

USE ATTAINABILITY ANALYSIS (UAA)

For

TEMESCAL CREEK – REACH 1 (PROPOSED REACHES 1A AND 1B)



SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD

October 4, 2013

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UAA ANALYSIS: TEMESCAL CREEK REACH 1 (PROPOSED REACH 1A AND 1B)

1.0 Executive Summary

The Santa Ana Region Basin Plan identifies Temescal Creek, Reach 1, which is designated both REC1 and REC2. This Reach is proposed to be subdivided into two reaches: Reach 1a and Reach 1b. This Use Attainability Analysis (UAA) demonstrates that REC1 use does not exist and is not attainable in either Reach 1a or Reach 1b, and that REC2 use is not attained in Reach 1b. These uses are described as:

Water Contact Recreation (REC1) 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) 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.

Reach 1a consists of 0.5 miles of rip-rap lined, trapezoidal channel and 2.5 miles of concrete trapezoidal channel 14 feet in height.

Reach 1b consists of 3 miles of concrete rectangular channel with 14 ft. high vertical walls.

Flow depth in Reach 1a is under 0.5 ft. 90 % of the time, and flow depth in Reach 1b is under 0.5 ft. 98% of the time. In both reaches, dry weather flows are contained in a relatively narrow depression in the centerline of the channel. REC1 uses cannot occur in the channel because low flow conditions and flood control modifications preclude attainment of these uses.

Extensive photographic evidence, field surveys, and interviews of knowledgeable local authorities indicate that water contact recreation (REC1) does not occur and has not occurred in Reach 1a and 1b. Public access is prohibited by law and both reaches are fenced throughout their length, with locked access gates.

Analysis of water quality monitoring data indicates that the bacterial objectives are not being met consistently. Recreational uses cannot be attained by imposing more stringent effluent limitations or requiring additional Best Management Practices (BMPs)

to control non-point sources, as factors other than water quality will continue to preclude REC1 and/or REC2 uses. Therefore, Reach 1a and 1b of Temescal Creek should not be designated REC1. In addition, REC2 should not be designated for Reach 1b. Temescal Creek Reach 1, as identified in the Basin Plan, should be subdivided into Reach 1a and Reach 1b, as described within this UAA.

2.0 UAA Reach Description

2.1 Location

The Temescal Creek watershed is located in Riverside County, California and is approximately 200 mi² in size. Temescal Creek drains the north side of the Santa Ana Mountains, Lake Elsinore¹ and other areas, and extends from Lake Elsinore to the Prado Basin, approximately 28 miles in length (Figure TC-1).

The portion of the Creek analyzed in this UAA is identified in the Basin Plan as Temescal Creek Reach 1, which extends from Lincoln Avenue to the Riverside Canal² in the City of Corona (Basin Plan, Chapter 3, Table 3-1).

For the purposes of this UAA, and for future identification in the Basin Plan, Reach 1 is subdivided into two reaches, Reach 1a and 1b:

- Reach 1a extends from Lincoln Avenue (33°53'29.904"N, 117°34'12.432"W) upstream to the confluence with Arlington Channel (approximately 33°52'51.204"N, 117°33'15.732"W).
- Reach 1b extends from the confluence with Arlington Channel upstream to approximately 1,400 feet upstream of Magnolia Avenue (approximately 33°52'1.992"N, 117°31'30.108"W)(this is the approximate location of the former Riverside Canal).

Table TC-1 and Figure TC-2 summarize and display the reach boundaries.

¹ Lake Elsinore seldom overflows to its outlet to Temescal Creek.

² Riverside Canal has been abandoned and does not currently connect to or cross Temescal Creek.

**Table TC-1.
Temescal Creek Reach Identification**

Reaches	Boundaries
Basin Plan Reach 1 (Existing Basin Plan Designation)	Lincoln Avenue to Riverside Canal
Reach 1a (Proposed Basin Plan Designation)	Lincoln Avenue to confluence with Arlington Channel, a distance of 3 miles
Reach 1b (Proposed Basin Plan Designation)	Arlington Channel confluence to 1,400 ft. upstream of Magnolia Avenue, a distance of 3 miles

The UAA reaches are shown in yellow in Figure TC-1. Tributaries to Temescal Creek, which include Arlington Channel, Canyon Wash, Oak Street Channel, and Main Street Channel, are not included in this UAA.

