

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

June 16, 2017

STAFF REPORT

ITEM: 11

SUBJECT: Public Hearing: Proposed 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; Revise the Shellfish Harvesting (SHEL) Beneficial Use Definition; Add Antidegradation Targets for REC2 Only Waters; Revise Compliance Schedule for the Fecal Coliform TMDL for Shellfish Harvesting (SHEL) in Newport Bay; Add New Chapter 6 Total Maximum Daily Loads; Add Fecal Indicator Bacteria Footnote to Chapters 4 and 5

I. INTRODUCTION

On July 24, 2015, the Santa Ana Regional Board adopted the Triennial Review Priority List and Work Plan, a prioritized list and work plan of issues to be addressed during fiscal years (FY) 2015-2018 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 Priority List and Work Plan. The proposed amendments are shown in Attachment 1 (“clean” version) and Attachment 2 (strike-out/underline version) to this staff report.

Pursuant to the requirements of the California Environmental Quality Act (CEQA) and State Water Resources Control Board (State Water Board) 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.

¹ The 2015 Basin Plan Triennial Review Priority List and Work Plan can be found at: http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/R8-2015-0085_Triennial_Review_Priority_List_and_Work_Plan_2015-2018.pdf.

The proposed amendments are described below.

II. PROPOSED BASIN PLAN AMENDMENTS

1.0 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 water 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

²

http://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2012/12_001_Resolution_Approving_Amendments_to_the_BP.pdf

in Table 3-1 are designated with the beneficial use of Water 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 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 Board 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 for 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 State Water Board regarding the addition of beneficial uses to waters already listed in Tables 3-1 and 4-1. Staff also reviewed the California Department of Fish and Wildlife (CDFW) Natural Diversity Data Base to determine if certain waters should be designated with the RARE beneficial use. United States Fish and Wildlife recommended that certain coastal bays and all estuaries be designated with the EST beneficial use. State Water 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.

*The **REC1** and **REC2** 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 **REC1** or **REC2** 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 UAA demonstrates otherwise and the Regional Board amends the Basin Plan accordingly.

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.

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, 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. Fifteen (15) surface waterbodies and appropriate beneficial use designations for those waters are proposed to be added to Table 3-1 BENEFICIAL USES. These waters would also be added 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 designation of these beneficial uses reflect new knowledge, insights, suggestions, and requests from staff of the SWRCB, USFWS and CDFW or information resulting from the conduct of more intensive biological surveys; RARE and SPWN designations were also determined using the CDFW Natural Diversity Data Base where only species listed under the Federal Endangered Species Act, California Endangered Species Act, and/or as a California Department of Fish and Game Species of Special Concern were considered. The RARE beneficial use was designated to bodies of water where protection of an endangered or threatened species is directly dependent upon water quality, or indirectly to support sensitive habitat. Specially designated terrestrial species that depend upon the fluvial process for their habitat are included, such as the San Bernardino kangaroo rat (*Dipodomys merriami parvus*). These species are found to inhabit areas in or around waters of the United States and of the State.

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 2.

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

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.

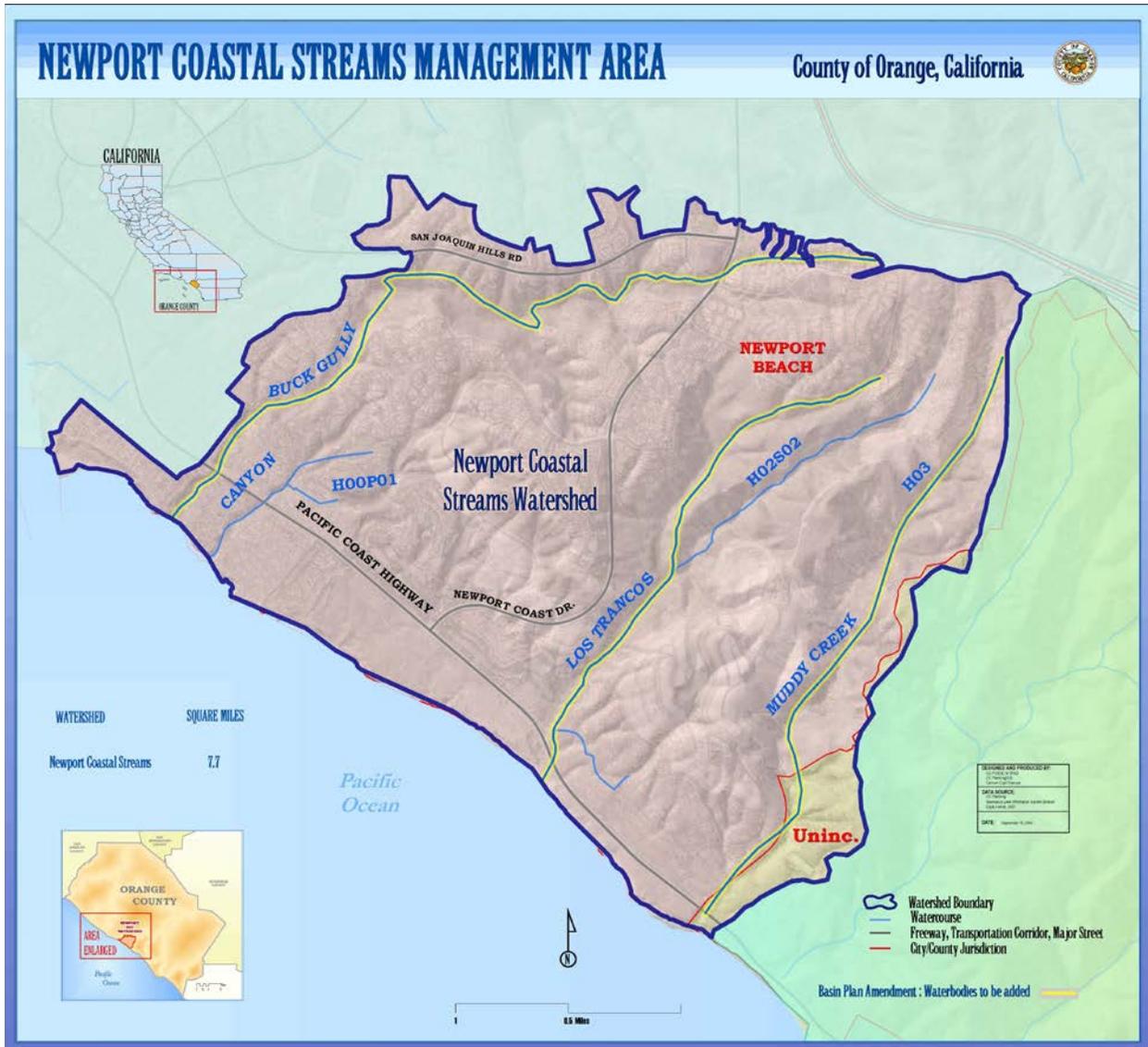


Figure 1. Muddy Canyon, Los Trancos, Morning Canyon, and Buck Gully Creeks drain the Newport Coast Watershed. The creeks empty into the ocean in the popular Crystal Cove and Corona Del Mar State Park areas. Offshore from the creeks are designated Areas of Special Biological Significance (ASBSs).

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.

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.

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): 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 (Policy). The water meets the Policy's exception for low sustainable yield of flow.
- REC1 (Primary Contact Recreation) I: REC1 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.
- 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): 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. Los Trancos meets the Policy's exception for low sustainable yield of flow.
- REC1 (Primary Contact Recreation) - I: REC1 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 flows into the Ocean at the Crystal Cove State Park Cottages.

