopted in the Basin Plan, the policy 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. 12

Review beneficial use designations and reach descriptions for waters listed in Table 3-1. Includes review of waters for which REC1 or REC1/REC2 beneficial uses were de-designated via approved Use Attainability Analyses to determine if the de-designations remain justified. Also of special interest are the beneficial use designations of EST, RARE, WILD, SPWN, and COMM, which may be appropriate for a number of waters.

Preliminary Board staff recommendations include:

a. Add RARE to appropriate waters, including: all reaches of San Diego Creek; valley reaches of Lytle, Cajon, and City Creeks; Day Creek; Barton Creek; Waterman Creek; Fish Creek; Reaches 4, 5, 6, and 7 of the San Jacinto River; Strawberry Creek; Fuller Mill Creek; North Fork of the San Jacinto River; Reach 6 of the Santa Ana River; Reaches 1 & 2 of Mill Creek; Reach 1, 3, and 4 of San Timoteo Creek; Bear Creek; the Shay Meadows wetland; and Baldwin Lake;

b. Add SPWN to appropriate waters, including Mountain Home Creek, Lytle Creek, San Antonio Creek, San Jacinto River - North Fork, San Jacinto River Reach 7, and Coldwater Canyon Creek;
c. Add WILD (remove I and add X, existing or potential, to San Jacinto River Reaches 4 & 5.
d. Add Estuarine Habitat (EST) to Los Cerritos Wetlands, Huntington Beach Wetlands, Greenville-Banning Channel Tidal Prism, and Santa Ana-Delhi Channel Tidal Prism.
e. Add COMM to Big Bear Lake, Irvine Lake, Lake Hemet, Lake Perris, Lake Elsinore, Prado Lake and possibly Santa Ana River Reach 6, Bear Creek, and Lytle Creek Middle Fork.

Changes needed to reflect existing hydrology:

f. Erwin Lake – revise beneficial uses to intermittent.

Spawning, reproduction, and development (SPWN) waters support high quality aquatic habitats necessary for reproduction and early development of fish and wildlife. Several inland waters have been designated SPWN; however, other waters appear to qualify but have not been so-designated. It may be appropriate to add the SPWN designation to several inland waters that support this beneficial use, particularly if native or popular sport fish are reproducing successfully.

Information has become available indicating that a number of the Region's waters support recently listed rare, threatened and/or endangered species or their habitat, and/or have been given a federal Critical Habitat Designation. Designation of these waters with the RARE beneficial use should be considered. In addition, there are a few waters that have had historic accounts of a listed species but no accounts of current habitation. The waters that currently are not designated RARE but that have been reported to support this use include:

- All Reaches of San Diego Creek (for the Least Bell's Vireo);
- Valley reaches of Lytle, Cajon, and City Creeks (for the San Bernardino Kangaroo Rat);
- Day Creek, City Creek, Barton Creek, Fuller Mill Creek, North Fork of the San Jacinto River, Strawberry Creek, and Reach 7 of the San Jacinto River (for the Mountain Yellow Legged Frog);
- Reach 6 of the Santa Ana River (for the Southwestern Willow Flycatcher and historically the Mountain Yellow Legged Frog);
- Mill Creek Reach 2 (for the Southwestern Willow Flycatcher and historically the Mountain Yellow Legged Frog);
- Mill Creek Reach 1 (for the San Bernardino Kangaroo Rat);
- Reach 4, 5, 6, and 7 of the San Jacinto River (for the San Bernardino Kangaroo Rat);
- Reach 5 and 6 of the San Jacinto River (for the Arroyo Toad);
- Reach 3, 4, and 5 of the San Jacinto River (for the San Jacinto Crownscale);

- Oak Glenn Creek (for the Southwestern Willow Flycatcher);
- Reach 1, 3, and 4 of San Timoteo Creek (for the Southwestern Willow Flycatcher and Least Bell's Vireo);
- Bear Creek (for the Southwestern Willow Flycatcher);
- Shay Meadows wetland (for the unarmored three spine stickleback); and
- Baldwin Lake (for the unarmored three spine stickleback).

Species information included above was provided in comments submitted by the Center for Biological Diversity, California Department of Fish and Game, and the United States Fish and Wildlife Service.

Wildlife habitat (WILD) waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife. Recent information has become available that certain waters support the wildlife habitat (WILD) beneficial use and have not been assigned that beneficial use. Therefore it is appropriate to assign the WILD beneficial use to these waters.

Estuarine Habitat (EST) waters support estuarine ecosystems, which may include, but are not limited to, preservation and enhancement of estuarine habitats, vegetation, fish and shellfish, and wildlife, such as waterfowl, shorebirds, and marine mammals. United State Fish and Wildlife Service staff has recommended that the EST beneficial use be designed for the Huntington Beach Wetlands, Los Cerritos Wetlands, and the tidal prism reaches of the Santa Ana-Delhi and Greenville-Banning Channels. These waters were added to the Basin Plan by the 2012 Recreation Standards amendments.