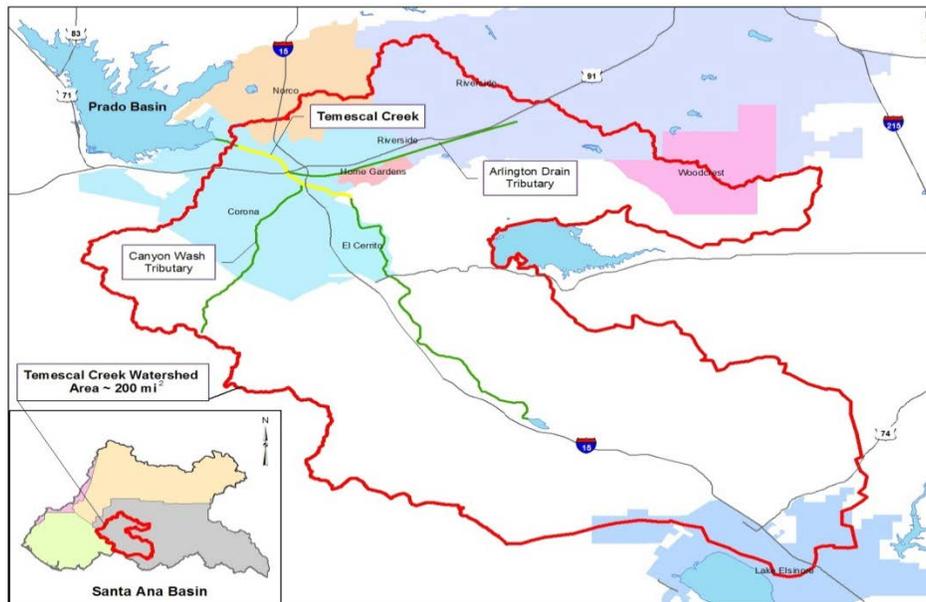


Figure TC-1. Map of Temescal Creek Watershed. Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 2-1

