

State of California
California Regional Water Quality Control Board
Santa Ana Region

December 9, 2016

STAFF REPORT

ITEM: XX

SUBJECT: Public Hearing: Amendments to the Water Quality Control Plan for the Santa Ana River Basin Region (Basin Plan) to: Update the List of Waters in Tables 3-1 and 4-1 and Designate Beneficial Uses; Remove REC1 Fecal Coliform Water Quality Objectives for Enclosed Bays and Estuaries; Remove Fecal Coliform TMDL for Water Contact Recreation (REC1) for Newport Bay; Revise the Shellfish Harvesting (SHEL) Beneficial Use Definition; Add Antidegradation Targets for REC2 Only Waters; Add New Chapter 6 Total Maximum Daily Loads

I. INTRODUCTION

On July 24, 2015, the Santa Ana Regional Board adopted the Triennial Review (TR) Priority List and Work Plan, a prioritized list and work plan of issues to be addressed during fiscal years (FY) 2016-2018 in compliance with federal and state requirements for periodic review of water quality standards/ water quality control plans (basin plans)¹. The adopted list and work plan reflect ongoing water quality concerns, work commitments, and the availability of resources.

The proposed Basin Plan amendments detailed below address a number of the priorities identified in the approved 2015 Triennial Review list and workplan. The proposed amendments are shown in Attachment 1 (redline version) and Attachment 2 ("clean" version) to this staff report.

Pursuant to the requirements of the California Environmental Quality Act and the State Water Board's regulations for implementing CEQA, Board staff has prepared a Substitute Environmental Document (SED) that evaluates the potential environmental impacts of the proposed amendments. In addition to adoption of the proposed amendments, the Regional Board will be asked to certify the SED.

The proposed amendments are described below.

¹ The 2015 Basin Plan Triennial Review list and workplan can be found at:
http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/index.shtml

II. PROPOSED BASIN PLAN AMENDMENTS

1. UPDATE LIST OF WATERS IN TABLES 3-1 AND 4-1; DESIGNATE BENEFICIAL USES

Background

Federal and State laws and implementing regulations require the identification of waters and the uses of those waters to be protected. Under the Porter-Cologne Water Quality Control Act (California Water Code, Division 7, Chapter 2, §13050), waters are to be designated with beneficial uses to be protected. The Federal Water Quality Standards Regulation (40 CFR § 131.10) states “Each State must specify appropriate water uses to be achieved and protected. The classification of the waters of the State must take into consideration the use and value of water for public waters supplies, protection and propagation of fish, shellfish, and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation.”

Table 3-1 (Chapter 3 BENEFICIAL USES) in the Basin Plan lists the Region’s waterbodies and the beneficial uses designated for those waters. The Basin Plan designates the beneficial uses as existing or potential. Table 4-1 (Chapter 4 WATER QUALITY OBJECTIVES) again lists the Region’s waters and identifies specific water quality objectives, if established, for those waters. Narrative objectives specified in Chapter 4 apply to the waters listed in Table 4-1. This proposed amendment would add waterbodies not previously identified in the Basin Plan and designate appropriate beneficial uses for those waterbodies.

In Section 101 (a) (2) of the Clean Water Act (CWA), Congress declared a national goal “that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water to be achieved by July 1, 1983”. The statute and regulations create a rebuttable presumption that all waters support such “fishable/swimmable” uses. Federal regulations limit the Regional Board’s ability to remove or modify these fishable/swimmable uses. To not designate a “fishable/swimmable” beneficial use, or to remove a designated use that is not existing as defined in federal regulations, the Regional Board must conduct a use attainability analysis (UAA) and demonstrate that attaining the use is not feasible based on factors identified in federal regulations (40 CFR 131.10 (g)).

In accordance with this special protection for “fishable/swimmable” beneficial uses, and with specific exceptions pursuant to USEPA approved UAAs², all surface waters listed in Table 3-1 are designated with the beneficial use of Primary Contact Recreation (REC1). All surface waters are designated with one or more aquatic habitat uses, such as Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Marine Habitat (MAR), Spawning, Reproduction, and Development (SPWN), and (Estuarine Habitat (EST). All surface waters proposed to be added to the Basin Plan are proposed to be

² http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/recreational_standards.shtml

designated REC1; one or more aquatic habitat-related beneficial uses are also recommended.

In formulating these Basin Plan amendments, Board staff reviewed the approved UAA waters where REC1 is not a designated use to determine whether circumstances had changed such that the REC1 designation should be specified for these waters as part of the amendments. Board staff found nothing new that would necessitate such a designation change.

Pursuant to the State Sources of Drinking Water Policy (State Water Resources Control Board (SWRCB) Resolution No. 88-63), with specified exceptions, all state waters are to be considered suitable, or potentially suitable, for municipal or domestic supply and so must be designated MUN. The exceptions include waters with total dissolved solids in excess of 3,000 mg/L, waters contaminated to the extent that they cannot reasonably be treated for domestic use, surface waters in systems designated or modified to carry wastewaters or stormwater runoff, and waters with a specified low flow.

The MUN designation is recommended for some but not all of the surface waters proposed to be added to the Basin Plan via this Basin Plan amendment. The rationale for the recommendation to not designate MUN for certain waters is provided below, based on the exceptions identified in the Sources of Drinking Water Policy.

Regional Board staff consulted with staff from the Resource Agencies and SWRCB regarding the addition of beneficial uses to waters already listed in Tables 3-1 and 4-1. California Department of Fish and Wildlife (CSFW) and United States Fish and Wildlife Service (USFWS) staff recommended that certain waters be designated with the RARE beneficial use. USFWS also recommended that all coastal bays and estuaries be designated with the EST beneficial use. State Board staff working on the Reservoir Mercury Workgroup recommended adding COMM to certain reservoirs in the Region.

Twenty beneficial uses are now recognized within the Santa Ana Region. The region's beneficial uses are listed and described below.

BENEFICIAL USE DEFINITIONS

Municipal and Domestic Supply (**MUN**) waters are used for community, military, municipal or individual water supply systems. These uses may include, but are not limited to, drinking water supply.

Agricultural Supply (**AGR**) waters are used for farming, horticulture or ranching. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.

Industrial Service Supply (**IND**) waters are used for industrial activities that do not depend primarily on water quality. These uses may include, but are not limited to,

mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection and oil well repressurization.

Industrial Process Supply (**PROC**) waters are used for industrial activities that depend primarily on water quality. These uses may include, but are not limited to, process water supply and all uses of water related to product manufacture or food preparation.

Groundwater Recharge (**GWR**) waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality or halting saltwater intrusion into freshwater aquifers.

Navigation (**NAV**) waters are used for shipping, travel or other transportation by private, commercial or military vessels.

Hydropower Generation (**POW**) waters are used for hydroelectric power generation.

Water Contact Recreation (**REC1: Primary Contact Recreation***) waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing and use of natural hot springs.

Non-contact Water Recreation (**REC2: Secondary Contact Recreation***) waters are used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing and aesthetic enjoyment in conjunction with the above activities.

Commercial and Sportfishing (**COMM**) waters are used for commercial or recreational collection of fish or other organisms, including those collected for bait. These uses may include, but are not limited to, uses involving organisms intended for human consumption.

Warm Freshwater Habitat (**WARM**) waters support warmwater ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish and wildlife, including invertebrates.

*The **REC 1** and **REC 2** beneficial use designations assigned to surface waterbodies in this Region should not be construed as encouraging or authorizing recreational activities. In some cases, such as Lake Matthews and certain reaches of the Santa Ana River and its tributaries, access to the waterbodies is prohibited by other agencies because of potentially hazardous conditions and/or because of the need to protect other uses, such as municipal supply or sensitive wildlife habitat. Where **REC 1** or **REC 2** is indicated as a beneficial use in Table 3-1, the designations are only intended to indicate that such uses may occur or that the water quality of the waterbody may be capable of supporting recreational uses unless a Use Attainability Analysis demonstrates otherwise and the Regional Board amends the Basin Plan accordingly.

Limited Warm Freshwater Habitat (**LWRM**) waters support warmwater ecosystems which are severely limited in diversity and abundance as the result of concrete-lined watercourses and low, shallow dry weather flows which result in extreme temperature, pH, and/or dissolved oxygen conditions. Naturally reproducing finfish populations are not expected to occur in **LWRM** waters.

Cold Freshwater Habitat (**COLD**) waters support coldwater ecosystems that may include, but are not limited to, preservations and enhancement of aquatic habitats, vegetation, fish and wildlife, including invertebrates.

Preservation of Biological Habitats of Special Significance (**BIOL**) waters support designated areas or habitats, including, but not limited to, established refuges, parks, sanctuaries, ecological reserves or preserves, and Areas of Special Biological Significance (ASBS), where the preservation and enhancement of natural resources requires special protection.

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.

Rare, Threatened or Endangered Species (**RARE**) waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened or endangered.

Spawning, Reproduction and Development (**SPWN**) waters support high quality aquatic habitats necessary for reproduction and early development of fish and wildlife.

Marine Habitat (**MAR**) waters support marine ecosystems that include, but are not limited to, preservation and enhancement of marine habitats, vegetation (e.g., kelp), fish and shellfish and wildlife (e.g., marine mammals and shorebirds).

Shellfish Harvesting (**SHEL**) waters support habitats necessary for shellfish (e.g., clams, oysters, limpets, abalone, shrimp, crab, lobster, sea urchins and mussels) collected for human consumption, commercial or sport purposes.

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.

CHANGES to TABLE 3-1 BENEFICIAL USES and TABLE 4-1 WATER QUALITY OBJECTIVES

The following descriptions detail the changes proposed to Table 3-1 BENEFICIAL USES and Table 4-1 WATER QUALITY OBJECTIVES in the Basin Plan. Eleven (11) surface waterbodies and appropriate beneficial use designations for those waters are

proposed to be added to Table 3-1 BENEFICIAL USES. These waters would be added also to the list of surface waters in Table 4-1 WATER QUALITY OBJECTIVES. No numeric objectives for the constituents listed in Table 4-1 are proposed to be added for these waters at this time. The narrative objectives specified in the Basin Plan would apply.

In addition, some beneficial use designations are proposed to be added to certain waters that are already listed in the Basin Plan in Table 3-1 BENEFICIAL USES. The beneficial uses are mostly associated with aquatic habitat and sports fishing. The recommendations reflect new knowledge, insights, suggestions, and requests from staff of the SWRCB, USFWS and CDFW.

The surface waterbodies to be added are listed below with a brief description and listing of proposed beneficial use designations. The recommended changes are shown in redline in Attachment 1.

- 1) Muddy Canyon Creek
- 2) Los Trancos Creek
- 3) Buck Gully Creek
- 4) Big Canyon Creek
- 5) Carbon Creek
- 6) Fullerton Creek
- 7) Brea Creek
- 8) Prado Park Lake
- 9) Mill / Cucamonga Creek Wetlands
- 10) Gunnerson Pond Wetland
- 11) Perris Valley Channel

1. Muddy Canyon Creek

The Muddy Canyon Creek watershed covers the area from the crest of the San Joaquin Hills at appropriately 1100 ft. elevation to the Pacific Ocean in the Newport Coast area, mostly in the city of Newport Beach. The intermittent Creek, flowing throughout its length only during wet weather, covers approximately 3.5 miles in length, creating a large canyon. See Figures 1 and 2.