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 has 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

Recommendations regarding beneficial use designations are as follows:

- 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 (Policy). Buck Gully Creek meets the Policy's exception for low sustainable yield of flow.
- REC1 (Primary Contact Recreation) - X: REC1 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 Contact 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. Morning Canyon Creek

Morning Canyon Creek is one of the Newport Coast waters. Its watershed extends from midway up the San Joaquin Hills making it's watershed the smallest of the four Newport Coast Waters. It flows through the Pelican Hill Golf Course under the Pacific Coast Highway and through residential areas of Corona Del Mar into the Ocean. The Creek has formed a narrow distinctive canyon near the ocean. The Creek is being monitored under the Santa Ana River Watershed Bacteria Monitoring Program once a year for a month to determine compliance with REC1 objective.

Recommendations regarding beneficial use designations are as follows:

- 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 (Policy). Morning Canyon Creek meets the Policy's exception for low sustainable yield of flow.
- REC1 (Primary Contact Recreation) - X: REC1 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.

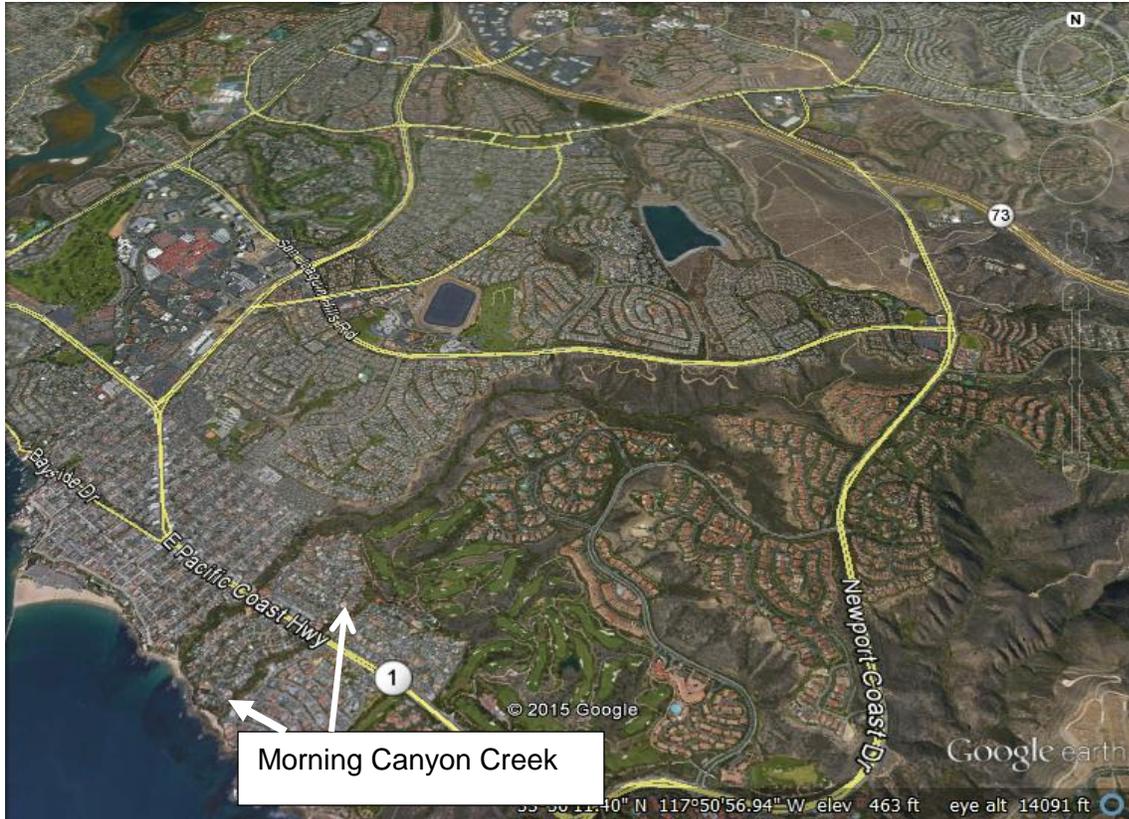


Figure 5. Morning Canyon Creek Watershed is located in the Newport Coast area of the City of Newport Beach.

5. 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.

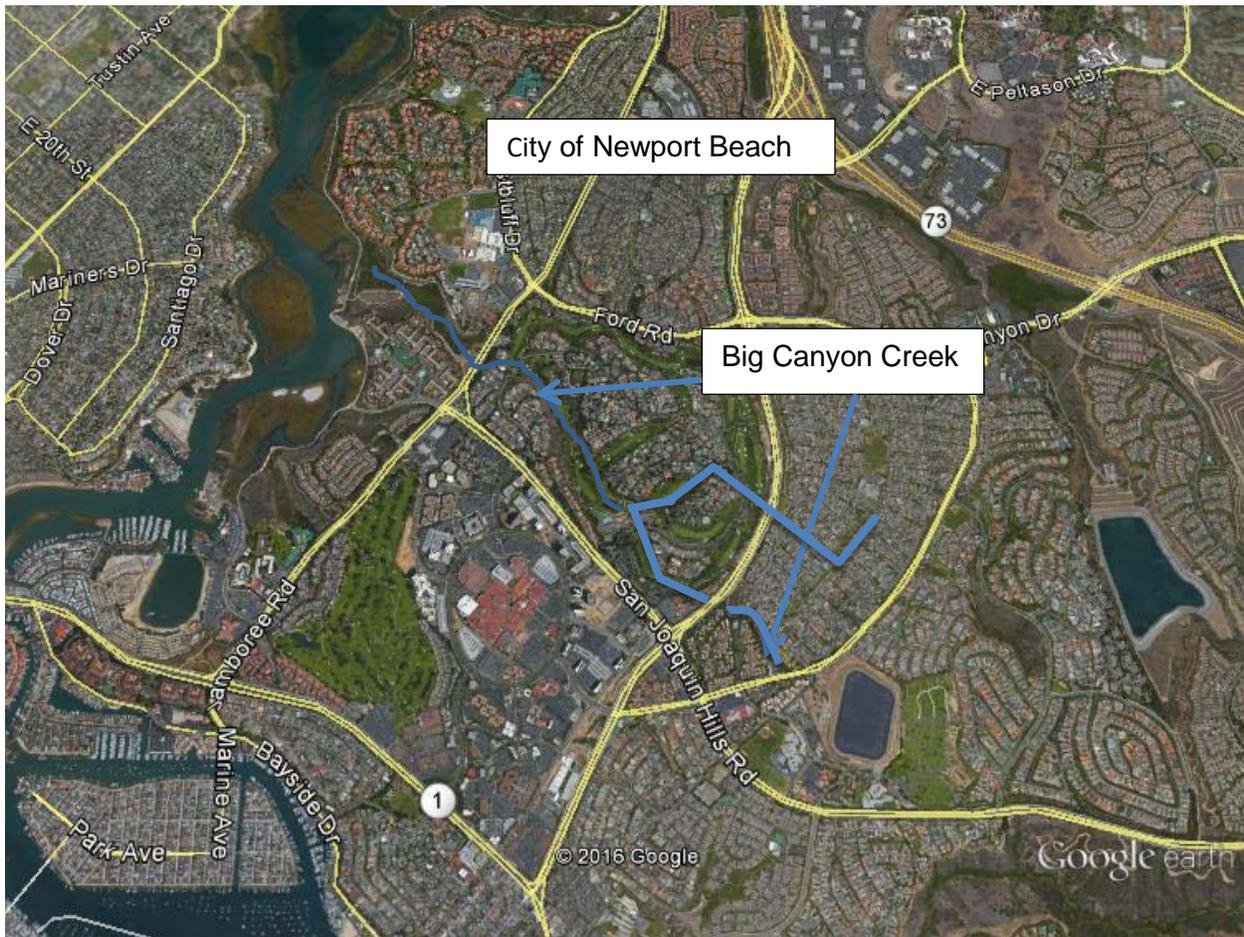


Figure 6. Big Canyon Creek, Newport Beach.