The commercial and sportfishing (COMM) beneficial use is designated for waters that are used for commercial or recreational collection of fish or other organisms, including those collected for bait. Currently, the Basin Plan only designates COMM to marine waters. The State Water Resources Control Board Mercury Reservoir Task Force recommends that all state reservoirs currently or potentially listed for mercury be designated with COMM. In addition, State Board staff recommends that all inland surface waters, such as trout streams, lakes/ponds not listed for mercury, and even flood control channels, where fish are regularly caught and eaten should be designated with COMM.

Issue No. 13

Add the following waters to Table 3-1 and 4-1 and designate appropriate beneficial uses and water quality objectives:

- **Newport Coast waters: Buck Gully, Morningstar, Los Trancos, and Muddy Canyon Creeks.** Board staff's preliminary recommendations are to designate these waters existing or potential ("X") REC-1, REC-2, WARM, WILD, and possibly RARE beneficial uses.

- **Big Canyon Creek (Newport Bay Watershed):** Board staff's preliminary recommendations are to designate these waters existing or potential ("X") REC-1, REC-2, WILD, WARM, and possibly RARE beneficial uses.

- **San Gabriel River watershed waters: Carbon, Fullerton, and Brea Creeks:** Board staff's preliminary recommendations are to designate these waters existing or potential ("X") REC-1, REC-2, WARM, and WILD beneficial uses.

- **Waters tributary to Anaheim Bay: Bolsa Channel and East Garden Grove and Wintersburg Channel:** Board staff's preliminary recommendations are to designate these waters existing or potential ("X") REC-1, REC-2, WILD, WARM, EST, and likely RARE beneficial uses.

- **Prado Lake:** Board staff's preliminary recommendation is to designate existing or potential ("X") REC-1, REC-2, WILD, and WARM beneficial uses.

- **Warm Creek (Tributary to Santa Ana River in San Bernardino City area, Sand Creek in upper elevation):** Board staff's preliminary recommendations are to designate these waters existing or potential ("X") REC-1, REC-2, WILD, and WARM beneficial uses.

  Buck Gully empties into the ocean just south of Corona Del Mar State Beach and into the Newport Beach Marine Life Refuge Area of Special Biological Significance (ASBS). Los Trancos, Muddy Canyon and Pelican Point Creeks flow through Crystal Cove State Park. All these waters discharge into the Irvine Coast Marine Life Refuge Area ASBS.

  East Garden Grove Wintersburg, Anaheim-Barber City, and Bolsa Chica Channels are soft-bottomed, engineered flood control channels that discharge into Huntington Harbour and Anaheim Bay. The most downstream reaches are dominated by tidal waters.

  Carbon, Fullerton, and Brea Creeks drain into Coyote Creek, a tributary to the San Gabriel River.

  Big Canyon Creek discharges into upper Newport Bay. The Big Canyon Creek watershed covers sections of Corona Del Mar which include the Big Canyon Golf Course. The Creek feeds a large freshwater marsh near its mouth that is part of the upper Newport Bay Ecological preserve. The creek has been found to discharge elevated levels of selenium into Upper Newport Bay.

Issue No. 14

Add adopted Basin Plan Amendments to the electronic Basin Plan

Adopted amendments must be added to the electronic Basin Plan, available on the Regional 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.

Issue No. 15

Reconsider Nutrient TMDLs for Canyon Lake and Lake Elsinore (San Jacinto River Watershed)

Nutrient TMDLs for Canyon Lake and Lake Elsinore were established by the Regional Board in 2004. Since that time a significant amount of new data and information has been collected, there have been land use changes, and BMPs have been implemented. It is appropriate to reconsider the TMDLs, including the load and wasteload allocations assigned to point and non-point source discharges of nutrients to the Lakes. This is consistent with the explicit commitment by the Regional Board in the TMDLs to conduct this review at least once every three years.

Issue No. 16

Review and revise Big Bear Lake water quality standards and Nutrient TMDL

The Regional Board established a nutrient TMDL for dry hydrological conditions for Big Bear Lake in 2006. The implementation plan specified in the TMDL includes the requirement that by December 31, 2015, the Regional Board shall:

a. Revise the total inorganic nitrogen and total phosphorus numeric water quality objectives for Big Bear Lake.
b. Consider development of objectives for other indicators of impairment (e.g., chlorophyll *a*, macrophyte coverage and species composition).
c. Develop biocriteria for Big Bear Lake.
d. Develop a definition for natural background nutrient sources.