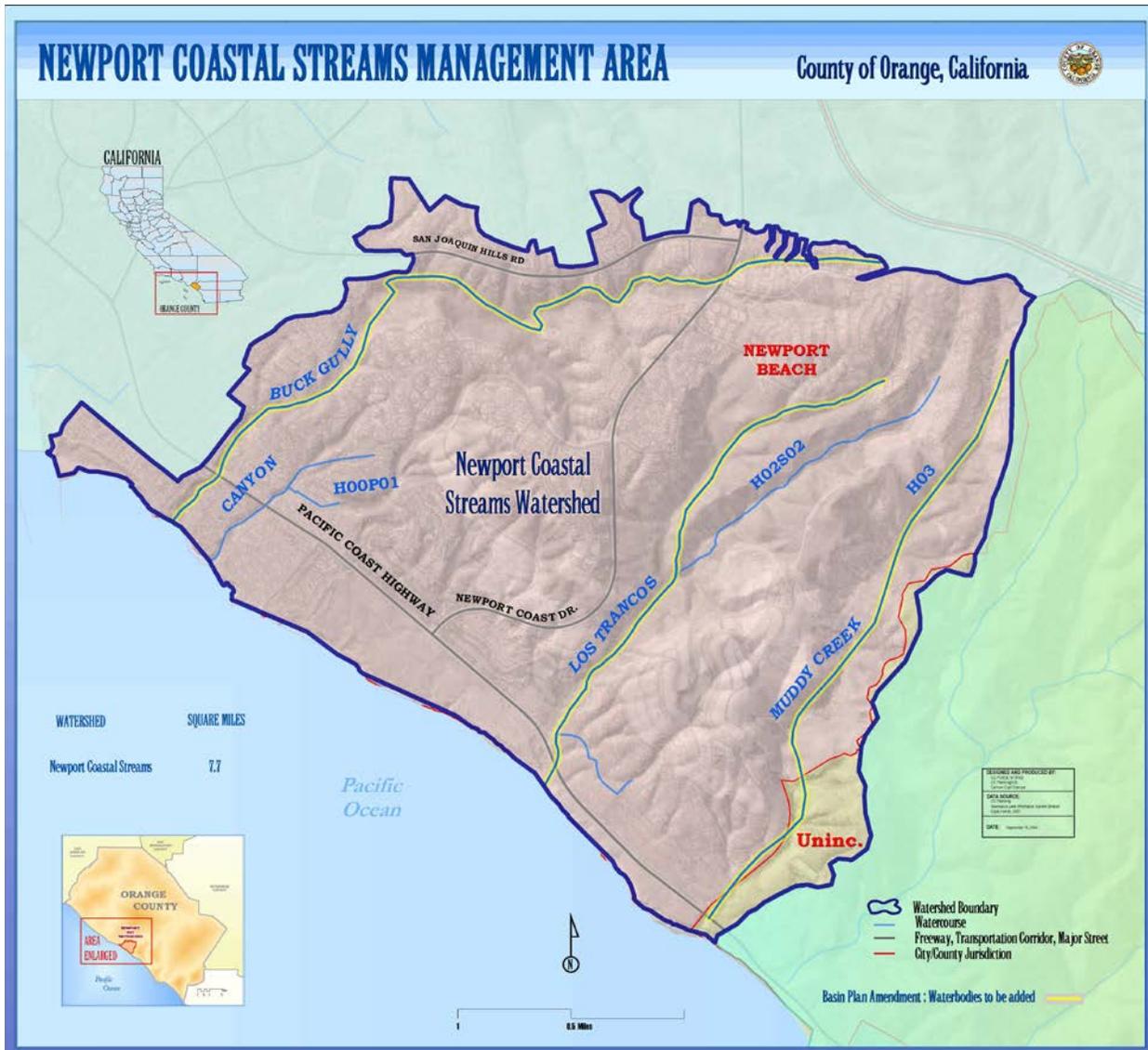


Figure 1. Muddy Canyon Creek, Los Trancos Creek, and Buck Gully Creek drain the Newport Coast Watershed. The creeks empty into the ocean in the popular Crystal Cove and Corona Del Mar State Park recreation areas. Offshore from the creeks are designated Areas of Special Biological Significance.

Muddy Canyon separates recently constructed residential developments of the Newport Coast area from Crystal Cove State Park. The Canyon's watershed is mostly natural even though only the section nearest the ocean lies in Crystal Cove State Park. Muddy Canyon Creek is found in the extreme southwestern section of the Santa Ana Region adjacent to the San Diego Region. The California Water Code describes the boundary between the two regions in this area as the drainage divide between Muddy and Moro Canyons to the crest of the San Joaquin Hills.

Large scale construction of residential units in the 1990's resulted in erosional damage and slope failure in the lower section of the Canyon. In this area, the Canyon narrows and there is runoff from the urban development. Increased runoff from urban

development creates flows periodically into the ocean and the Irvine Coast (Crystal Cove) Area of Special Biological Significance (ASBS)³. A large stormwater detention basin has been constructed to manage stormwater and urban runoff from the surrounding developments just inland of the Pacific Coast Highway (PCH) and drains into the Creek, as indicated in Figure 2.



Figure 2. Muddy Canyon Creek discharges into the Ocean in Crystal Cove State Park

Many of the recommended beneficial designations would be intermittent (I), given the nature of flow in the Creek. Other uses (REC2 and WILD) occur or may occur in the Creek irrespective of flows and so would be designated as Existing or Potential (X).

- MUN (Municipal and Domestic Supply) - I: Muddy Canyon Creek doesn't meet any of the exceptions identified in the State's Sources of Drinking Water Policy. Therefore, the Intermittent MUN use designation is recommended.
- REC1 (Primary Contact Recreation) I: REC 1 is a presumptive use unless and until an UAA is completed and approved that documents otherwise. Given the intermittent nature of the creek, an intermittent (I) designation is appropriate.

³ ASBSs are designated by the State Water Resources Control Board (SWRCB) for the preservation and enhancement of natural resources that require special protection. These areas are monitored and maintained for water quality.

- REC2 (Secondary Contract Recreation) - X: The creek provides opportunities for non-contact water recreation, such as hiking and bird watching.
- WARM (Warm Freshwater Habitat) -I: A “fishable use” is presumptive unless and until an UAA is completed and approved that demonstrates otherwise. Given the intermittent nature of Creek flows, an intermittent (I) WARM designation is appropriate.
- WILD (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species, including birds and mammals.
- RARE (Rare, Threatened, or Endangered) – X: Muddy Canyon Creek has provided and may still provide habitat for the federal listed as endangered Least Bell’s Vireo (*Vireo Bellii pusillus*).

2. Los Trancos Creek

The Los Trancos Watershed lies adjacent to and west of the Muddy Canyon Watershed. Similar to the Muddy Canyon Watershed, the Los Trancos Watershed covers the area from the crest of the San Joaquin Hills to the Ocean in the Newport Coast area of the City of Newport Beach. The Creek covers a distance of appropriately 3.5 miles (see Figures 1 and 3). The Creek forks in the upper section of the watershed, forming two channels.

Pelican Hill golf course borders the Creek just upstream of the Pacific Coast Highway (PCH) to the west while to the east are residential homes. Upstream of the golf course and homes, the Creek is surrounded by natural slopes and vegetation. Near the crest of the San Joaquin Hills, residential homes lie adjacent to the headwaters of the Creek. The Creek empties into the Ocean in Crystal Cove State Park at the restored cottages area.

The Creek is intermittent until it reaches PCH. Runoff from the golf course and residential units, and drainage from PCH, has created perennial flows in this area. A small permanent pond has formed at the end of the Creek channel at the beach.

Many of the recommended beneficial designations would be intermittent (I), given the nature of flow in the Creek. Other uses (REC2 and WILD) occur or may occur in the Creek irrespective of flows and so would be designated as Existing or Potential (X).

- MUN (Municipal and Domestic Supply) - I: Los Trancos Creek doesn’t meet any of the exceptions of the State’s Sources of Drinking Water Policy. Since much of the channel is intermittent, the Intermittent (I) MUN use designation is recommended.
- REC1 (Primary Contact Recreation) - I: REC 1 is a presumptive use unless and until an UAA is completed and approved that documents otherwise. Given the intermittent nature of most of the creek, an intermittent (I) designation is appropriate.

- REC2 (Secondary Contract Recreation) - X: The creek provides opportunities for non-contact water recreation, such as hiking or bird watching.
- WARM (Warm Freshwater Habitat) - I: A “fishable use” is presumptive unless and until an UAA is completed and approved that demonstrates otherwise.
- WILD (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species.



Figure 3. Los Trancos Creek

3. Buck Gully Creek

The Buck Gully Creek watershed is the largest of the Santa Ana Region’s Newport Coast creeks. Buck Gully Creek covers approximately over 3.5 miles in length from just below the crest of the San Joaquin Hills to the Ocean in the Newport Beach City community of Corona Del Mar. Several tributaries in the upper section of the watershed drain into Buck Gully’s main channel. See Figures 1 and 4.

Homes are found on the ridges above Buck Gully Canyon, and a golf course is adjacent the Creek to the east, in the area just above Pacific Coast Highway (PCH). Runoff from the homes surrounding the Creek and golf course have created perennial flows into the Creek, which was intermittent prior to urbanization. The perennial flows have resulted in erosion and water quality problems in the Creek's lower section.

The area of discharge is Little Corona Cove, a popular recreational area with coastal cliffs, tide pools and a beach. The offshore area is in the Robert E. Badham Area of Special Biological Significance (ASBS).



Figure 4. Buck Gully Creek flows as a perennial stream into the Ocean at the Little Corona Beach.

Recommendations regarding beneficial use designations are as follows:

- MUN (Municipal and Domestic Supply) - X: Bick Gully Creek doesn't meet any of the exceptions of the State's Sources of Drinking Water Policy therefore the MUN use designation is recommended.
- REC1 (Primary Contact Recreation) - X: REC 1 is a presumptive use unless and until an UAA is completed that documents otherwise. Given

the perennial nature of the creek, an intermittent (I) designation is not appropriate.

- REC2 (Secondary Contract Recreation) - X: The creek provides opportunities for non-contact water recreation, such as hiking or bird watching.
- WARM (Warm Freshwater Habitat) - X: A “fishable use” is presumptive unless and until an UAA is completed that demonstrates otherwise.
- WILD (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species, including birds and mammals.

4. Big Canyon Creek

The Big Canyon Creek watershed is located in the Corona Del Mar section of the City of Newport Beach. The watershed is approximately 2 square miles, and the Creek drains an area from the crest of the westernmost section of the San Joaquin Hills to Upper Newport Bay (see Figure 5). The Creek forks about 1.5 miles upstream from the Bay. Its longest reach, the northern fork, covers about 3.1 miles from the crest of the hills to Upper Newport Bay. The headwaters of this fork are located near the Pacific View Memorial Park. This reach flows both underground and as an open creek as it travels to MacArthur Boulevard, and then travels through the Big Canyon Country Club Golf Course. The southern fork covers a mile from its headwater area adjacent the Big Canyon Reservoir.

The majority of the watershed (approximately 96%) is highly developed with homes, commercial areas, a golf course, cemetery, and other urban features. Before development, the Creek flowed through distinctive canyons, hence the name Big Canyon. Urban development filled in portions of the canyons and covered sections of the Creek. The downstream section of the Creek flows through an undeveloped portion of Big Canyon and into the Upper Newport Bay Ecological Reserve, and is part of the 60-acre Big Canyon Creek Nature Park. This section includes a pond and riparian vegetated area that has formed by the Bay. Upstream of the Nature Park, the Creek travels through the Big Canyon Country Club Golf Course where it forks as mentioned above.

The Creek flows have changed from ephemeral to perennial as a result of runoff from the golf course and surrounding residential areas. Three golf course ponds are maintained in the Creek channel.