Recommendations regarding beneficial use designations are as follows:

- 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 (Policy). Big Canyon Creek meets the Policy's exception for low sustainable yield of flow.
- REC1 (Primary Contact Recreation) - X: REC1 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) - 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.
- RARE (Endangered, Threatened, and Rare) - X: Salt marsh bird’s-beak (*Cordylanthus maritimus* ssp. *maritimus*), federally listed as endangered, is reported to be found in the Big Canyon Nature Preserve near the bay.

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.

6. 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 7). 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

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.

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 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: REC1 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.

⁶ Anaheim Quadrangle Map. USGS 1950

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

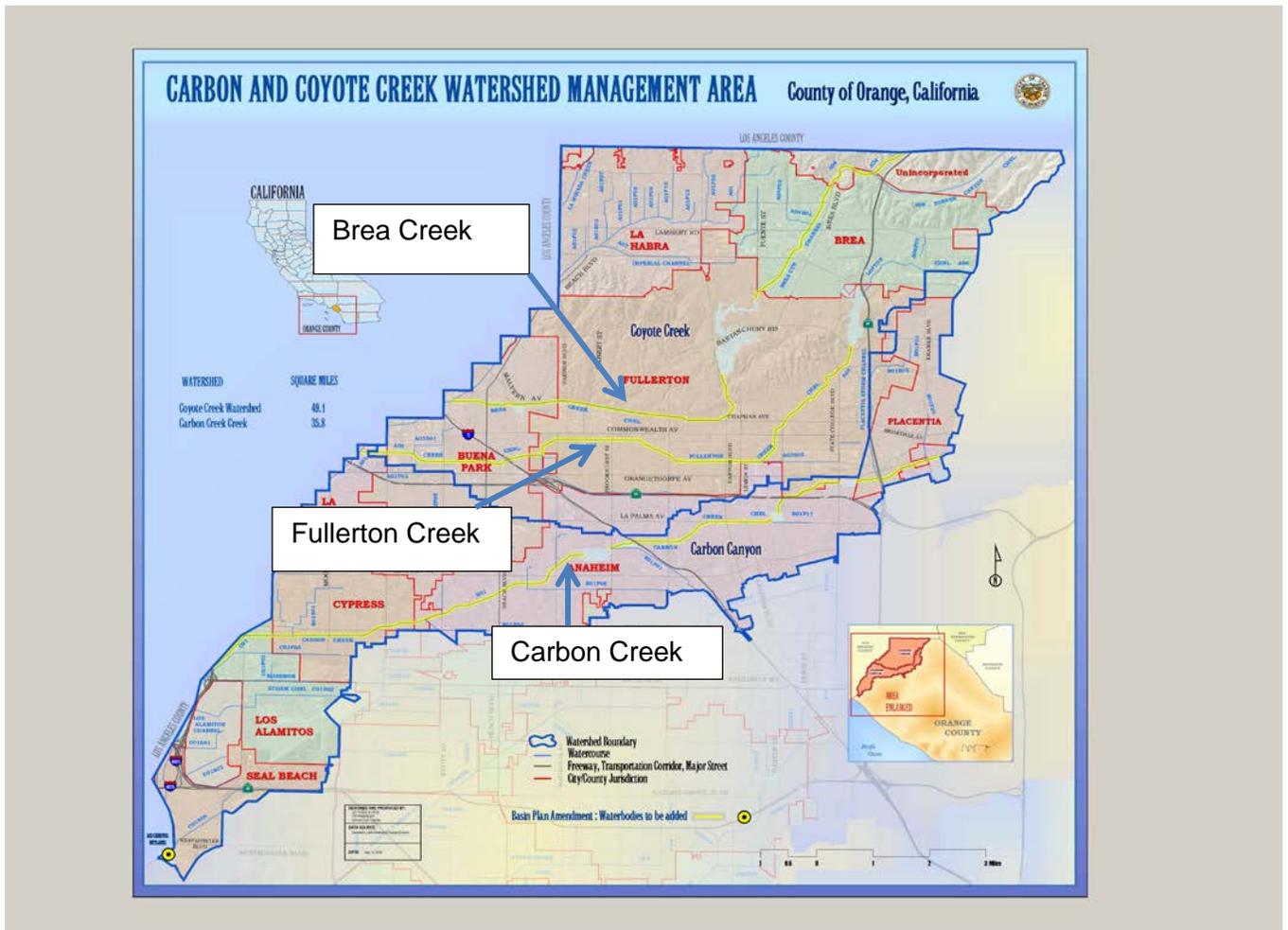


Figure 7. Carbon Creek, Fullerton Creek, and Brea Creek drain areas of northwestern Orange County into Coyote Creek, and ultimately into the San Gabriel River.

7. 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 7). 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: 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, including birds and mammals.

8. 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 67). 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.
- **RARE** (Rare, Threatened or Endangered Species) – X: The western pond turtle (*Actinemys marmorata*) is reported to inhabit sections of the Creek.

9. 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 8). 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.

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 8. Prado Park Lake (Prado Reservoir).

10. Mill/Cucamonga 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 9). The Wetlands were constructed to improve water quality, and provide habitat and recreational activities. The wetlands are landscaped with native plants and have 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.

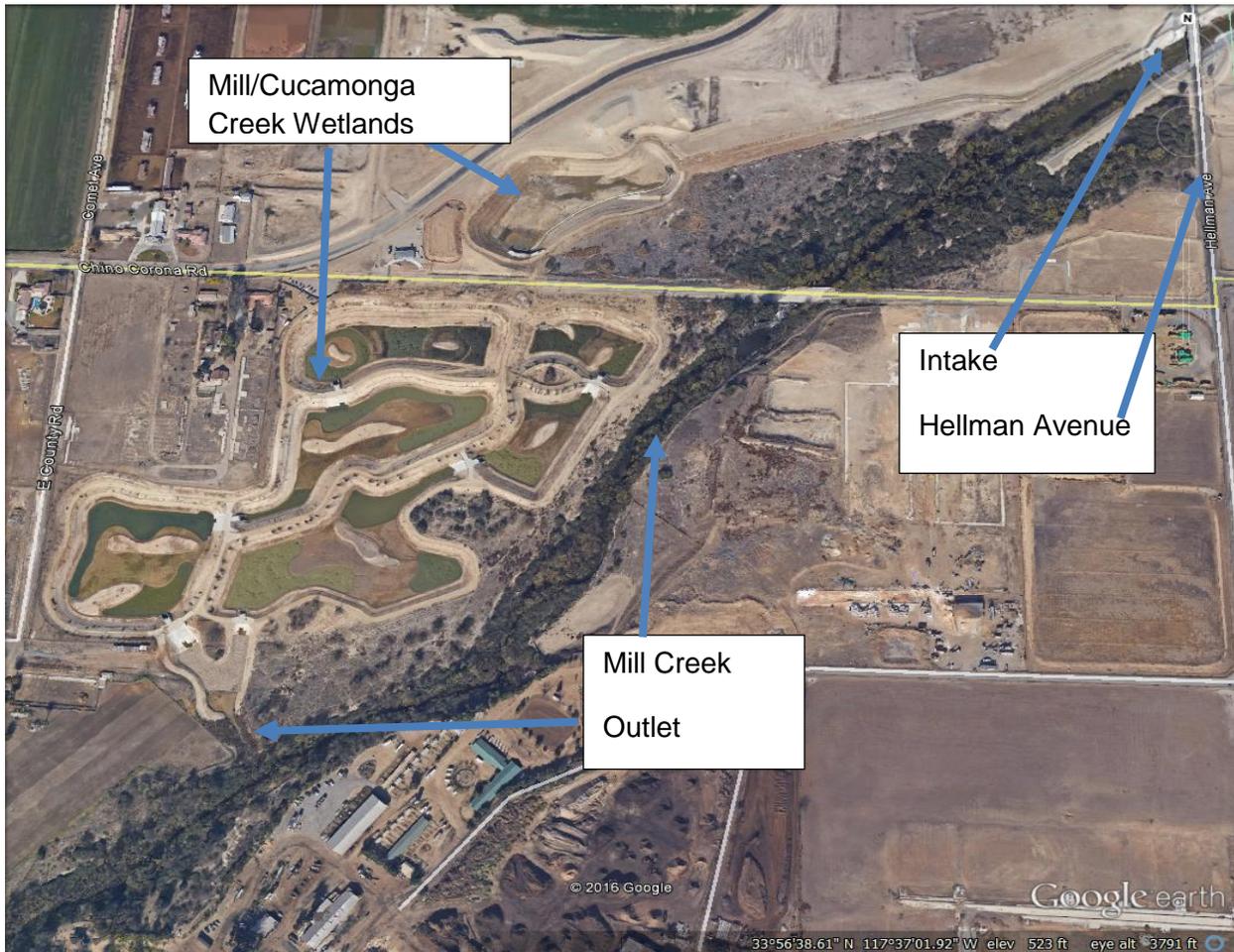


Figure 9. Mill/Cucamonga Creek Wetlands

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 was designed to 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 indicates 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.
- **RARE** (Rare, Threatened or Endangered Species) – X Least Bell’s vireo (*Vireo bellii pusillus*) have been documented to live adjacent to these wetlands.