The TMDL recognized that the completion of these tasks would likely require substantial stakeholder commitments of support, in light of resource constraints. While monitoring has been conducted and a considerable body of new data and information has been collected, there has not been substantial progress to date to address the requirement identified above. In part, this resulted from implementation challenges, especially in engaging federal stakeholders in TMDL-related work, ongoing Regional Board staff resource constraints, and the demands of other high priority work.

In addition to this requirement, and like the Canyon Lake/Lake Elsinore TMDL (Issue No. 15, above), the Big Bear Lake Nutrient TMDL implementation plan includes a requirement for triennial review of the TMDL.

Issue No. 17

Restructure Basin Plan to place all adopted TMDLs in Chapter 6. Will require non-substantive changes to table/figure titles/references in TMDLs already included in the Basin Plan.

At present, all Total Maximum Daily Loads adopted by the Regional Board via Basin Plan amendments are included in Chapter 5 Implementation. To facilitate stakeholder access to and review of these established TMDLs, Board staff recommends that the TMDLs be relocated to a separate Chapter (Chapter 6). The current Chapter 6 and Chapter 7 would become Chapter 7 and 8, respectively. Non-substantive changes to tables, figures, titles etc. in the already incorporated TMDLs to reflect their placement in Chapter 6 would be required. In addition, certain non-substantive changes to the table of contents in Chapter 5 and the main Basin Plan table of contents would also be required. This new format is expected to be initiated with the selenium and metals TMDLs for Newport Bay and its watershed (see Issues No. 4 and 6. [*Ongoing*]

Issue No. 18

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 Regional Board to revise the total dissolved solids (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 enlarged 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 difficult to meet the water quality objective because of higher TDS levels in the recycled water produced at the Michelson Water Recycling Plant. IRWD staff contend 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), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Warm freshwater habitat (WARM), and Wildlife Habitat (WILD).

Issue No. 19

Revise the SHEL beneficial use definition to be consistent with the State Water Resources Control Board's Ocean Plan and other regional boards' basin plans. Participate with State Board staff in developing revised SHEL fecal coliform objectives.

As defined in the Basin Plan, waters designated Shellfish Harvesting (SHEL) "support habitats necessary for shellfish (e.g., clams, oysters, limpets, abalone, shrimp, crab, lobster, sea urchins, and mussels) collected for human consumption, commercial or sports purposes." Stringent fecal coliform objectives (fecal coliform median concentration of not more than 14 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 stringent objective is highly problematic.

There are no commercial shellfish growing/harvesting operations in the Santa Ana Region. However, according to 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 Region 8's ocean waters and enclosed bays and estuaries. The extent of human consumption of the shellfish is unknown; some, if not the majority of the shellfish collected are used as bait.

Statewide, there is inconsistency among the regional boards/State Board (California Ocean Plan) in the definition of shellfish and the SHEL beneficial use. Similarly, there is inconsistency with respect to the bacteria indicator objectives established to protect the use.

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

- Redefine the shellfish beneficial use to exclude commercial shellfish operations;
- Add the objective of 14 fecal coliform MPN per 100mL, (some coastal Regional Boards and the Ocean Plan currently list 70 total coliform MPN per 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 per 100mL fecal coliform objective

Region 8 staff will consider revising the SHEL beneficial use definition to be consistent with the other coastal Regional Boards and the Ocean Plan while participating with the State Board Work Group to develop recommendations for revised statewide objectives for commercial and sport/recreation collection of shellfish.

Issue No. 20

Add digital maps to the Basin Plan showing surface and groundwaters and the water quality standards that apply to them. Include related hydrological, 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 surface waters, groundwaters, associated water quality standards and beneficial uses, hydrologic units and tributary waters. California State University at Northridge and State Board GIS staff are producing the maps with assistance from Regional Board staff and likely will be finished in fiscal year 2016-17. Santa Ana Board staff are assisting the contractors in reviewing the draft maps to insure accuracy. The contractors are using the most up to date data (such as the CalWaters GIS layers) so as to reflect the Region's waters as accurately as possible. This activity should clarify the Region 8 boundary in the few locations where it is not clearly defined between Regions.

Issue No. 21

Update and revise Basin Plan narrative program/policy discussions, including:

a) Update information on approved policies in Chapter 2 (e.g., Nonpoint Source Enforcement Policy, 303(d) Listing Policy, etc.);

The list of approved policies shown in the Basin Plan (Chapter 2) has not been wholly updated since 1995. Explicit references to new policies adopted by the State Board since that time need to be included in the Basin Plan, and the descriptions of other plans and policies already included in the Plan need to be updated. Plans and policies that need to be addressed include the State Board's Nonpoint Source Management Plan, Nonpoint Source Implementation and Enforcement Policy, and the Water Quality Control Policy for Developing California's Clean Water Act Section 303 (d) List (referred to as the 303 (d) Listing Policy).

b) Update "Disposal of Hazardous and Nonhazardous Waste" in Chapter 5 to reflect Loss of SWAT program;