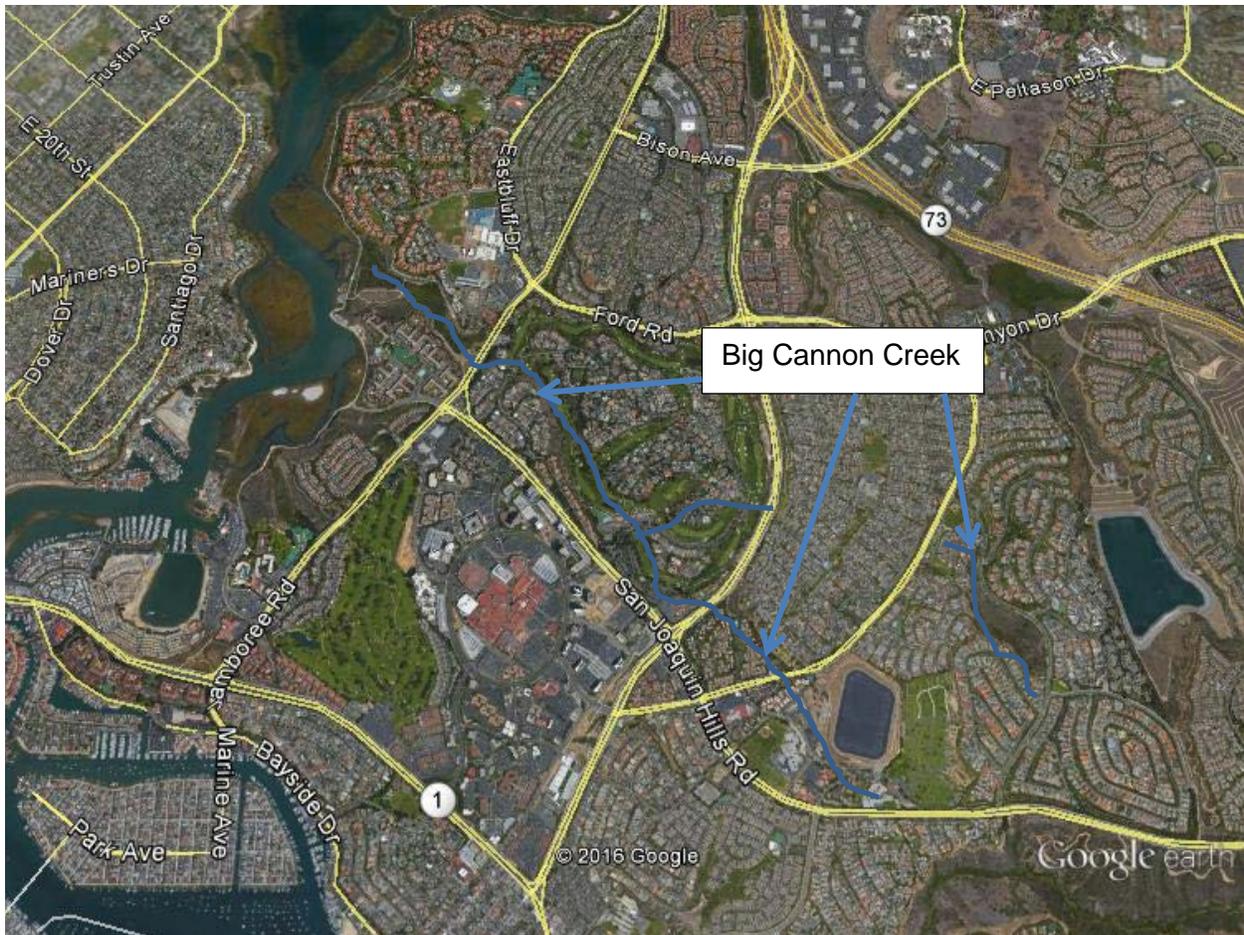


Figure 5. The two main forks of Big Canyon Creek, Newport Beach.

Many of the recommended beneficial designations would be intermittent (I), given the nature of flow in the Creek. Other uses (REC2 and WILD) occur or may occur in the Creek irrespective of flows and so would be designated as Existing or Potential (X).

- MUN (Municipal and Domestic Supply) - I: Big Canyon Creek doesn't meet any of the exceptions of the State's Sources of Drinking Water Policy therefore the intermittent MUN use designation is recommended.
- REC1 (Primary Contact Recreation) - I: REC 1 is a presumptive use unless and until an UAA is completed that documents otherwise.
- REC2 (Secondary Contract Recreation) - X: The Creek provides opportunities for non-contact water recreation, such as hiking or bird watching.
- WARM (Warm Freshwater Habitat) - I: A "fishable use" is presumptive unless and until an UAA is completed that demonstrates otherwise.
- WILD (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species, including birds and mammals.

- RARE (Endangered, Threatened, and Rare) - X: The Western Pond Turtle (*Emys marmorata*), a California Species of Special Concern, is found in the Big Canyon Nature Preserve.

Coyote Creek Watershed Creeks

Carbon Creek, Fullerton Creek, and Brea Creek drain much of the area in northwest Orange County (see Figure 6). The three creeks are tributaries of Coyote Creek, a tributary of the San Gabriel River. In the Coyote Creek Watershed, the boundary between the Los Angeles and Santa Ana Regional Water Quality Control Boards is the county line between Los Angeles and Orange Counties. As a result, these creeks eventually drain into the Los Angeles Regional Water Quality Control Board jurisdictional area.

5. Carbon Creek

Carbon Creek flows approximately 12.5 miles from the Orange County Water District's (OCWD) Kraemer, Miller, and Anaheim Lakes recharge basin complex in the City of Anaheim until its confluence with Coyote Creek in the City of Los Alamitos (Figure 6). A short distance from the confluence, Coyote Creek discharges to the San Gabriel River just over the Los Angeles County line in the City of Long Beach. Carbon Creek is channelized, with a mostly earthen bottom with either rip-rap or earthen banks. However, some sections of the channel are composed of concrete, and flow underground or above ground.

OCWD staff is able to divert and/or split out water from Carbon Canyon Creek, Santa Ana River⁴, Miller Basin, and Kraemer Basin into Carbon Creek or the Carbon Canyon Diversion Channel. The Carbon Canyon Diversion Channel was constructed in 1961 to control and divert floodwaters through north-central Orange County⁵. OCWD is able to send Carbon Canyon Creek or other sources of water from the recharge complex through the Carbon Creek Diversion Channel into the Santa Ana River if desired or necessary. Flows in Carbon Creek, discharged from the recharge basins or from upstream Carbon Creek sources, may be used to fill OCWD's La Jolla Basin groundwater recharge basin which lies adjacent Carbon Creek about one mile downstream and west of the Miller Basin. Further downstream of the La Jolla Basin along Carbon Creek are Orange County Flood Control detention basins; Placentia, Raymond Basins, Crescent and Gilbert in that order. These basins are also used for recharge purposes.

Staff research found that Carbon Canyon Creek flowed down what is now Carbon Creek to the San Gabriel River before the construction of the Carbon Canyon Diversion Channel⁶. Geologic studies of the area and historical accounts show that the Santa

⁴ OCWD staffs regularly divert Santa Ana River flows from the Imperial Highway rubber dam into the Miller Basin/Anaheim Lake recharge complex.

⁵ La Palma Recharge Basin Project Cultural Resources Assessment Report. Bon Terra Psomas. June 2015.

⁶ Anaheim Quadrangle Map. USGS 1950

Ana River periodically veered off its current path, and had instead followed the current path of Carbon Creek in Western Orange County into an area north of Anaheim Bay, possibly to the San Gabriel River. This action, occurring over thousands of years, contributed to the creation of the thick alluvial subsurface area currently found beneath Carbon Creek and throughout this area of north central Orange County. This subsurface area, known as the Forebay, is composed of coarser, more interconnected, and permeable deposits than other parts of Orange County⁷. The Forebay allows surface waters to readily recharge the aquifer, allowing effective groundwater recharge.

Recommendations regarding beneficial use designations must consider that the Creek is intermittent. Therefore, many of the recommended beneficial uses would be designed as intermittent (I). Other uses (REC2 and WILD) occur or may occur in the Creek irrespective of flows and so would be designated as Existing or Potential (X).

- MUN (Municipal and Domestic Supply) - I (Intermittent): Carbon Creek doesn't meet any of the exceptions of the State's Sources of Drinking Water Policy therefore the intermittent MUN use designation is recommended.
- GWR (Groundwater Recharge) - X: The La Jolla Basin and the several detention basins located along the creek receive flows from the Creek which allows effective groundwater recharge.
- REC1 (Primary Contact Recreation) - I: REC 1 is a presumptive use unless and until an UAA is completed that documents otherwise. Given the intermittent nature of the creek, the intermittent REC1 designation is appropriate.
- REC2 (Secondary Contract Recreation) - X: The Creek provides opportunities for non-contact water recreation, such as hiking or bird watching.
- WARM (Warm Freshwater Habitat) - I: A "fishable use" is presumptive and given the intermittent nature of Creek flows, an intermittent WARM designation is appropriate.
- WILD (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species.

⁷ Coastal Plain of Orange County Groundwater Basin. California's Groundwater Basin Bulletin 118. February 27, 2004.

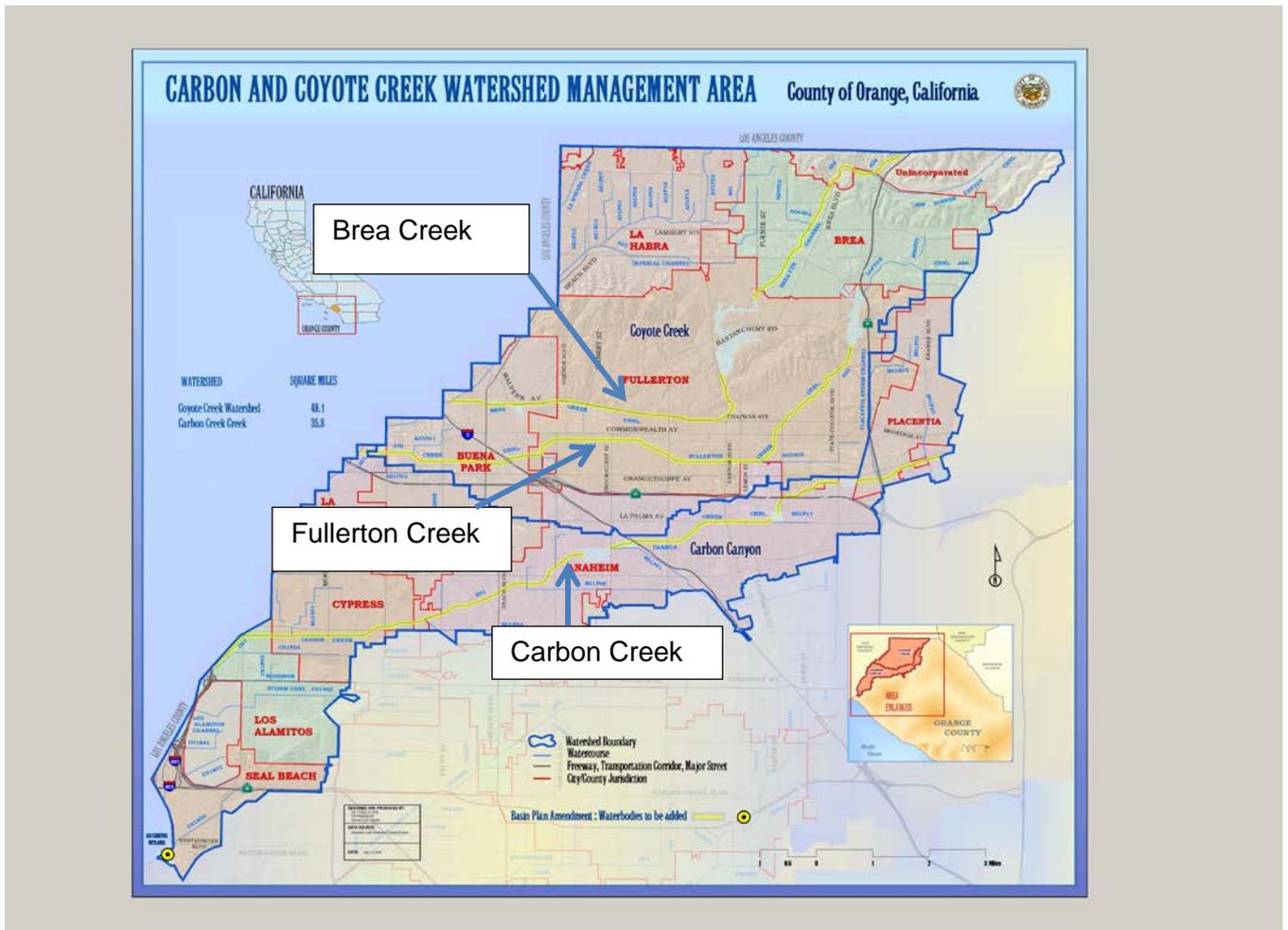


Figure 6. Carbon Creek, Fullerton Creek, and Brea Creek drain northwestern Orange County into Coyote Creek, and ultimately into the San Gabriel River.

6. Fullerton Creek

Fullerton Creek is approximately 10.5 miles long from its upstream terminus at Fullerton Dam to its downstream terminus at Coyote Creek Channel (Figure 6). The Creek passes through portions of the cities of Fullerton, Anaheim, Buena Park, and La Palma. Prior to 1900, Fullerton Creek was a natural stream that originated in the Puente Hills. As agricultural uses were developed in the surrounding areas, it was mostly channelized except for about an approximately 2-mile section below Fullerton Dam where the channel is still natural. The remaining portion to Coyote Creek is open and completely concrete-lined with steep and/or vertical walls. Much of the concrete section is narrow and sunken well below the surrounding residential homes.