11. Gunnerson Pond Wetlands

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 10).

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, urban flows, and treated effluent which is 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 indicates 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 (*Vireo bellii pusillus*).

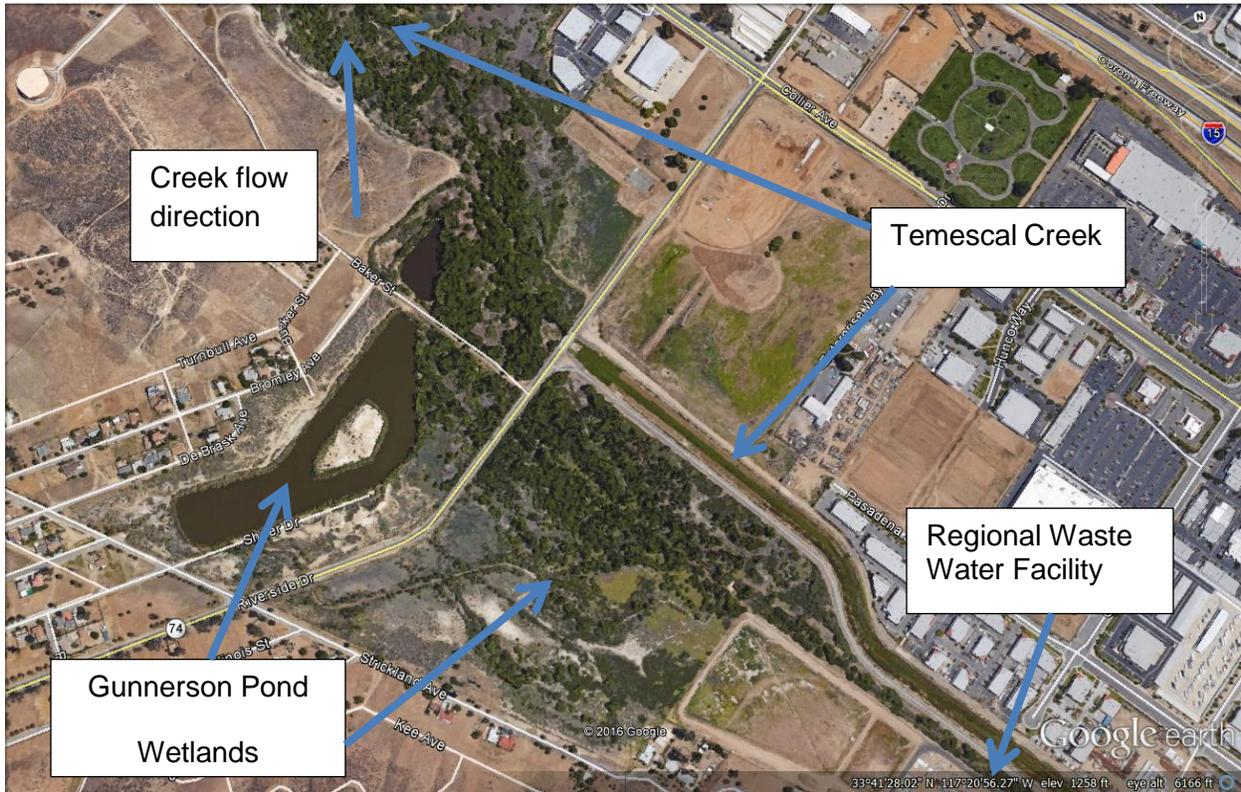


Figure 10. Gunnerson Pond Wetlands. Flow from Temescal Creek fills the Gunnerson Pond complex. Temescal Creek flows towards the Santa Ana River.

12. Perris Valley Channel

The Perris Valley Channel watershed 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 (Figure 11). 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 has been modified to carry stormwater and urban flows.
- **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 northern most section of the Channel is reported to provide habitat for the federally listed San Bernardino kangaroo rat (*Dipodomys merriami parvus*).