Chapter 5 of the Basin Plan references the Solid Waste Assessment Test (SWAT) program, which 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 should be amended to reflect this change.

c) Update SLIC Program Discussion;

The Basin Plan currently contains a description of the SLIC 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.

d) Update Animal Confinement Facilities (Dairies) discussion in Chapter 5;

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

e) Update Nonpoint Source Program discussion in Chapter 5;

Much has been added to the Nonpoint Source Program since the relevant text in the Basin Plan was last updated in 1995. Two major policies that have been added to the NPS program are the NPS Plan and the Implementation and Enforcement Policy. In 2000 a statewide approach for managing NPS pollution, the Plan for California's Nonpoint Source Pollution Control (NPS Plan), was adopted. The NPS Plan required implementation of NPS control Management Measures in the six land use categories of agriculture, marinas & boating, urban, forestry, hydromodification, and wetlands. A key element of the 2000 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 incorporate 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 California Water Code and inconsistent with the SWRCB's Enforcement Policy. The NPS I&E Policy gives direction to 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 should be update to reflect this evolution.

f) Update narrative on efforts to remediate groundwater contamination from perchlorate, 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 Regional Water Quality Control Board (RWQCB) has been directing site assessment and remediation efforts in this area for the last several years. The RWQCB has been very active in working with the responsible parties, other affected agencies, and holding numerous public meetings to develop an appropriate remedial action plan. This major activity should be described in the Basin Plan.

g) Update the Wetlands Section in Chapter 3 to include discussions of the Regional Board 401 Certification process and USEPA, State Board, Cal Department Fish and Wildlife and U.S. Army Corps of Engineers wetland regulatory measures. Update the discussion of the Region's treatment and mitigation wetlands.

Staff proposes to develop 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 U.S. Army Corps of Engineers, pursuant to CWA Section 404; and,
- Water quality standards certifications issued by the SWRCB or Regional Board pursuant to CWA Section 401.

In some cases, waste discharge requirements are adopted by the Board for dredge and fill projects. These regulatory actions implement federal and state requirements for "no net loss of wetlands" as a result of land use practices, and state and federal policies encouraging the expansion of existing wetlands and creation of new ones.

Successful mitigation of the loss of wetlands and other Waters of the State depends on a number of factors, including consideration of the ecological functions and values of the impacted area, and the location of the proposed mitigation (within or outside of the impacted watershed), among others.

To develop information needed to further investigate this issue, an inventory and assessment of the quality of the riverine wetland resources in Region is being conducted. This work has been partially funded by a USEPA grant and is nearing completion.

The criteria that staff proposes to develop will enable both staff and the regulated community to more easily and consistently determine appropriate mitigation projects

when wetlands and other waters of the State are affected by construction or development.

h) Update and revise the Monitoring and Assessment Chapter (currently Chapter 6 to become Chapter 7 (see Issue No. 17)) to include current regional activities, such as an update of the Prado Basin monitoring.

The current Chapter 6 needs to be updated to reflect current regional monitoring. Much of the monitoring described in the Chapter is no longer conducted. One of the ongoing monitoring programs, Prado Basin Monitoring of the Santa Ana River, requires that the existing Basin Plan description be updated.

Issue No. 22

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 River.

Site-specific objectives (SSOs) for copper, cadmium, and lead for the Santa Ana River 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 in light of its promulgation of the California Toxics Rule (CTR), which incorporated new scientific information concerning the appropriate objectives for these metals that was not available at the time the SSOs were adopted. EPA reserved action to allow the Regional 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 site-specific objectives may be warranted, including aluminum, chlorine and cyanide. The concern is that strict application of the national criteria/guidance for these constituents recommended by USEPA may be overly stringent to protect aquatic life beneficial uses. Site-specific objective development efforts might employ the recalculation procedure, one of the methods recommended by USEPA to tailor USEPA's recommended national criteria to site-specific conditions.

Issue No. 23

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 Santa Ana River 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. EPA reserved action regarding approval of these new objectives and requested that 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. 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 USEPA that we would recommend that review of these objectives (and associated implementation provisions) be included in the Triennial Review list. USEPA is required to promulgate criteria (objectives) for states failing to adopt numerical objectives consistent with the new criteria.

Issue No. 24

Review chemical oxygen demand (COD) objectives 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 objectives 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.

Issue No. 25

Prepare/administer the 2015 Triennial Review

The Triennial Review process requires the development by Board staff of a preliminary list of issues that should be addressed to update and revise the Basin Plan, together with estimates of the resources that will be required and a proposed schedule. The preliminary list is distributed to all interested parties, and one or more workshops to solicit comments and recommendations are conducted. Based on the comments received, Board staff prepares a draft final list for consideration by the Regional Board. [*Ongoing*]