Recommendations regarding beneficial use designations must consider that the Creek is intermittent. Therefore, many of the recommended beneficial uses would be designed

as intermittent (I). Other uses (REC2 and WILD) occur or may occur in the Creek irrespective of flows and so would be designated as Existing or Potential (X).

- **MUN** (Municipal and Domestic Supply): MUN is **not** an existing beneficial use nor can this use be feasibly attained. An exception from the MUN designation is appropriate pursuant to the Sources of Drinking Water Policy. Although the channel follows what was a small natural intermittent drainage, the channel has been heavily modified to convey carry urban storm flows. The watershed tributary to this area of the channel is almost completely urbanized.
- **REC1** (Primary Contact Recreation) - I: REC 1 is a presumptive use unless and until an UAA is completed that documents otherwise. Given the intermittent nature of the Creek, an intermittent REC1 designation is appropriate.
- **REC2** (Secondary Contract Recreation) - X: The Creek provides opportunities for non-contact water recreation, such as hiking or bird watching.
- **WARM** (Warm Freshwater Habitat) - I: A “fishable use” is presumptive unless and until an UAA is completed that demonstrates otherwise. Given the intermittent nature of Creek flows, an intermittent WARM designation is appropriate.
- **WILD** (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species, including birds and mammals.

7. Brea Creek

Brea Creek flows 11.7 miles southwest from its headwaters in Brea Canyon in the City of Diamond Bar, Los Angeles County to connect to Tonner Canyon Creek, a major tributary near the Orange County line (Figure 6). Tonner Canyon Creek originates in San Bernardo County in the Chino Hills area. From the Orange County line Brea Creek bends northwest, then southwest to flow into the northernmost arm of Brea Reservoir in the City of Brea. Exiting the Brea Reservoir Dam, the Creek bends west-northwest in a straight and channelized course in the City of Fullerton and joins Coyote Creek just upstream of Fullerton Creek.

The upper Brea Creek watershed consists of areas in the city of Diamond Bar and natural open space areas such as the former Firestone Scout Reservation. Once in Orange County, the channel is first natural, and then channelized earthen to the Brea Reservoir area. In the Brea Reservoir area, the Creek flows through the Brea Creek Golf Course. Below Brea Dam the Channel is natural for approximately one mile and then concrete-lined for five miles. Before its confluence with Coyote Creek, the last 1.5 miles of the Creek are earthen with rip-rap banks. The watershed area below the Dam is highly urbanized. USGS gauging stations operating on the Creek from 1932 to 1969 measured flows averaging 1.4 cubic feet per second (cfs) at the Creek mouth.

Recommendations regarding beneficial use designations must consider that the Creek is intermittent. Therefore, many of the recommended beneficial uses would be designed as intermittent (I). Other uses (REC2 and WILD) occur or may occur in the Creek irrespective of flows and so would be designated as Existing or Potential (X).

- **MUN** (Municipal and Domestic Supply) - I: Much of the upper portion of the Creek's channel flows through natural open-space areas, and is soft-bottomed. As a result, the creek likely recharges the area's groundwater. Given the intermittent nature of Creek flows, an intermittent MUN designation is appropriate.
- **REC1** (Primary Contact Recreation) - I: REC1 is a presumptive use unless and until an UAA is completed that documents otherwise. Given the intermittent nature of the creek, an intermittent REC1 designation is appropriate.
- **REC2** (Secondary Contract Recreation) - X: The creek provides opportunities for non-contact water recreation, such as hiking or bird watching.
- **WARM** (Warm Freshwater Habitat) - I: A "fishable use" is presumptive unless and until an UAA is completed that demonstrates otherwise. Given the intermittent nature of Creek flows, an intermittent WARM designation is appropriate.
- **WILD** (Wildlife Habitat) - X: The Creek supports habitat for a variety of wildlife species.

8. Prado Park Lake

Prado Park Lake is a 60-acre manmade lake located in the 2,000-acre Prado Park, in the Prado Dam Basin flood control area south of the City of Chino. The Lake is located just to the east of Euclid Avenue and west of the Chino Valley Freeway (California-71) (see Figure 7). Water levels in the lake are maintained by the discharge of recycled water from the Inland Empire Utilities Agency (IEUA) Regional Plant Number 1. Water flows out of the Lake via an outlet structure a short distance and into Chino Creek, Reach 1. Approximately 8 million gallons per day (mgd) of recycled water were originally discharged to the Lake by IEUA. Currently, the County of San Bernardino Parks Department requests that only enough recycled water is discharged to keep the lake filled, which results in reduced discharges. For example, in August 2015, 1.9 mgd of recycled water was discharged into the Lake. The Lake supports fishing activities, human-powered boating, and wildlife. There is also a recreational vehicles campsite adjacent to the Lake.

The Euclid Avenue and Grove Avenue storm water channels are piped under the Lake to discharge into the Lake's outlet structure. However, the pipes have inadequate capacity for large storm event flows. As a result, the storm flows are discharged directly into the Lake.

The Lake outlet is a watershed-wide Compliance Monitoring Site for the Middle Santa Ana River pathogen TMDL. Sampling from 2002 through 2004 revealed that a majority of the time concentrations of fecal coliform exceeded the Region's REC1 geometric mean objective, at that time, for fecal coliform. From 2007 through 2015 sampling indicated that the lake met the Region's current REC1 objective for a geometric mean concentration of E. coli about half of the time. Generally, dry weather sampling results meet the REC1 objective while wet weather samples do not. In 2015 all dry weather geometric means calculated met the Region's REC1 objective.

Recommendations regarding beneficial use designations are as follows:

- **MUN** (Municipal and Domestic Supply): MUN is **not** an existing use nor can this use be feasibly attained. An exception from the MUN designation is appropriate pursuant to the Sources of Drinking Water Policy because the Lake provides storage for recycled water, not water suitable for drinking water purposes;
- **REC1** (Primary Contact Recreation) - X: REC1 is a presumptive use as the accessibility of the Lake to campers, fishermen, children and others indicate a reasonable possibility of ingestion from recreational activities.
- **REC2** (Secondary Contract Recreation) - X: The Lake provides opportunities for non-contact water recreation, such as hiking or bird watching;
- **COMM** (Commercial and Sportfishing) - X: Prado Lake is maintained for recreational fishing. The Lake is stocked with game fish (trout, catfish etc.) throughout the year, which makes it a popular waterbody for anglers.
- **WARM** (Warm Freshwater Habitat) - X: A "fishable use" is presumptive as the Lake provides habitats for various game fish and other freshwater organisms; and
- **WILD** (Wildlife Habitat) - X: The Lake supports habitat for a variety of wildlife species.



Figure 7. Prado Park Lake (Prado Reservoir).

9. Mill Creek Wetlands

The Mill Creek (Mill/Cucamonga Creek) Wetlands is a 52-acre constructed wetland system located adjacent to Mill Creek, just downstream of the Hellman Street Bridge and the terminus of Cucamonga Creek in the Prado Basin area of the City of Chino (see Figure 8). The Wetlands were constructed to improve water quality, and provide habitat and recreational activities. The wetlands are landscaped with native plants and has walking trails around the ponds to provide recreational opportunities. The Mill Creek Wetlands are also referred to as the Cucamonga Creek Watershed Regional Water Quality Project. The U.S. Army Corps of Engineers, City of Ontario, City of Chino, Orange County Water District, and Inland Empire Utilities District partnered to construct the Regional Water Quality Project utilizing City of Ontario grant funds and private developer funds.

The Wetlands are a series of off-channel constructed wetlands ponds. Cucamonga Creek flows are diverted at the Hellman Street Bridge into the ponds, and then eventually back into the Creek downstream where Cucamonga Creek becomes Mill Creek. Bacteria and nutrients are reduced, in addition to the removal of sediment, trash, and metals, as water flows between the ponds via natural processes and then back into the Creek. The treatment provided by the Wetlands support the Cities of Ontario and Chino meeting municipal storm water requirements for current and future development.

The Wetlands are designed to divert and treat about one-half of Cucamonga Creek dry weather flows. Approximately 3,100 acre-feet of dry weather flows, about 10 % of the 77-square mile Cucamonga Creek watershed's total dry weather runoff can be treated. They also treat approximately 2,050 acre-feet of wet weather runoff on average, corresponding to over 10-18% of all wet-weather runoff in the Cucamonga Creek watershed.

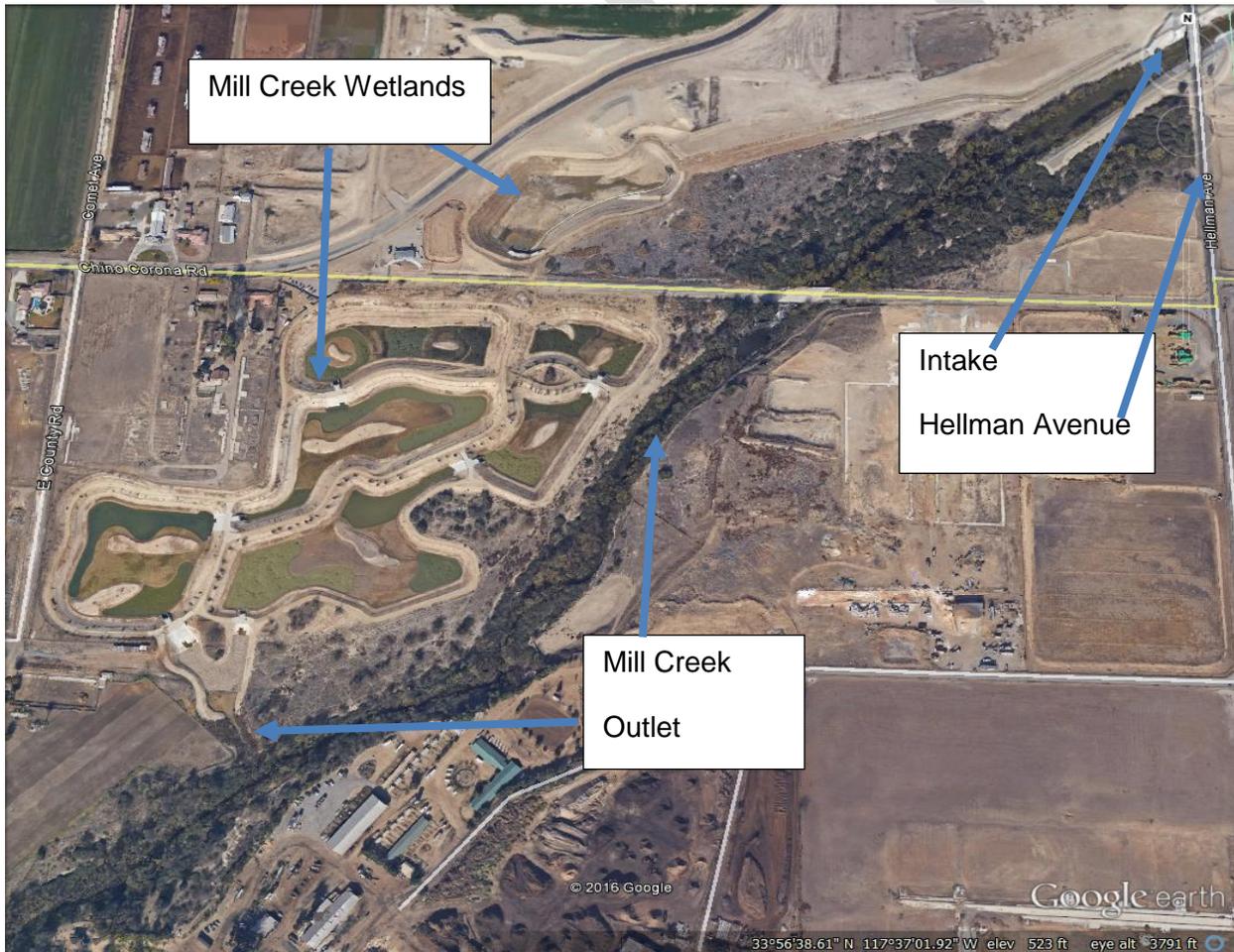


Figure 8. Mill Creek Wetlands

Recommendations regarding beneficial use designations are as follows:

- **MUN** (Municipal and Domestic Supply): MUN is **not** an existing use nor can this use be feasibly attained. An exception from the MUN designation is appropriate pursuant to the Sources of Drinking Water Policy as the wetlands treat stormwater and urban flows, not water suitable for drinking water purposes.
- **REC1** (Primary Contact Recreation) - X: REC1 is a presumptive use as the accessibility of the lake to visitors indicate a reasonable possibility of water contact recreation.
- **REC2** (Secondary Contract Recreation) - X: The Wetlands provide opportunities for non-contact water recreation, such as hiking or bird watching;
- **WARM** (Warm Freshwater Habitat) - X: A “fishable use” is presumptive as the Wetlands provides a number of habitats for various freshwater organisms; and
- **WILD** (Wildlife Habitat) - X: The Wetlands support habitat for a variety of wildlife species, in particular a number of bird species.