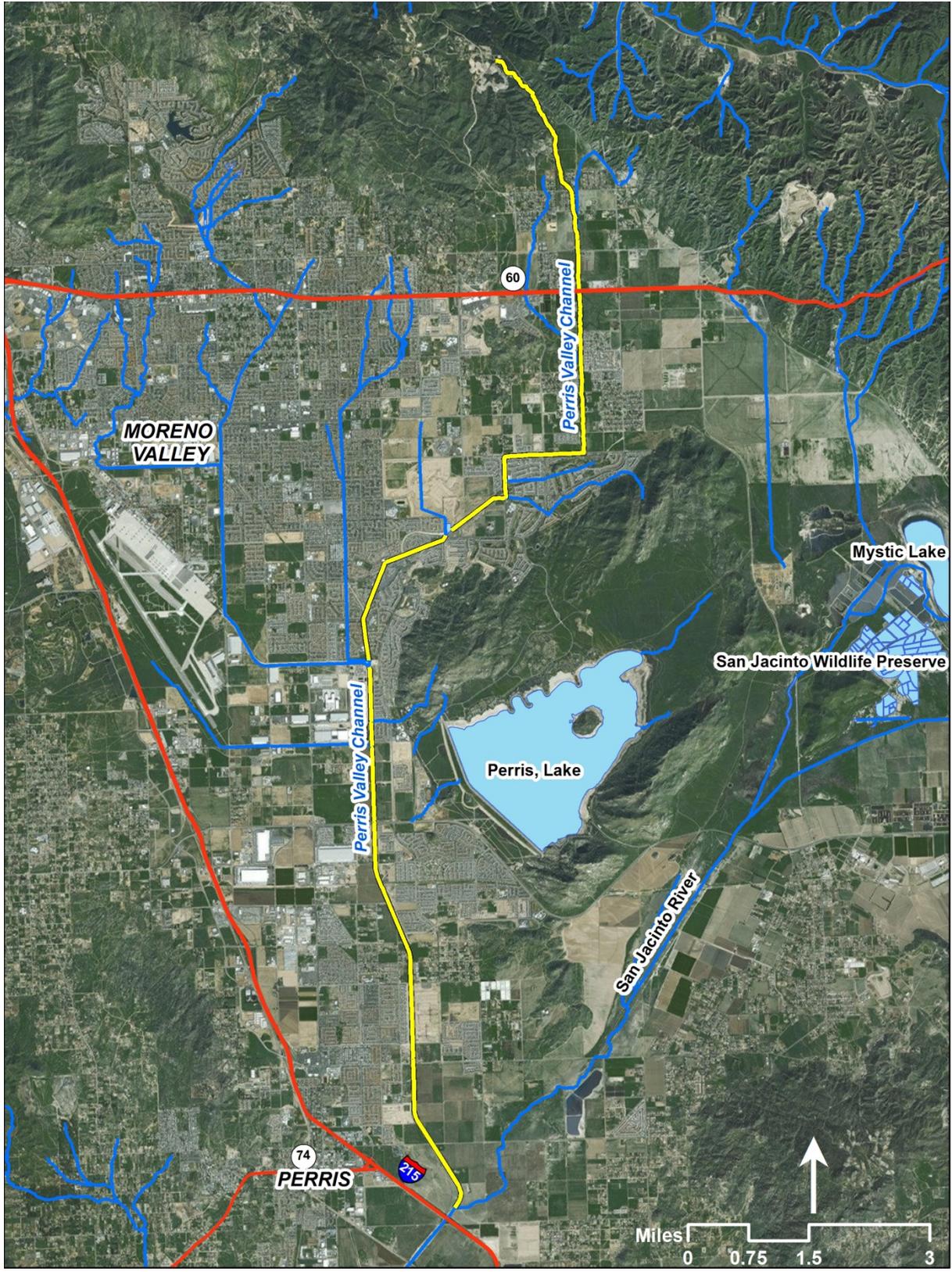


Figure 11. Perris Valley Channel

13. Goldenstar Creek

Goldenstar Creek is a drainage that originates in the Woodcrest Area, south of the City of Riverside's city limits (Figure 12). An earthen channel forms south of Van Buren Boulevard and flows toward the Santa Ana River through the Arlington Area of the City of Riverside. The creek flows off the plateau area of Woodcrest, down a canyon, through Woodcrest Dam and agricultural areas to Lincoln Street in the city of Riverside, where it transitions into an underground culvert. The Basin Plan Table 3-1 beneficial use designations, apply only from Lincoln Street upstream to the headwaters. Downstream of Lincoln Street flows from Goldenstar Creek flow in underground and above ground concrete channels and eventually drain into Hole Lake Creek near the intersection of Arlington Street and Van Buren Boulevard in the City of Riverside. Above Woodcrest Dam, Goldenstar Creek has perennial stream flows which have formed riparian areas and pools with populations of native fish.

Recommendations regarding beneficial use designations are as follows:

- MUN (Municipal and Domestic Supply) - X: Goldenstar Creek doesn't meet any of the exceptions identified in the State's Sources of Drinking Water Policy. Therefore, the MUN use designation is recommended.
- REC1 (Primary Contact Recreation) X: REC1 is a presumptive use unless and until an UAA is completed and approved that documents otherwise.
- REC2 (Secondary Contract Recreation) - X: The Creek provides opportunities for non-contact water recreation, such as hiking and bird watching.
- WARM (Warm Freshwater Habitat) - X: 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, including birds and mammals.
- RARE (Rare, Threatened, or Endangered) – X: Goldenstar Creek provides habitat for the federal listed as endangered least Bell's vireo (*Vireo bellii pusillus*) and the CDFW Species of Special Concern, the arroyo chub (*Gila orcutti*).
- SPWN (Spawning, reproduction, and development – X: A population of arroyo chub (*Gila orcutti*), a CDFW Species of Special Concern, has been observed in Golden Star Creek in the Canyon Area. It is assumed that these fish are a self-staining (i.e., wild) population of arroyo chub.

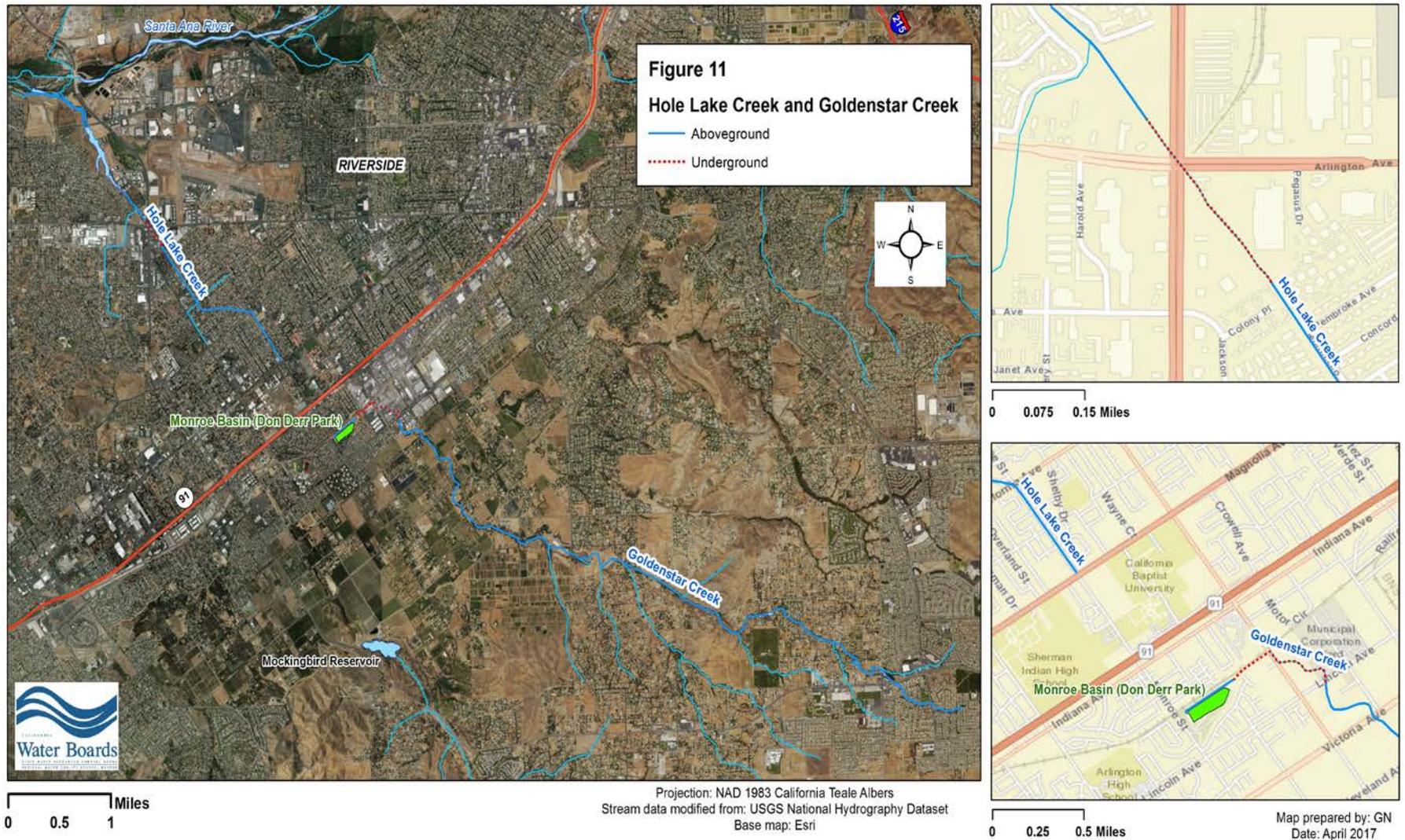


Figure 12. Hole Lake Creek and Goldenstar Creek

14. Hole Lake Creek

Hole Lake Creek flows just to the west of Van Buren Boulevard from Arlington Avenue and empties into the Santa Ana River adjacent the Van Buren Bridge (Figure 12). Hole Lake Creek contains pools of perennial water and well-established riparian areas. The Hole Lake channel was dammed to form a lake until the 1930's when the dam was removed. The Hole Lake riparian area has been proposed to be converted into a city park with a lake.

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 Channel is designated to convey stormwater and urban flows, not water suitable for drinking water purposes.
- REC1 (Primary Contact Recreation) - X: REC1 is a presumptive use unless and until an UAA is completed and approved that documents otherwise.
- REC2 (Secondary Contract Recreation) - X: The creek provides opportunities for non-contact water recreation, such as hiking and bird watching.
- WARM (Warm Freshwater Habitat) - X: 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, including birds and mammals.