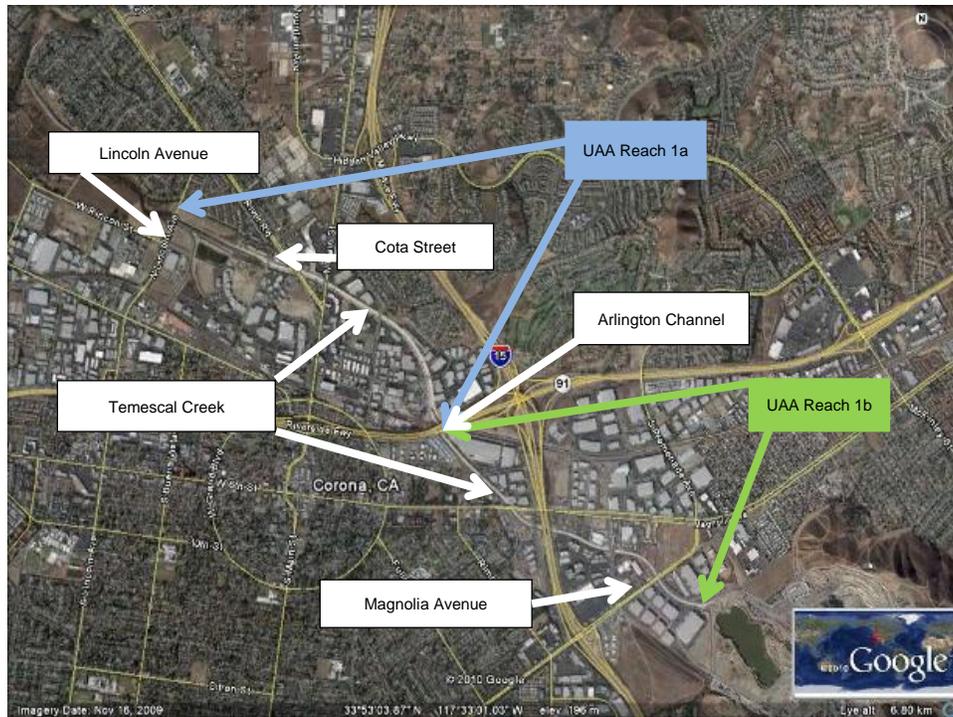


Figure TC-2. Temescal Creek Segments and Surrounding Area

2.2 Proximate Land Uses

The portion of the Temescal Creek watershed proximate to Reaches 1a and 1b is fully developed and highly urbanized. As shown in Table TC-2, land use adjacent to both Reach 1a and Reach 1b consists of commercial, institutional, and industrial uses. There are no parks or schools immediately adjacent to the reaches, and residential development is very limited (<1% (Reach 1b)). Figure TC-3 depicts land use in the area.

Table TC-2. Land Use Adjacent to Reaches 1a and 1b¹

Temescal Creek - Reach 1a

Land Use	Linear Feet	% of Channel Length
Commercial, Institutional, Industrial, Mixed	18,727	100%
Residential	0	0%
Parks and Recreation	0	0%
TOTAL	18,727	100%

Temescal Creek - Reach 1b

Land Use	Linear Feet	% of Channel Length
Commercial, Institutional, Industrial, Mixed	17,372	>99%
Residential	52	<1%
Parks and Recreation	0	0%
TOTAL	17,424	100%

¹ CDM Smith Technical Memo – Land Use Adjacent to UAA Reaches, October 2013



Figure TC-3. Temescal Creek: Channel Characteristics and Land Use. (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 2-5) **Note to reader: Increase the zoom level of this page to improve the readability of this Figure.**

2.3 Reach Characteristics

Reaches 1a and 1b are engineered, modified channels that follow the alignment of the historic natural Temescal Creek channel. The County of Riverside Flood Control and Water Conservation District (Flood Control District) completed modifications to the Creek for flood control purposes by the mid 1980's.

2.3.1 Reach 1a Morphology

The downstream segment of Reach 1a (Lincoln Avenue to near Cota Street) has a shallow trapezoidal configuration with a riprap bottom and riprap covered side slopes

(see Figure TC -4). This segment is approximately 0.5 miles in length and has a channel bottom width of approximately 100 ft.

The remainder of Reach 1a (near Cota Street to Arlington Channel) has a concrete lined, trapezoidal configuration. This segment is 100 feet wide and 14 feet deep, with 1.5:1 sloped sidewalls (see Figure TC-5). This segment was constructed with a low flow depression along the centerline of the channel bottom to convey low flows at sufficient velocity to prevent excessive debris buildup. The low flow channel is two feet deep at its deepest point and is 40 feet wide.

The total length of Reach 1a is approximately 3 miles. The entire length is fenced with a six foot high chain link fence and is gated to prevent individuals from accessing the channel. All gates are locked and the reach is posted with signs stating that trespassing and loitering are forbidden by law. See Figure TC-6.



Figure TC-4. Temescal Creek, Reach 1a – facing downstream (downstream of Cota Street, Lincoln Avenue Bridge in distance) Regional Board staff photograph, May 2011



Figure TC-5. Temescal Creek, Reach 1a, at Cota Street looking upstream in the City of Corona. Regional Board staff photograph, December 2010



Figure TC-6. Temescal Creek, Reach 1a at Cota Street. Access is prohibited and the channel is fenced with locked gates. Regional Board staff photograph, May 2011

2.3.2 Reach 1b Morphology

Reach 1b has a concrete lined, vertical wall configuration for its entire 3 mile length. The channel is 84 ft wide with 14 ft high channel walls. See Figure TC-7. The upstream

terminus of Reach 1b is approximately 1,400 ft upstream of Magnolia Avenue, where it transitions to a natural, earthen channel.

Rather than a low flow depression or swale along the centerline of the channel bottom as in Reach 1a, Reach 1b has been designed with a one foot deep cross-fall towards the center of the channel. The centerline of the channel bottom is 1 foot deeper than where the vertical channel sidewalls meet the channel bottom.