10. Gunnerson Pond

Gunnerson Pond is located adjacent to Temescal Creek, approximately one-quarter (1/4) mile downstream of the Elsinore Valley Municipal Water District (EVMWD) Waste Water Regional Treatment Facility in the City of Lake Elsinore (see Figure 9).

Gunnerson Pond is actually a series of ponds and wetlands originally constructed as an environmental restoration and flood prevention project to mitigate for the expansion of the Regional Treatment Facility in 1991. Gunnerson Pond consists of approximately 60 acres of riparian and marsh habitats. Thick riparian vegetation is also found in Temescal Creek downstream of Gunnerson Pond.

EVMWD supplies 0.5 mgd of treated effluent from the Regional Treatment Facility to Temescal Creek in order to maintain Gunnerson Pond habitats and Temescal Creek downstream areas, as mitigation resulting from the construction of the 2005 Lake Elsinore Stabilization and Enhancement Project. The Riverside County Flood Control and Water Conservation District is responsible to divert the flows from Temescal Creek into the Gunnerson Pond Wetlands.

Recommendations regarding beneficial use designations are as follows:

- **MUN** (Municipal and Domestic Supply): MUN is **not** an existing use nor can this use be feasibly attained. An exception from the MUN designation is appropriate pursuant to the Sources of Drinking Water Policy. The wetlands provide storage for stormwater and urban flows, not water suitable for drinking water purposes.
- **REC1** (Primary Contact Recreation) - X: REC1 is a presumptive use as the accessibility of the wetlands to visitors indicate a reasonable possibility of water contact from recreational activities.

- **REC2** (Secondary Contract Recreation) - X: Gunnerson Pond provides opportunities for non-contact water recreation, such as hiking or bird watching;
- **WARM** (Warm Freshwater Habitat) - X: A “fishable use” is presumptive as Gunnerson Pond provides habitat for various freshwater organisms;
- **WILD** (Wildlife Habitat) - X: Gunnerson Pond supports a number of habitats for a variety of wildlife species; and
- **RARE** (Rare, Threatened, and Endangered) - X: Gunnerson Pond supports habitat for the Federally Listed as endangered Least Bell’s Vireo (*Least bellis pusillus*).

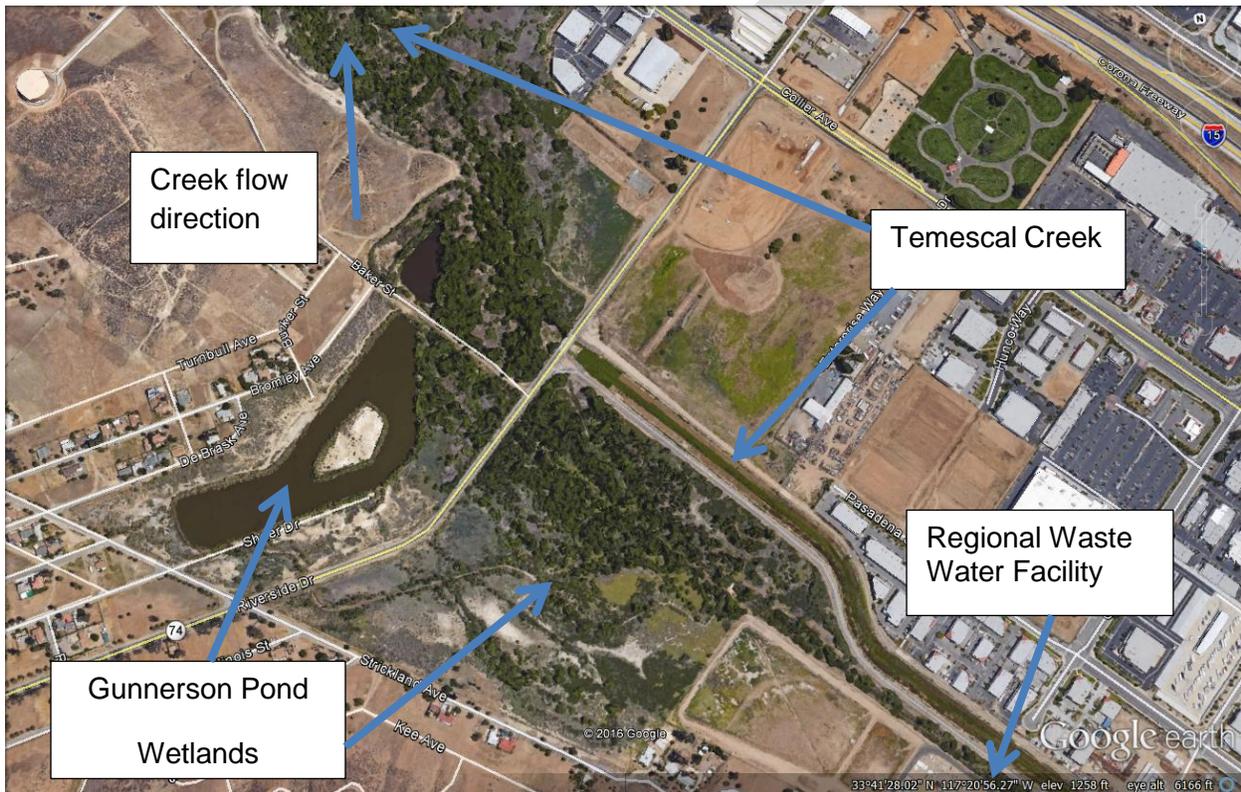


Figure 9. Gunnerson Pond Wetlands. Flow from Temescal Creek fill the Gunnerson Pond complex. Temescal Creek flows towards the Santa Ana River.

11. Perris Valley Channel

The Perris Valley Channel subwatershed has a drainage area that comprises approximately 38 square miles in the Moreno Valley and Perris Valley areas of Western Riverside County, east of the City of Riverside. As the Cities of Moreno Valley, Perris and surrounding areas have been undergoing more intensive conversion from rural land uses to urban-oriented land uses, a series of detention basins, major open channels, and a network of underground storm drains have been constructed to manage the increasing flows. The Perris Valley Channel (also referred to as the Perris Valley Storm Drain) was enlarged to alleviate flooding that had occurred during medium to large size

storm events in the sub-watershed area. The eleven-mile Channel flows into the San Jacinto River southwest of the City of Perris. Several tributaries, many channelized, drain either directly or indirectly into the Channel.

Recommendations regarding beneficial use designations must consider that the Channel is intermittent. Therefore, many of the recommended beneficial uses would be designed as intermittent (I). Other uses (REC2 and WILD) occur or may occur in the Channel irrespective of flows and so would be designated as Existing or Potential (X).

- **MUN** (Municipal and Domestic Supply): MUN is **not** an existing use nor can this use be feasibly attained. An exception from the MUN designation is appropriate pursuant to the Sources of Drinking Water Policy. The Channel conveys stormwater and urban flows, not water suitable for drinking water purposes.
- **REC1** (Primary Contact Recreation) - I: REC1 is a presumptive use unless and until an UAA is completed that documents otherwise. Given the intermittent nature of the Channel, an intermittent REC1 designation is appropriate.
- **REC2** (Secondary Contract Recreation) - X: The channel provides opportunities for non-contact water recreation, such as hiking or bird watching;
- **WARM** (Warm Freshwater Habitat) - I: A “fishable use” is presumptive unless and until an UAA is completed that demonstrates otherwise. Given the intermittent nature of Creek flows, an intermittent WARM designation is appropriate.
- **WILD** (Wildlife Habitat) - X: The channel supports habitat for a variety of wildlife species, particularly birds.
- **RARE** (Rare, Threatened or Endangered Species) - X: The Channel provides habitat for several State Species of Special Concern including the burrowing owl (*Athene cunicularia*) and smooth tar plant (*Centromedia pungens laevis*).

ADD BENEFICIAL USE DESIGNATIONS TO CERTAIN WATERS IN TABLE 3-1

Beneficial uses are proposed to be added to certain surface waters already listed in the Basin Plan. These waters are listed below with a brief explanation of the reason(s) for adding the beneficial use(s).

- 1) Coldwater Canyon Creek: *add SPWN beneficial use*

Recent surveys conducted by the CDFW identified a self-sustaining population of native Southern California steelhead/rainbow trout in Coldwater Canyon Creek. Genetic studies show these fish to be pure descendants of Southern California

steelhead⁸ (*Oncorhynchus mykiss*) that are listed as endangered under the Federal Endangered Species Act. The federal listing of Southern California steelhead trout does not include resident rainbow trout, such as the Coldwater Canyon Creek trout, that are landlocked by impassable barriers (i.e., Prado Dam). Nevertheless, the CDFW consider this population of trout and specific habitat location significant as a source and refugium, respectively, to reestablish repopulation of Southern California steelhead/rainbow trout in other Southern California streams.

- 2) Irvine Lake, Lake Elsinore, Big Bear Lake, Lake Mathews, Lee Lake, and Lake Perris, Anaheim Lake, Canyon Lake, Jenks Lake: *add COMM beneficial use*

The lakes listed above are popular for sportfishing (except Lake Mathews - access is prohibited by the Metropolitan Water District. Lee Lake, Irvine Lake, and Anaheim Lake are or have been managed in recent years as fishing concessions. Fishing at Lake Elsinore, Big Bear Lake, Canyon Lake, and Lake Perris is a major activity, as well as boating, water skiing, swimming, and picnicking. Jenks Lake is currently managed by the U.S. Forest Service as a trout fishing lake. The COMM beneficial use is proposed to be designated to acknowledge that fishing is an existing activity in these lakes.

- 3) Los Cerritos Wetlands, Huntington Beach Wetlands, Greenville-Banning Channel Tidal Prism Reach, San Diego Creek, Santa Ana-Delhi Channel, Santa Ana River Tidal Prism, Tidal Prisms of Flood Control Channels: *add EST beneficial use*

U. S. Environmental Protection Agency (USEPA) staff has recommended that salt marshes and tidal prisms of flood control channels be designated with the EST use since the above-listed waters are indeed estuaries.

- 4) Lytle Creek and Cajon Canyon Creek, Valley Reaches: *add RARE beneficial use*

The USFWS and CDFW have listed the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) (SBKR) and the Santa Ana woolly star plant (*Eriastrum densifolium sanctorum*) under the Federal and State Endangered Species Acts. USFWS staff state the valley reaches of Lytle and Cajon Creeks are key habitats for the SBKR, and SBKR often dig their burrows in the flood terraces of these types of intermittent washes.

- 5) Santa Ana River Reach 2, 17th Street in Santa Ana to Prado Dam: *add SPWN beneficial use*

⁸ National Marine Fisheries Service has identified steelhead found in California by population segments. NMFS made a final Endangered Species Act listing determination for Southern California Distinct Population Segment in 2006.

The federally-listed Santa Ana Sucker (*Catostomus santaanae*), a fish species native to the Santa Ana River, has been found from Prado Dam to Imperial Highway in Reach 2. While water quality is not ideal for the sucker in this reach (for example, high levels of turbidity impact sucker habitat), according to recent research documents, the fish has still been able to spawn.

- 6) Santa Ana River, Reach 6, Seven Oaks Dam to Headwaters; *add RARE beneficial use*

Water agencies, USFWS, and CDFW are developing a habitat conservation plan for the upper Santa Ana River that will reintroduce the Santa Ana Sucker (*Catostomus santaanae*) to Reach 6 in the near future.

- 7) Shay Creek: *add SPWN beneficial use*

Shay Creek and Shay Creek Pond located in the Creek channel, have been maintained for several years as a refugium for the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), a federal and State listed endangered anadromous fish species. Wiebe Pond and Motorcycle Pond are also located in the Creek channel, and have provided habitat for the fish. During wet weather periods when the Creek flows to its terminus and into Baldwin Lake, the fish moves freely throughout the Creek system.