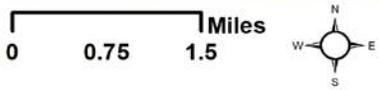
15. Warm Creek

Warm Creek flows into the Santa Ana River just west of Interstate 215 and Interstate 10 intersection (Figure 13). Just upstream of the confluence with the Santa Ana River, Lytle Creek connects with Warm Creek. Warm Creek includes a historic channel and a mostly concrete-lined channel that has been designed to carry the majority of Warm Creek watershed's urban and storm flows. From the confluence with the Santa Ana River the Warm Creek Channel moves north easterly through residential and commercial areas of San Bernardino. Near Baseline Road in the City of San Bernardino, the channel heads due north into the San Bernardino Mountains. Above the Patton Detention Basin, just up gradient of Highland Blvd, the water is called Sand Canyon Creek. The historic channel is a narrow earthen channel containing perennial flows fed by hot springs in the Meadow Brook Park area of the city of San Bernardino. The historic channel has been cut off by the main Warm Creek channel near 5th Street in the City of San Bernardino. However, the historic channel connects and drains into the main channel south of the Orange Show Grounds.

Recommendations regarding beneficial use designations must consider that sections of the Creek have perennial flows. 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 has been modified to carry stormwater and urban flows.
- REC1 (Primary Contact Recreation) - : REC1 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): 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.

Figure 13. Warm Creek drains sections of the City of San Bernardino and flows into the Santa Ana River.



Map made by: GN; Date: 5/8/2017
 Projection: NAD 1983 California Teale Albers
 Stream data modified from: USGS National Hydrography Dataset
 Base map: Esri

Table 1 below contains the full list of waters proposed to be included in Tables 3-1 and 4-1, along with their proposed designated beneficial uses.

Table 1: WATERBODIES and DESIGNATED USES PROPOSED TO BE ADDED TO TABLE 3-1

WATERBODY	BENEFICIAL USES
Muddy Canyon Creek	+MUN, I REC1, REC2, I WARM, WILD, RARE
Los Trancos Creek	+MUN, I REC1, REC2, I WARM, WILD
Morning Canyon Creek	+MUN, REC1, REC2, WARM, WILD
Buck Gully Creek	+MUN, REC1, REC2, WARM, WILD
Big Canyon Creek	+MUN, REC1, REC2, WARM, WILD, RARE
Carbon Creek	I MUN, GWR, I REC1, REC2, I WARM, WILD
Fullerton Creek	+MUN, I REC1, REC2, I WARM, WILD
Brea Creek	I MUN, I REC1, REC2, I WARM, WILD, RARE
Prado Park Lake	+MUN, REC1, REC2, COMM, WARM, WILD
Mill/Cucamonga Creek Wetlands	+MUN, REC1, REC2, WARM, WILD, RARE
Goldenstar Creek	MUN, REC1, REC2, WARM, WILD, SPWN, RARE
Hole Lake Creek	+MUN, REC1, REC2, WARM, WILD
Warm Creek	+MUN, REC1, REC2, WARM, WILD
Gunnerson Pond Wetlands	+MUN, REC1, REC2, WARM, WILD, RARE
Perris Valley Channel	+MUN, I REC1, REC2, I WARM, WILD, RARE

I = Intermittent Beneficial Use; X= Existing or Potential Beneficial Use

+ = Excepted from MUN

2.0 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). As noted in Section 1, *RARE* beneficial use designations are largely based on listings in the California Department of Fish and Wildlife Natural Diversity Data Base.

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) Lake Elsinore, Big Bear Lake, Lee Lake, Lake Perris, Lake Hemet, Canyon Lake, Jenks Lake, Prado Lake and Lake Evans: *add COMM beneficial use*

The lakes listed above are popular for sportfishing. Lee Lake has been managed in recent years as a sportfishing concession. Fishing at Lake Elsinore, Big Bear Lake, Canyon Lake, and Lake Perris is a popular activity, as well as boating, water skiing, swimming, and picnicking. Water contact activities are not allowed at Lake Hemet but fishing is very popular. Jenks Lake, located in San Bernardino National Forest, is stocked regularly with trout by CDFW for the public's use for fishing. The Riverside City Recreational Department has periodically stocked catfish for anglers and holds annual fishing derbies in Lake Evans. San Bernardino County Parks allows fishing year around at Prado Park Lake. The COMM beneficial use is proposed to be designated to acknowledge that sportfishing is a current 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, and San Diego Creek: *add EST 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.

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. They have informed Regional Board staff that estuaries are very biologically productive and should be identified where found. The above-listed waters all contain estuarine characteristics, a mixture of fresh and marine waters.

San Diego Creek will be designated EST, with a footnote added to Table 3-1 stating, "The estuarine reach of San Diego Creek is from just upstream of the Macarthur Boulevard Bridge to Upper Newport Bay".

- 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 that the valley reaches of Lytle and Cajon Creeks are key habitats for the SBKR. SBKR often dig their burrows in the flood terraces, often considered as jurisdictional waters, of these types of intermittent washes.

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

The federally-listed Santa Ana sucker (*Catostomus santaanae*), a fish species native to the Santa Ana River has been found in the Santa Ana River from time to time below Prado Dam. USFWS staff has stated that the fish was spawning productively in this Reach of the River in the late 1970s. Currently, USFWS has designated critical habitat in the Santa Ana River for the sucker from Prado Dam downstream to 0.6 miles below the State Route 90 Bridge in the City of Anaheim. While water quality is not ideal for the sucker in this reach (for example, the high levels of turbidity impact sucker habitat), other habitat conditions are favorable for the sucker.

The Santa Ana River, Reach 2 will be designated SPWN, with a footnote added to Table 3-1 stating, "Only from Prado Dam outfall to 0.6 mile downstream of the State Route 90 (Imperial Highway Bridge)".

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

The following listed plants; California dandelion (*Taxaxacum californicum*), Parish's checkerbloom (*Sidalcea hickmanii parishii*), and Santa Ana River woollystar (*Eriastrum densifolium ssp. Sanctorum*) are reported to be found in areas adjacent to the low flow channel and depend on fluvial processes of the river.

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, it is reported that the fish moves freely throughout the Creek system.

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

The Middle and North 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 and Anza Park Drain: *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. Anza Park Drain's short wetted channel has provided habitat for the Sucker. The USFWS Final Rule for Critical Habitat for Santa Ana Sucker, December 14, 2010, states that Tequesquite Arroyo and Anza Park Drain provide spawning and nursery habitat for the sucker.

10) San Jacinto River, Reaches 1, 3, 4, 5, and 6 *add RARE beneficial use*

Reaches 1, 3, 4, 5, 6 of the San Jacinto River are proposed to be designated with the RARE beneficial use due to the possible or actual presence of various sensitive species identified in the California Department of Fish and Wildlife Natural Diversity Data Base, Federal Endangered Species Act, and/or California

Endangered Species Acts, and/or as a California Department of Fish and Game Species of Special Concern lists.

Reach 1, Lake Elsinore to Canyon Lake, will have the RARE beneficial use for the least Bell's vireo (*Vireo bellii pusillus*) and California Orcutt grass (*Orcuttia californica*), both federally listed species. Reach 3, Canyon Lake to Nuevo Road, will have the RARE beneficial use added for least Bell's vireo (*Vireo bellii pusillus*) and federally listed spreading navarretia (*Navarretia fossalis*). Reach 4, Nuevo Road to North-South Mid-Section Line, T4S/R1W-S8, will have the RARE beneficial use added for the federally listed least Bell's vireo (*Vireo bellii pusillus*), San Jacinto Crownscale (*Atriplex coronate notatior*) and spreading navarretia (*Navarretia fossalis*). Reach 5, North-South Mid-Section Line, T4S/R1W-S8 to confluence with Poppet Creek, will have the RARE beneficial use added for the least Bell's vireo (*Vireo bellii pusillus*), federally listed Mojave tar plant (*Deinandra mohavensis*), and the federally listed San Bernardino kangaroo rat (*Dipodomys merriami parvus*). Reach 6, Poppet Creek to Cranston Bridge, will have the RARE beneficial use added for the least Bell's vireo (*Vireo bellii pusillus*), Mojave tar plant (*Deinandra mohavensis*), and the San Bernardino kangaroo rat (*Dipodomys merriami parvus*).