The entire length of Reach 1b is fenced with a six foot high chain link fence and is gated to keep individuals out of the channel. All gates are locked and the reach is posted stating that trespassing and loitering are forbidden by law.

Table TC-3 summarizes the characteristics and linear extent of Reach 1a and 1b.



Figure TC-7. Temescal Creek, Reach 1b facing downstream at Magnolia Avenue in the City of Corona. Regional Board staff photograph, May 2011.

**Table TC-3.
Reach 1a and 1b Channel Characteristics**

Reach No.	Extent	Description
Reach 1a (Lower Segment)	Lincoln Ave. to 100 ft. Downstream of Cota Street	Rip rap lined earthen channel; 100 ft. width; approx. 0.5 miles in length
Reach 1a (Upper Segment)	From 100 ft. downstream of Cota Street to Arlington Channel Confluence	Trapezoidal, concrete-lined channel with 1.5:1 side slopes; 100 ft. bottom width with centerline depression; approx. 3 miles in length
Reach 1b	Arlington Channel confluence to ~1,400 ft. (0.27 mile) upstream of Magnolia Avenue	Vertical walled, concrete-lined channel, 84 ft. bottom width with curved bottom design; approx. 3 miles in length

2.4 Regulatory Status

2.4.1 Beneficial Use Designations

Reaches 1a and 1b are currently identified as Reach 1 in Table 3-1 of the Santa Ana Basin Plan³. The following beneficial uses are designated for Reach 1:

WILD (Wildlife Habitat): waters support wildlife habitats that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish and wildlife, including invertebrates.

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

MUN+ (Municipal and Domestic Supply): MUN is not an existing use and cannot be feasibly attained. An exception from the MUN designation was found appropriate pursuant to the Sources of Drinking Water Policy. The channel has been heavily modified to convey storm water runoff from the urbanized watershed and dry weather flows are dominated by wastewater effluent. Therefore, in accordance with the statewide Sources of Drinking Water Policy, an exception to the MUN designation for Reach 1 was approved.

REC-1 (Water Contact Recreation): waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses

³ Water Quality Control Plan - Santa Ana River Basin (8). Updated Feb., 2008 @ pg. 3-33.

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.

REC-2 (Non-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.

This UAA was conducted to determine whether or not the REC1 and/or REC2 uses are existing and/or attainable in Reaches 1a and 1b of Temescal Creek.. Based on the UAA results, the recreational beneficial uses that should be designated for these reaches are:

Reach 1a:

- REC1 (Water Contact Recreation): Results from a comprehensive UAA demonstrate that water contact recreation is not an existing or attainable use in Reach 1a. A more detailed explanation is provided in Section 3 of this document.
- REC 2 (Non-contact Water Recreation): A limited number of individuals have been noted walking or biking on the channel bottom in Reach 1a. The concrete-lined section of this reach appears to be used as a means of access from one street crossing of the channel to another. Few individuals even approach the water. See further discussion in Section 3 of this document.

Reach 1b:

- REC1 and REC 2 (Contact and Non-contact Water Recreation): Results from a comprehensive UAA demonstrate that contact and non-contact recreation are not existing or attainable uses in Reach 1b. A more detailed explanation is provided in Section 3 of this document.

Both Reach 1a and 1b would continue to be designated WILD and WARM. The MUN exception would continue to apply to both these reaches.

2.4.2 303(d) Listings and Total Maximum Daily Loads (TMDLs)

303 (d) listing

Reach 1 of Temescal Creek is presently on California's 303(d) list of impaired waters due to high levels of pH.

3.0 Use Attainability Analysis – Factors Analysis

3.1 Federal Regulatory Requirements - UAAs

Section 101 (a) (2) of the CWA states that “it is the 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 be achieved by July 1, 1983”. The CWA and implementing federal regulations provide special protection for these “fishable/swimmable” uses by establishing a rebuttable presumption that all surface waters should support these uses and must be so designated.

A state may elect to de-designate recreational use for certain waterbodies only after conducting a UAA⁴ and demonstrating that attaining the use is not feasible based on one or more of the following six factors:⁵

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
4. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modifications in a way that would result in the attainment of the use; or
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses: or
6. Controls more stringent than those required by sections 301 (b) (Effluent Limitations) and 306 (National Standards of Performance) of the Act would result in substantial and widespread economic and social impact.