- 8) Lytle Creek (South, Middle, and North Forks): *add SPWN beneficial use*

All forks of Lytle Creek sustain populations of wild rainbow trout (*Oncorhynchus mykiss*), stocked rainbow trout, and the Santa Ana speckled dace (*Rhinichthys osculus*). CDFW has identified the Santa Ana speckled dace as a California fish species of special concern.

- 9) Tequesquite Arroyo: *add RARE beneficial use*

Surveys conducted in 2000 and more recently have documented that the federally-listed Santa Ana sucker (*Catostomus santaanae*) periodically inhabits the last one-half (½) mile of Tequesquite Arroyo before it flows into the Santa Ana River. Resource agencies have conducted restoration efforts since 2014 to improve the habitat for Santa Ana sucker in this portion of the creek.

- 10) San Jacinto River, Reaches 3, 4 and 5 from above Canyon Lake to confluence with Poppet Creek: *add RARE beneficial use*

Jurisdictional waters in certain reaches of the San Jacinto River above Canyon Lake contain vernal plain salt bush plant communities that include a number of federal and State listed endangered species such as the San Jacinto Crownscale (*Atriplex coronate notatior*) and spreading navarretia (*Navarretia fossalis*). In

addition, the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and associated habitat have been found in Reaches 4 and 5 of the San Jacinto River.

- 11) San Jacinto River, Reach 7, Cranston Bridge to Lake Hemet: *add SPWN beneficial use*

Reach 7 of the San Jacinto River sustains populations of wild trout; rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*).

- 12) Strawberry Creek and San Jacinto River, North Fork: *add RARE and SPWN beneficial uses*

The Mountain Yellow-Legged frog (*Rana muscosa*), a federally listed endangered species, is found in Strawberry Creek. In addition, the North Fork of the San Jacinto River contains habitat suitable to sustain the species. In addition, the creeks sustain, or have the potential to sustain, populations of wild rainbow and/or brown trout.

- 13) Fuller Mill Creek: *add RARE beneficial use*

The southern Mountain Yellow-legged frog (*Rana muscosa*), a federally listed endangered species, is found in Fuller Mill Creek.

- 14) Indian Creek: *add SPWN and RARE beneficial use*

A California fish species of special concern, the Santa Ana Speckled Dace (*Rhinichthys osculus*), was reported in 2006, 2007, and 2008 to inhabit Indian Creek. In addition, the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*), a federal and State endangered species, has been found to inhabit areas of Indian Creek.

- 15) Lake Hemet and Lake Perris: *add RARE beneficial use*

The bald eagle (*Haliaeetus leucocephalus*), a California endangered species, has been observed for the last several years nesting or wintering adjacent Lake Hemet and Lake Perris. The Bald Eagle feeds on fish and water fowl from these lakes.

- 16) Shay Meadows Wetlands: *add RARE and SPWN beneficial uses*

Several federal/State listed endangered plant species inhabit the Shay Meadows wetlands, including the federally listed unarmored threespine stickleback (*Gasterosteus aculeatus williamson*). The unarmored threespine stickleback is found in Shay Creek Pond, and periodically in other Shay wetland areas including other ponds and Shay Creek.

- 17) Bautista Creek: *add RARE beneficial use*

The federally listed San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and arroyo toad (*Anaxyrus californicus*) are found along Bautista Creek in areas of jurisdictional waters.

18) Silverado Creek and Santiago Creek, Reach 3: *add RARE beneficial use*

The arroyo toad (*Anaxyrus californicus*) is found along Silverado Creek and Reach 3 of Santiago Creek.

19) Yucaipa Creek; Temescal Creek Reaches 2, 4, and 5; San Timoteo Creek Reaches 1b, 2, and 3; San Diego Creek Reaches 1 and 2; Potrero Creek; Peter's Canyon Wash; Rattlesnake Canyon Wash; Little Sand Canyon; Laguna Canyon Wash; Devil Canyon Valley and Mountain Reaches; West Fork Cable Canyon; Borrego Canyon Wash; Bailey Canyon Creek; Bonita Creek; Black Star Creek; Bee Canyon Creek; Bedford Canyon Wash; Badger Creek: *add RARE beneficial use*

The waters listed above support habitat for the Least Bell's Vireo (*Least bellis pusillus*), a federally listed endangered species.

20) Poppet Creek: *add RARE beneficial use*

The San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) has been found to inhabit areas of Poppet Creek.

2. REVISE THE DEFINITION OF THE SHELLFISH HARVESTING BENEFICIAL USE

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.”

In contrast, the SHEL definition employed statewide refers to shellfish that are filter-feeding bi-valve molluscs that do not include some of the organisms identified in the Basin Plan definition. The California Ocean Plan similarly speaks to shellfish that are filter-feeding organisms: shellfish are identified as “organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters)”.

The proposed revision of the SHEL definition is intended to resolve this conflict and assure statewide consistency. The proposed changes are shown below.

~~Shellfish Harvesting (SHEL) – waters 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.~~

Shellfish Harvesting (SHEL) – waters support habitats necessary for filter feeding shellfish (e.g., clams, oysters and mussels) collected for human consumption, commercial, or sport purposes.

**3. ADD ANTIDEGRADATION TARGETS FOR REC2 ONLY WATERS:
TEMESCAL CREEK REACH 1a and 1b (combined); SANTA ANA-DELHI
CHANNEL REACH 1 and 2 (combined); CUCAMONGA CREEK, REACH 1.**

The Santa Ana Regional Board Recreation Standards Basin Plan Amendments, adopted under Resolution No. R8-2012-0001), established numeric, antidegradation pathogen indicator bacteria targets for waters designated REC2 only⁹. The targets are to be used to assess whether or not pathogen indicator bacteria concentrations are increasing and, if so, to trigger additional monitoring, investigation and, where needed, control actions.

USEPA disapproved the Regional Board's recommended removal of the REC2 use for certain waters: Santa Ana Delhi Channel - Reach 1, Temescal Creek – Reach 1b, and Cucamonga Creek- Reach 1. Accordingly, antidegradation targets are being recommended for these now- designated REC2 only waters.

For the Santa Ana-Delhi Channel and Temescal Creek, Reach 1 and Reach 1b, respectively, were combined with adjacent reaches of these streams (Reach 2 and Reach 1a, respectively), for which antidegradation targets had been previously established. Antidegradation targets for the combined reaches are now recommended to be added. The reaches were combined for the purposes of calculating the antidegradation targets on the basis of the limited available data and recognition of anticipated monitoring efficiencies and constraints. In the case of Temescal Creek, a prior error in the calculation of the target for Reach 1a was also discovered when calculating the antidegradation target applicable to the combined reaches: data from upstream areas outside of Reach 1a had been used to calculate the antidegradation target for Reach 1a as part of the recreation standards amendments. These inappropriate data were eliminated from the calculation of the antidegradation target for the combined Reach 1a and 1b.

Table 5-REC2 Only Targets-FW below shows the recommended targets. Changes are in strike-out, with additions underlined.

⁹ Designation of waterbodies as REC2 only was determined through Use Attainability Analyses (UAA).

Table 5-REC2 Only Targets-FW

REC2 Only Waterbody	<i>E. coli</i> Densities (cfu/100 mL)				
	Geometric Mean	Std. Dev.	N	Max. Observed	75%
Temescal Creek, Reach 1a and 1b	492 <u>353</u>	34-1.1	408 <u>36</u>	9,200	<u>359</u> <u>725</u>
Santa Ana-Delhi Channel, <u>Reach 1</u> and <u>Reach 2</u>	411- <u>399</u>	410 <u>1.5</u>	<u>56</u> <u>55</u>	12,590	<u>1,104</u> <u>1,067</u>
<u>Cucamonga Creek Reach 1</u>	<u>509</u>	<u>1.5</u>	<u>197</u>	<u>23,000</u>	<u>1,385</u>

4.0 Remove Fecal Coliform Objectives for Water Contact Recreation (REC-1) for Bays and Estuaries; Establish Averaging Period for Enterococcus Objectives for Coastal Waters Promulgated by USEPA; Revise Basin Plan Narrative Concerning USEPA’s Promulgation of Enterococcus Objectives

The Basin Plan specifies the following Pathogen Indicator Bacteria objectives to protect Water Contact (or “Primary Contact Recreation”) (REC-1) in the Bays and Estuaries of the Region, including Newport Bay, Anaheim Bay and Huntington Harbor:

REC-1: Fecal coliform: log mean less than 200 organisms/100mL based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100mL for any 30-day period.

These objectives were first included in the 1983 Basin Plan. The objectives were adopted based on epidemiological studies performed by the U.S. Public Health Service in the mid-1940’s and early 1950’s, and recommendations based on those studies by the Federal Water Pollution Control Administration (a predecessor to USEPA) in 1968.

In 1986, USEPA published new water quality criteria for recreational waters that rely not on fecal coliform bacteria but on the pathogen indicator bacteria enterococcus in marine waters and *E. coli* or enterococcus in fresh waters.¹⁰ The recommended enterococcus criteria for marine waters include a geometric mean of 35/100mL and single sample maximum values that vary on a site-specific basis depending on the intensity of primary contact recreational use at each site. These single sample maximum values are intended principally as beach posting and closure tools, as well as triggers for additional monitoring and investigation.^{11,12} No averaging period for the geometric mean was specified, leaving that determination to the discretion of the states.

¹⁰ USEPA. Ambient Water Quality Criteria for Bacteria – 1986. EPA-440/5-84-002. January 1986.

¹¹ USEPA, Fact Sheet. Water Quality Standards for Coastal Recreation Waters: *Using Single Sample Maximum Values in State Water Quality Standards*, EPA-823-F-06-013, August 2006

¹² In 2012, the Regional Board adopted recreation standards amendments to the Basin Plan to remove the fecal coliform objectives for inland surface waters and to replace them with *E. coli* objectives based on

The 1986 recommended criteria were developed based on the results of a series of studies at marine and fresh water bathing beaches that were initiated by USEPA in 1972 to address perceived deficiencies of the Public Health Service investigations. These more recent epidemiological investigations examined the relationship between swimming-associated gastrointestinal illness and the microbiological quality of the waters used by swimmers. Analyses of the results demonstrated that fecal coliform, the basis for the prior federal recommendations for recreational water quality criteria, and for the fecal coliform objectives for bays and estuaries now included in the Basin Plan (and the fecal coliform objectives for inland surface waters previously specified in the Basin Plan (see footnote 3)), did *not* demonstrate a correlation with swimming-associated gastroenteritis. However, enterococcus exhibited a strong correlation to illness in swimmers in marine waters.

While the Basin Plan was amended in 2012 to remove the fecal coliform objectives for inland surface waters and to replace them with objectives based on USEPA's 1986 *E. coli* criteria, no action was taken to remove the fecal coliform objectives for Bays and Estuaries.

In 2004, USEPA promulgated enterococcus criteria for coastal recreation waters, including bays and estuaries such as Newport Bay, Anaheim Bay and Huntington Harbor, where the states had not taken action to implement the 1986 bacteria quality criteria in their water quality standards¹³. This included most of the coastal recreation waters in California, including those in the Santa Ana Region. In short, this means that in 2004, enterococcus criteria were established by USEPA as enforceable objectives applicable to bays and estuaries in the Santa Ana Region. This included an enterococcus geometric mean of 35/100mL. Single sample maximum enterococcus values were also established that vary based on the intensity of REC1 use. As in the 1986 criteria document, no averaging period for the geometric mean was specified, leaving that determination to the states. USEPA also left to state discretion decisions regarding the intensity of REC1 use at various sites and the application of the appropriate single sample maximum values. USEPA's 2004 action did not delete established fecal coliform objectives in states' water quality standards. However, USEPA encouraged the states to move expeditiously to do so since fecal coliform are not a reliable indicator of public health risk to swimmers, nor, therefore, a reliable measure of the protection of the REC1 beneficial use.

the 1986 criteria (Resolution No.R8- 2012-0001). Narrative concerning the scientific basis of the 1986 criteria and the application of those criteria was also added. These amendments were subsequently approved by the Office of Administrative Law, State Water Resources Control Board and USEPA. The added narrative discussion concerning the scientific basis and application of the 1986 criteria for freshwaters also applies generally to marine waters. See the Basin Plan, Chapter 4 WATER QUALITY OBJECTIVES-INLAND SURFACE WATERS, Pathogen Indicator Bacteria, and Chapter 5 IMPLEMENTATION, Recreation Water Quality Standards.