- 11) San Jacinto River, Reach 7: *add RARE and SPWN beneficial uses*

Reach 7, Cranston Bridge to Lake Hemet, will have the RARE and SPWN beneficial uses added for the least Bell's vireo (*Vireo bellii pusillus*) and spawning habitat for populations of wild trout, rainbow (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*).

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

The southern mountain yellow-legged frog (*Rana muscosa*), a federally listed endangered species, is reported to be 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 and Stone Creek: *add RARE beneficial use*

The southern mountain yellow-legged frog (*Rana muscosa*) and the Mojave tarplant (*Deinandra mohavensis*), both federally listed endangered species, are reported to be found in Fuller Mill Creek. The Mojave tarplant (*Deinandra mohavensis*) is also reported to be found along Stone Creek.

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

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. The federally listed southern mountain yellow-legged frog (*Rana muscosa*) and Mojave tarplant (*Deinandra mohavensis*) has been found to inhabit areas of Indian Creek.

- 15) Plunge Creek: *add SPWN beneficial use*

Plunge Creek is documented in supporting a population of Santa Ana speckled dace.

- 16) Lake Hemet, Lake Perris, and Irvine Lake: *add RARE beneficial use*

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

- 17) 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. In addition, the California dandelion (*Taraxacum californicum*) is reported to grow in the wetlands.

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

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

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

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

- 20) Santiago Creek, Reach 4: *add RARE beneficial use*

The Santa Ana speckled dace (*Rhinichthys osculus*) and the western pond turtle (*Actinemys marmorata*), both California (Department of Fish and Wildlife) Species of Special Concern, are reported to be found in this reach.

- 21) San Diego Creek, Reach 1: *add RARE beneficial use*

The following listed species are reported to be found in this reach; Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), Ridgeway rail (*Rallus obsoletus*), least Bell's vireo (*Vireo bellii pusillus*), California least tern (*Sterna antillarum browni*), and western pond turtle (*Actinemys marmorat*).

- 22) Coyote Creek: *add RARE beneficial use*

The western pond turtle (*Actinemys marmorata*) has been reported in a downstream area of the Creek in recent years.

- 23) Mill Creek, Reach 2: *add RARE beneficial use*

The southern mountain yellow-legged frog (*Rana muscosa*) are reported to be found in this area. The southwestern willow flycatcher, a federally listed endangered species, (*Empidonax traillii extimus*) inhabits Reach 2 of Mill Creek.

- 24) Bear Creek: *add RARE beneficial use*

The southwestern willow flycatcher, a federally listed endangered species, (*Empidonax traillii extimus*) has been reported to be found along the Creek.

- 25) Meadow Creek, Minnelusa Creek, Red Ant Creek and Summit Creek: *add RARE beneficial use*

Several listed plant species associated with wet meadows are reported to be found along these creeks. These species are the San Bernardino (Bear Valley) blue-grass (*Poa atropurpurea*), a federally listed endangered species, California dandelion (*Taraxacum californicum*), a federally listed endangered species, and bird-foot checkerbloom (*Sidalcea pedata*), a federally listed endangered species.

- 26) Cucamonga Creek, Reach 2: *add RARE beneficial use*

The arroyo toad (*Anaxyrus californicus*) is reported to found along this Reach of Cucamonga Creek.

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

The waters listed above are reported to support habitat for the least Bell's vireo (*Vireo bellii pusillus*), a federally listed endangered species.

- 28) Poppet Creek: *add RARE beneficial use*

The San Bernardino kangaroo rat (*Dipodomys merriami parvus*) has been reported to inhabit areas of Poppet Creek.

- 29) Peter's Canyon, Rattlesnake, Sand Canyon, and Siphon Reservoirs: *add Rare beneficial use*

The least Bell's vireo (*Vireo bellii pusillus*) and the tricolored blackbird (*Agelaius tricolor*), both federally listed species, have been documented to live adjacent to these reservoirs.

- 30) Metcalf Creek: *add RARE beneficial use*

The southwestern willow flycatcher, a federally listed endangered species, (*Empidonax traillii extimus*) is reported to be found along the Creek. The San Bernardino (Bear Valley) Blue-grass (*Poa atropurpurea*), a federally listed endangered species; California dandelion (*Taraxacum californicum*), a federally listed endangered species; and bird-foot checkerbloom (*Sidalcea pedata*), a federally listed endangered species, is reported to found near the Creek.

- 32) Lake Elsinore: *add RARE and COMM beneficial uses*

The Riverside fairy shrimp (*Streptocephalus woottoni*), a federally listed endangered species, is reported to be found in wetlands adjacent Lake Elsinore. Fishing at Lake Elsinore is a popular activity, as well as boating, water skiing,

and picnicking. The COMM beneficial use is proposed for Lake Elsinore to acknowledge that sportfishing is a current activity in the lake.

Table 2 below shows the full list of beneficial uses that are proposed to be added to certain surface waters already listed in the Basin Plan.

Table 2: WATERS PROPOSED TO HAVE ADDED DESIGNATIONS OF RARE, COMM, EST, AND SPWN BENEFICIAL USES

WATERBODY	RARE Species (Rare, Threatened or Endangered)
Lytle and Cajon Canyon Creeks Valley Reach	San Bernardino Kangaroo Rat, Santa Ana Woolly Star
Santa Ana River, Reach 6	Santa Ana Woolly Star, California Dandelion, Parish's Checkerbloom
Tequesquite Arroyo and Anza Park Drain	Santa Ana Sucker
San Jacinto River, Reach 1	Least Bell's Vireo, California Orcutt Grass
San Jacinto River, Reach 3	Least Bell's Vireo, Spreading Navarretia,
San Jacinto River, Reach 4	Least Bell's Vireo, Spreading Navarretia, San Jacinto Valley Crownscale
San Jacinto River, Reach 5	Least Bell's Vireo, San Bernardino Kangaroo Rat, Mojave Tarplant
San Jacinto River, Reach 6	Least Bell's Vireo, San Bernardino Kangaroo Rat, Mojave Tarplant
San Jacinto River, Reach 7	Least Bell's Vireo
Strawberry Creek and San Jacinto River, North Fork	Mountain Yellow-Legged Frog
Fuller Mill Creek and Stone Creek	Mountain Yellow-Legged Frog, Mojave Tarplant
Indian Creek	Santa Ana Speckled Dace, San Bernardino Kangaroo Rat, Mojave Tarplant
Lake Hemet, Lake Perris, Lake Irvine	Bald Eagle
Shay Meadows (Wetlands)	Unarmored Threespine Stickleback, California Dandelion
Bautista Creek	San Bernardino Kangaroo Rat, Arroyo Toad, Southern Willow Flycatcher, Slender-horned Spineflower
Santiago Creek, Reach 3	Arroyo Toad, Least Bell's Vireo
Santiago Creek, Reach 4	Santa Ana Speckled Dace, Western Pond Turtle
Silverado Creek	Arroyo Toad, Western Pond Turtle
Black Star Creek	Least Bell's Vireo
Poppet Creek	San Bernardino Kangaroo Rat