¹³ USEPA Water Quality Standards for Coastal and Great Lakes Recreation Waters; Final Rule. 40 CFR131.41. Federal Register, Vol. 69, No. 200, November 16, 2004

The 2012 recreation standards Basin Plan amendments took formal notice of USEPA's 2004 action to promulgate enterococcus criteria for coastal recreation waters and indicated the Regional Board's intent to consider future amendments to the Basin Plan to identify an appropriate averaging period for the geometric mean and to make intensity of use REC1 decisions so that single sample maximum values could be applied properly.

The proposed Basin Plan amendments partially fulfill this commitment:

- The proposed amendments include the deletion of the fecal coliform objectives for Bays and Estuaries. With the removal of these objectives, the enterococcus geometric mean objective of 35/100mL promulgated by USEPA in 2004 will govern bacteria quality in bays and estuaries.
- The proposed amendments recommend that the averaging periods for this enterococcus geometric mean be discrete 30-day (monthly) averages. This is based on the finding, based on extensive bacteria quality data collected by the Orange County Health Care Agency, that exceedances of bacteria quality objectives tend to occur in response to wet weather. These exceedances are relatively short-term and bacteria quality improves to meet standards within a short time (less than a week). If a rolling 30-day averaging period is used instead of discrete monthly periods, each weekly sample would be used to compute and re-compute 9 consecutive and overlapping geometric means. In this case, a single rain event could cause a waterbody to exceed the enterococcus objective for more than two months, even though enterococcus quality met the objective for the four weeks preceding and four weeks following the rain event. In short, using a rolling 30-day average period would significantly overstate the health risk to swimmers, particularly during the predominant dry weather conditions when most swimming is likely to occur.

The proposed Basin Plan amendments do not include recommendations for assigning single sample maximum values based on determinations of the intensity of REC1 use at various locations in the Region's coastal recreation waters. The rationale for this is as follows.

In 2012, USEPA published revised recommended recreation water quality criteria¹⁴. These new criteria continue to be based on enterococcus for marine waters and *E. coli* or enterococcus for fresh waters. A significant difference between the 1986 and 2012 criteria is that in its 2012 criteria recommendations, USEPA has departed from the single sample maximum approach employed in the 1986 criteria. Specifically, USEPA no longer recommends applying different single sample maximum values based on the intensity of REC1 use.

The State Water Board is now engaged in a process to develop a statewide recreation objectives policy to implement the 2012 criteria. When adopted, the new statewide

¹⁴ USEPA Office of Water 820-F-12-058 Recreational Water Quality Criteria 2012

objectives policy is likely to supercede most, if not all, REC1 bacteria objectives in Regional Board Basin Plans.

Given these circumstances – that the USEPA no longer recommends varying single sample maximum values based on the intensity of REC1 use and that the State Board is now developing statewide objectives based on the 2012 criteria, Board staff believes that it would be an imprudent use of Regional Board resources to attempt to distinguish coastal recreation waters in the Santa Ana Region on the basis of the known or anticipated intensity of REC1 use. Nor is it necessary to specify single sample maximum values at this time in order to protect public health, since the Orange County Health Care Agency (OCHCA) relies on established bacteriological ocean water quality standards (A.B. 411 standards; CCR Sec. 7956-7962) and extensive monitoring to make beach posting and closure decisions for ocean and bay waters.

In summary, Board staff's recommended Basin Plan amendments include: (1) the deletion of the fecal coliform objectives for REC1 in the bays and estuaries of the Region; (2) the expression of the USEPA-established enterococcus geometric mean objective (35/100mL) as discrete 30-day (monthly) averages; and, (3) in addition, Board staff recommends that the Basin Plan narrative for pathogen indicator objectives for Bays and Estuaries be modified to reflect the State Board's anticipated approval in mid-late 2017 of a statewide objectives policy that implements USEPA's 2012 Recreational Water Quality Criteria.

The proposed amendments are shown below with additions underlined and deletions shown in strike-out type.

CHAPTER 4 WATER QUALITY OBJECTIVES

ENCLOSED BAYS AND ESTUARIES

Pathogen Indicator Bacteria

Bays and Estuaries

~~REC-1 Fecal coliform: log mean less than 200 organisms/100mL based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100mL for any 30 day period.~~ Enterococcus: geometric mean less than or equal to 35 organisms/100mL, based on at least 5 samples in a discrete 30-day (monthly) period.

Note: ~~The USEPA promulgated enterococci criteria for coastal recreation waters, including enclosed bays and estuaries, in 2004 (40 CFR 131.41). The established geometric mean enterococci value is 35/100mL. No averaging period was specified, leaving that determination to the state's discretion. USEPA also identified single sample~~

~~maximum enterococci values, which vary based on the frequency of use of the REC1 waters. The Regional Board intends to consider a Basin Plan amendment in the future to formally recognize the enterococci criteria established for enclosed bays and estuaries, to define an appropriate averaging period for the application of the geometric mean criterion, and to define appropriate application of the single sample maximum values to varying areas within enclosed bays and estuaries in the Region. The enterococcus geometric mean objective specified above was promulgated by USEPA in 2004 (40 CFR 131.41), based on USEPA's 1986 Ambient Water Quality Criteria for Bacteria. In 2012, USEPA published revised national Recreational Water Quality Criteria. The State Water Board is developing a statewide REC1 bacteria objectives policy to implement the 2012 Criteria. These statewide objectives, which are expected to be adopted in 2017, may supercede the enterococcus objective specified above.~~

5.0 Remove Fecal Coliform TMDL for REC1 in Newport Bay and Revise Relevant Narrative Discussion

In 1999, the Regional Board established a fecal coliform Total Maximum Daily Load (TMDL) to address impairment of the REC1 and SHEL (shellfish harvesting) beneficial uses designated for Upper and Lower Newport Bay. The TMDL includes an implementation plan that identifies the tasks to be completed by responsible parties to achieve the TMDL and, thereby, to achieve fecal coliform bacteria quality objectives then specified in the Basin Plan to protect REC1 and SHEL beneficial uses.

As discussed above, USEPA has found that fecal coliform bacteria are not a reliable indicator of public health risk to swimmers and, accordingly, promulgated enterococcus objectives for REC1 for coastal waters such as Newport Bay. (No changes to fecal coliform objectives to protect SHEL have been recommended to date by USEPA or other agencies.) The proposed amendments include the deletion of the fecal coliform objectives for REC1 for Bays and Estuaries in the Santa Ana Region and explicit acknowledgment of the promulgated enterococcus objective (35/100mL as a geometric mean).

If the proposed amendments are approved and fecal coliform objectives are no longer a part of the water quality standards established in the Basin Plan, then the established fecal coliform TMDL no longer has scientific or legal validity. Continuing to pursue implementation actions to meet the fecal coliform TMDL could result in the expenditure of precious public resources without providing the water quality and public health protection that was originally presumed would result from those actions.

Accordingly, if the removal of the fecal coliform objectives for REC1 for Bays and Estuaries is approved, then it is appropriate also to remove the fecal coliform TMDL.

The logical questions that would arise from the removal of the fecal coliform TMDL for REC1 are (1) whether a TMDL based on the enterococcus objective is necessary to protect the REC1 use and, (2) whether control actions already in place or planned to

address the fecal coliform TMDL for REC1 would be affected in any way such that enterococcus objectives would not be met and the REC1 use would not be protected.

With respect to the first question, analyses of enterococcus (and fecal coliform) data (2010-2016) by the County of Orange using the State Water Board's 303(d) Listing Policy¹⁵ indicate that: (1) both the Upper Bay and Lower Bay could be removed from the 303(d) list of impaired waters due to fecal coliform (even if fecal coliform objectives continued to be specified); and, (2) there is no impairment of the REC1 use in Newport Bay due to violations of the promulgated enterococcus objective¹⁶. In short, the data indicate that no enterococcus TMDL is necessary or justified to protect the REC1 use at this time.

Board staff recognizes that there may be concern and/or differences of opinion about the finding that no enterococcus TMDL for the Bay is necessary. This may be an appropriate matter to be considered in an anticipated stakeholder process, to be sponsored by Orange County in conjunction with Orange County Coastkeeper. Board staff expects to be key participants in this process. Broadly, the intent of this stakeholder process, which is likely to be initiated in early 2017, is to investigate bacteria quality issues in the Bay and to recommend solutions. Those solutions may include the adoption of new or revised TMDLs and other actions.

Nevertheless, Board staff believes that it is appropriate to remove the Fecal Coliform TMDL for REC1 at this time. Again, that TMDL does not confer protection to the REC1 use and, as stated above, continuing to implement it may result in appropriate expenditure of public resources.

In any event, ongoing monitoring and analyses will be necessary to assure that enterococcus objectives will continue to be attained.

With respect to the second question, the 2016 Annual Data Report by the County of Orange includes an appendix (Appendix D: Newport Bay Fecal Coliform TMDL 2016 Summary of Management Actions) that comprehensively documents the totality of measures that have been implemented by watershed stakeholders to address, in part, the requirements of the Fecal Coliform TMDL for the Bay. These Best Management Practices (BMPs) include source control, water treatment BMPs (physical structures that remove fecal indicator bacteria (FIB)(including enterococcus, fecal coliform,, etc.), or remove trash or other factors that promote FIB growth), and volume reduction BMPs that reduce runoff volume and the introduction of pollutants to receiving waters. It should be noted that many of these BMPs are not specifically targeted to address FIB but to address other pollutants. The BMPs nevertheless result in FIB reductions. There is no reason to suppose that BMPs in place or planned that directly or indirectly affect

¹⁵ State Water Resources Control Board. Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List. 2004, as amended in 2015.

¹⁶ County of Orange. OC Public Works/OC Environmental Resources/Water Quality Compliance. Newport Bay Fecal Coliform TMDL 2016 Annual Data Report. September 1, 2016. (2016 Annual Data Report), p.6,7

FIB densities, whether or not these are represented by enterococcus or another bacterial indicator, would be affected in any way. Waste discharge requirements, including the MS4 permit issued to the County of Orange as the principal permittee and its co-permittees, will continue to require compliance with receiving water quality standards, including the enterococcus objective for bays and estuaries. Actions to assure that enterococcus quality is and remains compliant with this established enterococcus objective will continue to be necessary and are expected to include the same measures as have been or are proposed to be implemented in the future to address FIB and other pollutants¹⁷.

As stated above, the Fecal Coliform TMDL for Newport Bay was established and incorporated in the Basin Plan in 1999. Narrative description of bacteria quality issues in Newport Bay was included. This narrative is largely outdated and does not reflect either the latest scientific information or information regarding the control actions that have been taken and their results. Because of this, and because further review and amendment of the TMDL is anticipated as part of the expected stakeholder process, deletion of much of the outdated narrative is now recommended. Language is proposed to be added to reflect the stakeholder process and the expected need to consider further amendment of the Basin Plan in response to the stakeholder recommendations.

It should be noted that many of the tasks identified in the TMDL implementation table (Table 5-9g) have already been completed, so substantive revisions of that Table is not now recommended. Again, it is expected that this and other elements of the TMDL will be reviewed through the stakeholder process and will likely be revised in the future.

6.0 Revise the Compliance Schedule for Fecal Coliform TMDL for SHEL in Newport Bay

The Basin Plan specifies the following pathogen indicator bacteria objectives to protect the Shellfish Harvesting (SHEL) beneficial use:

SHEL: Fecal coliform: median concentration not more than 14 MPN (most probable number)/100 mL and not more than 10% of samples exceed 43 MPN /100 mL.

No changes to these objectives are proposed. However, as a part of these Basin Plan amendments, modification of the SHEL definition is recommended to conform to the statewide definition (see below).

The Fecal Coliform TMDL established for Newport Bay in 1999 includes a TMDL, wasteload and load allocations intended to assure that the SHEL objectives for fecal coliform identified above would be achieved. The compliance schedule for the Fecal Coliform TMDL for SHEL is as soon as possible but no later than December 30, 2019.

¹⁷ As noted in the 2016 Annual Data Report (p.8), diversions are already planned at many locations where analyses indicate that bacteria (fecal coliform and/or enterococcus) levels remain high.