Yucaipa Creek, Temescal Creek Reach 2, San Timoteo Creek Reaches 1b, 2, 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 Creek, Badger Creek,	Least Bell's Vireo
Peters Canyon, Rattlesnake, Sand Canyon, and Siphon Reservoirs	Least Bell's Vireo and tricolored blackbird
Brea Creek and Coyote Creek	Western Pond Turtle
Mill Creek, Reach 2	Mountain Yellow-legged Frog, South Western Willow Flycatcher,
Bear Creek	South Western Willow Flycatcher
Metcalf Creek	Southern Western Willow Flycatcher
Metcalf, Meadow, Summit, Minnelusa, Red Ant Creeks, Shay Meadows	San Bernardino (Bear Valley) Blue-grass, California Dandelion, Bird-foot Checkerbloom
Lake Elsinore	Riverside Fairy Shrimp, Least Bell's Vireo
Mill/Cucamonga Creek Wetlands	Least Bell's Vireo
Cucamonga Creek Reach 2	Arroyo Toad
San Diego Creek Reach 1	Belding's Savannah Sparrow, Ridgeway Rail, Least Tern, Western Pond Turtle

WATERBODY (SPWN proposed to be added)	SPWN (Spawning, Reproduction and Development) Species
Coldwater Canyon Creek	Southern California Steelhead/Rainbow Trout
Santa Ana River, Reach 2	Santa Ana Sucker
Shay Creek	Unarmored Threespine Stickleback
Lytle Creek (South, Middle, and North Forks)	Rainbow Trout, Santa Ana Speckled Dace
San Jacinto River, Reach 7	Rainbow and Brown Trout
Strawberry Creek and San Jacinto River, North Fork	Rainbow Trout
Indian Creek	Santa Ana Speckled Dace
Shay Meadows Wetlands	Unarmored Threespine Stickleback
Plunge Creek	Santa Ana Speckled Dace

WATERBODY(COMM proposed to be added)	COMM DESIGNATION (Commercial and Sportfishing)
Lake Elsinore, Big Bear Lake, Lee Lake, Lake Perris, Canyon Lake, Jenks Lake, Lake Evans, Prado Lake	COMM

WATERBODY(EST proposed to be added)	EST DESIGNATION (Estuarine Habitat)
Los Cerritos Wetlands, Huntington Beach Wetlands, Greenville-Banning Channel Tidal Prism Reach, San Diego Creek (near bay), Santa Ana-Delhi Channel Tidal Prism, Santa Ana River Tidal Prism, Tidal Prisms of Flood Control Channels	EST

3.0 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 mollusks 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.

4.0 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.

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. Deletions are in strike-out, additions are underlined.

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	359 <u>725</u>
Santa Ana-Delhi Channel, <u>Reach 1 and Reach 2</u>	411- <u>399</u>	110 <u>1.5</u>	56 <u>55</u>	12,590	1,104 <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>

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

5.0 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. Currently, the compliance schedule for the fecal coliform TMDL for SHEL is “as soon as possible but no later than December 30, 2019”.

Recent analyses of fecal coliform data for 2010-2016 conducted by the County of Orange¹⁰ 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 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.¹¹ 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.

¹⁰County 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.5, 8.

¹¹ 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.

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.

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.

In addition, Board staff is a key participant in a stakeholder effort to investigate bacteria quality issues in Newport Bay and to recommend solutions that is being sponsored by Orange County in conjunction with Orange County Coastkeeper. Revision of the Fecal Coliform TMDL for Shellfish in Newport Bay (SHEL TMDL) may be an appropriate matter to be considered. Broadly, the intent of this stakeholder process, which was initiated in early 2017, is to investigate bacteria quality issues in the 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.

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 amendment reflect this recommendation by revising Table 5-9f of the Newport Bay fecal coliform TMDL as follows:

Table 5-9f summarizes the TMDL, Waste Load Allocations (WLAs) for point sources of fecal coliform inputs and Load Allocations (LAs) for nonpoint source inputs. As shown, the TMDL, WLAs and LAs are established to assure compliance with water contact recreation standards no later than December 30, 2014 and with shellfish standards no later than December 30, 20192022.

Table 5-9f: Total Maximum Daily Load, Waste Load Allocations, and Load Allocations for Fecal Coliform in Newport Bay

Total Maximum Daily Load for Fecal Coliform In Newport Bay	Waste Load Allocations for Fecal Coliform in Urban Runoff, including stormwater, Discharges to Newport Bay	Load Allocations for Fecal Coliform in Agricultural Runoff, including stormwater, Discharges to Newport Bay	Load Allocations for Fecal Coliform from Natural Sources in all Discharges to Newport Bay	Waste Load Allocations for Vessel Waste
As soon as possible but no later than December 30, 2013			In Effect	In Effect
5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/ 100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	0 MPN/100 mL No discharge.
As soon as possible but no later than December 30, 2019<u>2022</u>				In Effect
Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	0 MPN/100 mL No discharge.

6.0 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.¹² 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.

¹² USEPA .A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program. 2013.

CHAPTER 7 WATER RESOURCES AND WATER QUALITY MANAGEMENT MONITORING AND ASSESSMENT

CHAPTER 8 WATER RESOURCES AND WATER QUALITY MANAGEMENT

7.0 ADD FECAL INDICATOR BACTERIA FOOTNOTE TO CHAPTERS 4 AND 5

In the Basin Plan, the water quality objectives and targets for fecal indicator bacteria are expressed with different units; MPN (most probable number), organism, and cfu (colony forming units). In Chapter 4 WATER QUALITY OBJECTIVES, the Shellfish Harvesting (SHEL) fecal coliform objective is expressed as 14 MPN (most probable number), and the inland surface Water Contact Recreation (REC1) objective is expressed as a geometric mean of 126 organisms, and the Non-contact Water Recreation REC2 only targets in Chapter 5 IMPLEMENTATION are expressed with cfu (colony forming units). The proposed footnote will note that all of these fecal indicator units are considered equivalent measures of bacteria concentration. For clarity to those using or referring to the Basin Plan, the proposed footnote would be placed in Chapter 4 on the Pathogen Indicator Bacteria objective for Bays and Estuaries page, and in Chapter 5, on the Table 5-REC2 Only Targets-FW page.

The proposed footnote addition is shown below.

'Objectives, targets, and TMDL and/or Waste Load Allocations listed in the Basin Plan that are associated with bacteria are expressed with different units (i.e., organisms, colony forming units [cfu], or most probable number [MPN] /100 mL). "CFU" and "MPN" represent units specific to analytical techniques used to quantify bacteria concentration, whereas "organisms" is a generic term used to express bacteria concentration. All unit expressions are considered equivalent measures of bacteria concentration (see Protocol for Developing Pathogen TMDLs, USEPA 2001, Office of Water, EPA 841-R-00-002 p 2-1).

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 the “**DRAFT Substitute Environmental Document for Proposed Basin Plan Amendments: 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; Revised April 28, 2017) (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. The only recommended amendment with a scientific, rather than regulatory/editorial basis, is the calculation of antidegradation targets for REC2 waters which 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.

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.

On October 10, 2016, Regional Board staff issued a staff report to support the proposed Basin Plan amendments and to solicit comments. Comments were received from a number of agencies. Regional Board staff prepared written responses to comments that were received in accordance with the schedule established in the Notice. Attachment D contains staff responses to comments received; Attachment C contains the comment letters. Based on comments received on the proposed amendments, on December 16, 2016 and May 17, 2017, Regional Board staff reissued revised staff reports and revised proposed Basin Plan amendments. The proposed Basin Plan Amendments are shown in Attachment 1 ("clean" version) and Attachment 2 ("strikeout-underline" version).

IV. RECOMMENDATION

Regional Board staff recommends that the Regional Board adopt Resolution No. R8-2017-0019 to: certify the Substitute Environmental Document; and, adopt the Basin Plan amendments delineated in Attachments 1 (“clean” version) and 2 (“strikeout-underline” version) to the resolution.

Attachments to Staff Report –

- 1 – Draft Basin Plan Amendments “clean” version
- 2 – Draft Basin Plan Amendments “strikeout-underline” version
- A – Draft Resolution
- B – Draft Substitute Environmental Document “clean” version
- C – Draft Substitute Environmental Document “strikeout-underline” version
- D – Comment Letters (8)
- E - Responses to Comments Documents (2)