Recent analyses of fecal coliform data for 2010-2016 conducted by the County of Orange¹⁸ show that compliance with the fecal coliform objectives for SHEL is strongly influenced by rainfall, even in trace amounts. The Fecal Coliform TMDL for SHEL (and that for REC1) does not distinguish between wet and dry weather. Nor does the TMDL account for inputs to the Bay from natural sources that result from rainfall or other sources (e.g., wildlife) and are not within the reasonable control of the parties responsible for compliance with the TMDL.

The Los Angeles, San Diego and San Francisco Regional Boards have addressed similar circumstances in bacteria indicator TMDLs by using a reference system/antidegradation or natural source exclusion approach.¹⁹ The reference system/antidegradation approach permits a number of exceedances of single sample objectives for bacteria, based on historical monitoring data and the selection of a local reference system (e.g., stream, beach). The selected reference system is considered to be outside the influence of anthropogenic activities that result or may result in controllable bacteria inputs to surface waters. The goals of the reference system/antidegradation approach is to assure that bacteriological quality is at least as good as that of the reference (“natural”) system, and that no degradation of water quality is allowed where the existing quality is better than that of the reference system.

The natural source exclusion approach recognizes that there are many direct inputs of bacteria to surface waters, including from birds, terrestrial and aquatic animals, aquatic plants and other unidentified sources. This approach requires that all anthropogenic sources of bacteria be controlled, and that natural sources of bacteria be identified and quantified, which is often a highly challenging task. Exceedances of bacteria objectives that can be attributed to uncontrollable natural sources are accounted for in this approach.

The goal of utilizing both the reference system/antidegradation and natural source exclusion approaches is to assure that discharger resources to control bacteria inputs and to comply with applicable objectives are focused appropriately on sources that can be controlled. Dischargers should not be required to provide more treatment or to implement more control measures than necessary.

As discussed above, the State Water Board is now engaged in the development of a statewide bacteria objectives policy. This policy is expected to include guidance to regional boards regarding the use of the reference system/antidegradation and natural source exclusion approaches. This policy is now expected to be considered for adoption sometime in 2017. The policy would not become effective until approved by the USEPA, which is likely to require a minimum of six months from the date of State Water Board approval.

¹⁸ *Ibid*, p. 5,8

¹⁹ See, for example, Los Angeles Regional Water Quality Control Board, 2002. *Santa Monica Bay Beaches Dry Weather Bacteria TMDL*. Resolution No. 2002-004; and, *Santa Monica Bay Beaches Wet-Weather Bacteria TMDL*. Resolution No. 2002-022.

As noted previously, Board staff expects to be a key participant in an upcoming stakeholder effort to investigate bacteria quality issues in Newport Bay and to recommend solutions. These solutions may include the consideration of a reference system/antidegradation or natural source exclusion approach to assure that uncontrollable sources of bacteria inputs are accounted for in determining whether there is evidence of water quality impairment and whether and where additional control actions are necessary. As discussed above, this stakeholder process is also expected to consider whether an enterococcus TMDL to protect REC1 is necessary and, if so, to make recommendations regarding the development of that TMDL and its implementation schedule and strategies.

It is recognized that this stakeholder process may lead to recommendations for Basin Plan amendments to add or revise TMDLs, to incorporate new or revised implementation strategies, etc. These recommendations may, and in fact are likely to materially affect the SHEL TMDL. In light of the time it will take to conduct and complete the stakeholder process and, thereafter, to adopt appropriate Basin Plan amendments and/or other regulatory strategies to implement the stakeholder process recommendations, it is appropriate to extend the date for compliance with the SHEL TMDL for Newport Bay. Board staff believes that a three year extension, until December 31, 2022 is appropriate. The proposed Basin Plan amendments reflect this recommendation as follows:

7.0 Add new Chapter 6 Total Maximum Daily Loads (TMDLs)

Currently, all Regional Board established TMDLs are incorporated in the Basin Plan in CHAPTER 5 IMPLEMENTATION. As a matter of reader convenience and clarity, Board staff recommends that these TMDLs, and new TMDLs, be moved into a new CHAPTER 6 TOTAL MAXIMUM DAILY LOADS (TMDLS). Subsequent chapters in the Basin Plan would be renumbered accordingly.

The proposed amendments also include a narrative description of TMDLs as an introduction to this new Chapter 6.

The proposed amendments are shown below and in the Attachments.

CHAPTER 6 MONITORING AND ASSESSMENT

CHAPTER 6 TOTAL MAXIMUM DAILY LOADS (TMDLS)

The [Federal Clean Water Act \(CWA\) Section 303\(d\)](#) requires that States identify waters that do not or are not expected to meet water quality standards (beneficial uses, water quality objectives and the antidegradation policy) with the implementation of technology-based controls. Once a waterbody has been placed on the 303(d) list of impaired waters, states are required to develop a Total Maximum Daily Load (TMDL) to address

each pollutant causing impairment. A TMDL defines how much of a pollutant a waterbody can tolerate and still meet water quality standards. Each TMDL must account for all sources of the pollutant, including: discharges from wastewater treatment facilities; runoff from homes, forested lands, agriculture, and streets or highways; contaminated soils/sediments, legacy contaminants such as DDT and PCBs, on-site disposal systems (septic systems) and deposits from the air. Federal regulations require that the TMDL, at a minimum, account for contributions from point sources (permitted discharges) and contributions from nonpoint sources, including natural background. In addition to accounting for past and current activities, TMDLs may consider projected growth that could increase pollutant levels. TMDLs establish numeric targets that, when attained, are expected to correct impairment and achieve water quality standards. To meet those targets, TMDLs allocate allowable pollutant loads to each of the identified sources.

In 2013, USEPA announced a new collaborative framework for implementing the CWA Section 303(d) Program with states.²⁰ This new “Vision Framework” encourages states to consider alternatives to the development and implementation of TMDLs as the first response to correct water quality impairment. USEPA recognized that alternative approaches, such as the Non-TMDL Action Plans (Action Plans) identified for certain metals in Newport Bay incorporated in this Chapter (see 6.1 Zinc (Zn), Mercury (Hg), Arsenic (As), Chromium (Cr): Zn, Hg, As and Cr Non-TMDL Action Plans (Action Plans) for Newport Bay) may be a more efficient yet equally effective way to address impaired waters. Where such alternative restoration approaches are implemented but prove to be ineffective, TMDLs must be developed to assure that water quality standards are achieved.

California state law (Porter-Cologne Water Quality Control Act, California Water Code Section 13000 et. seq.) requires regional boards to formulate and adopt water quality control plans, or Basin Plans, for all areas within their jurisdiction. The Basin Plans must include an implementation plan that describes how the water quality standards established in the Basin Plans will be met. TMDLs are typically adopted into the Basin Plans through the Basin Planning process and, pursuant to state law, must include implementation plans. The TMDLs incorporated in this Chapter include implementation plans and, where appropriate, compliance schedules.

CHAPTER 7 WATER RESOURCES AND WATER QUALITY MANAGEMENT MONITORING AND ASSESSMENT

CHAPTER 8 WATER RESOURCES AND WATER QUALITY MANAGEMENT

²⁰ USEPA .A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program. 2013.

III. ANTIDEGRADATION, CALIFORNIA ENVIRONMENTAL QUALITY ACT, PEER REVIEW AND PUBLIC PARTICIPATION

A. Antidegradation

Based on the analyses conducted and reported in the SED (see B., below), Board staff concludes that the proposed amendments would not result in the lowering of water quality. Therefore, the proposed amendments conform to state and federal antidegradation policies.

B. California Environmental Quality Act

Pursuant to the California Environmental Quality Act (CEQA) and implementing regulations, including those established by the State Water Board, environmental analyses were conducted of the potential effects of the proposed amendments on a variety of environmental factors. These analyses are presented in “**Substitute Environmental Document for Proposed Basin Plan Amendments: Remove Fecal Coliform Objectives for Water Contact Recreation (REC1) for Bays and Estuaries; Remove Fecal Coliform TMDL for REC1 for Newport Bay; Revise Compliance Schedule for Fecal Coliform TMDL for Shellfish Harvesting (SHEL) in Newport Bay; Add Certain Waters to Table 3-1 and Designate Beneficial uses for those Waters; Revise Table 4-1 to include Added Waters; Revise SHEL Beneficial Use Definition; Add Antidegradation Targets for REC2 Only Waters; Add Introductory Narrative for Chapter 6 Total Maximum Daily Loads**” (October 14, 2016)(SED).

Section 1.1 of the SED describes the requirements pertaining to this analysis. In brief, the Secretary for Resources has certified the basin planning program as exempt from the requirement to prepare an Environmental Impact Report (EIR), Negative Declaration (ND) or Initial Study. However, an environmental analysis is to be presented in a substitute environmental document (SED).

The SED must include: 1) a brief description of the proposed amendments (the proposed project); 2) identification of any significant or potentially significant adverse environmental impacts of the proposed amendments; 3) where the potential for any significant adverse environmental impact(s) is found, an analysis of reasonable alternatives to the proposed amendments and mitigation measures to minimize those impacts; and, 4) an environmental analysis of the reasonably foreseeable methods of compliance, reasonably foreseeable significant adverse environmental impacts associated with those reasonably foreseeable methods of compliance and reasonably foreseeable mitigation measures.

In preparing the environmental analysis of reasonably foreseeable methods of compliance, the Regional Board is required to take into account a reasonable range of environmental, economic and technical factors, population and geographic areas and specific sites. However, the Regional Board is not required or encouraged to engage in

speculation or conjecture, nor is the Board required to conduct a site-specific project level analysis of the methods of compliance.

Because the Regional Board is prohibited from specifying the design, location, type of construction, or particular manner of compliance with waste discharge requirements or other orders issued by the Board (Water Code Section 13360), those entities subject to the proposed Basin Plan amendments and orders of the Board that may be derived therefrom are required to conduct project-level CEQA analysis of compliance projects. Accordingly, the SED analyzes the potential environmental effects of implementing reasonably foreseeable methods of compliance on a programmatic level.

Based on the analyses presented in the SED, Regional Board staff finds that the proposed amendments would have no impact on the environment.

C. Peer Review

Pursuant to Health and Safety Code Section 57004, all proposed rules that have a scientific basis or components must be submitted for external scientific peer review. This additional review is not required if a new application of an adequately peer reviewed product does not depart significantly from its scientific approach.

No scientific peer review of the proposed amendments is necessary. Those recommended amendments with a scientific, rather than regulatory/editorial, basis, are: (1) the removal of the fecal coliform objectives for REC1 for bays and estuaries and the recommended reliance on the USEPA established enterococcus objectives for REC1 in bays and estuaries; and, (2) the calculation of antidegradation targets. The REC1 objective-related amendments are based on established USEPA rules and guidance that have been subjected to extensive prior scientific peer review. The recommended antidegradation targets were calculated in accordance with the methodology established in the Basin Plan.

D. Public Participation

In accordance with the State Water Board's regulations for the implementation of CEQA, on October, 4, 2016, Regional Board staff conducted a CEQA scoping meeting. Notice of this meeting was posted on the Regional Board website and sent electronically to those on the Board's Basin Plan amendment Lyris list. The scoping meeting provided participants the opportunity to comment on the appropriate scope and content of the SED to be prepared for the proposed Basin Plan amendments. At the scoping meeting, an overview of the amendments was presented by Board staff. Written responses to comments received will be prepared.

The Regional Board will conduct a public hearing to consider adoption of the proposed amendments. Changes to the proposed amendments may be made in response to comments provided. A Notice of Public Hearing/Notice of Filing (Notice) was published

in newspapers of general circulation in Orange County, Riverside County and San Bernardino County on October 14, 2016. The Notice was also posted on the Regional Board website and sent electronically to the Board's Lyris mailing list for this matter.. Regional Board staff will prepare written responses to comments that are received in accordance with the schedule established in the Notice. Written comments and responses will be prepared, posted on the Regional Board website and included in the administrative record of this matter.

IV. RECOMMENDATION

Regional Board staff recommends that the Regional Board adopt Resolution No. R8-2016-xxxx to: Certify the Substitute Environmental Document; and, Adopt the Basin Plan amendments delineated in Attachments 1 (redline version) and 2 ("clean" version) to the resolution.

DRAFT