A UAA is a structured scientific assessment of the factors affecting the attainment of the use(s), which can include physical, chemical, biological, and economic factors as described in 40 CFR 131.10 (g)(1)-(6), above.

⁴ 40 CFR 131.10(j)

⁵ 40 CFR 131.10(g)

Federal regulations⁶ prohibit States from removing designated uses if:

1. They are existing uses, as defined in 40 CFR 131.3, unless a use requiring more stringent criteria is added; or
2. Such uses will be attained by implementing effluent limits required under sections 301 (b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control.

"Existing uses" are those uses actually attained in the water body on or after November 28, 1975 (the date of USEPA's initial water quality standards regulation), whether or not they are included in the water quality standards.⁷ Guidance provided by USEPA in 1985 indicates that an "existing" primary contact recreational use⁸ can be established by demonstrating that swimming has actually occurred since November 28, 1975, or that the water quality is suitable to allow such uses to occur, unless there are physical problems that prevent the use regardless of water quality).⁹ Suitable water quality is demonstrated by consistent, not merely sporadic, attainment of applicable water quality objectives. More recent USEPA guidance states that EPA considers an "existing" use to mean the use and water quality necessary to support the use that have been achieved in the waterbody on or after November 28, 1975.¹⁰ USEPA states that: "It is appropriate to describe the existing uses of a waterbody in terms of both actual use and water quality because doing so provides the most comprehensive means of describing the baseline conditions that must be protected."

USEPA has indicated that where there is very limited actual primary contact use and the physical and/or water quality characteristics of the water body do not and are not likely to support that use, then it would be appropriate to conclude the primary contact recreation is not an "existing" use.¹¹ In making such determinations, federal guidance recommends that states should consider a suite of factors such as the actual use (present and historic), existing water quality, potential water quality conditions, access, recreational facilities, location (e.g., proximity to suitable recreational alternatives), safety considerations, as well as the physical conditions of the water body.¹² However, states are not required to evaluate all six factors identified in 40 CFR 131.10(g) as part of every UAA.

In designating the uses of a water body, and in considering changes to those designations, states must take into consideration the water quality standards of

⁶ 40 CFR 131.10(h)

⁷ 40 CFR 131.3

⁸ "Primary contact" recreation is equivalent to California's REC1 (water contact recreation) beneficial use

⁹ USEPA. Questions & Answers on Antidegradation, August 1985. (USEPA Water Quality Standards Handbook, Second Edition. EPA-823-B-12-002. Appendix G)

¹⁰ USEPA, Letter w/attachment from Denise Keehner (Director, Standards and Health Protection Division) to Derek Smithee, State of Oklahoma, September 5, 2008. (Cited as updated information in USEPA Water Quality Standards Handbook, Second Edition. EPA-823-B-12-002, Chapter 4)

¹¹ USEPA. 63 FR 36752 (July 7, 1998)

¹² USEPA. 63 FR 36756 (July 7, 1998)

downstream waters and ensure that water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters. (40 CFR 131.10(b)).

Finally, decisions to remove or not designate REC1 uses for surface waters are subject to reconsideration as part of the Basin Plan Triennial Review process. Where new information and/or changed conditions warrant the REC1 designation, then the Basin Plan must be amended accordingly.

3.2 40 CFR 131.10 (g) Factor Assessment

Reaches 1a and Reach 1b of Temescal Creek are incapable of supporting water contact recreation because:

- Natural, ephemeral intermittent or low flow conditions or water levels prevent the attainment of the use (see Section 3.2.1)
- Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modifications in a way that would result in the attainment of the use (see Section 3.2.2).

3.2.1 Natural, Ephemeral, Intermittent and Low Flows Preclude Recreational Uses (40 CFR 131.10(g) Factor 2)

Dry weather flow is the predominant flow condition in Temescal Creek. The dry weather flows are a combination of nuisance flows from the surrounding urbanized area and treated wastewater effluent. The City of Corona Wastewater Treatment Plant (WWTP) #3 and the Lee Lake Water District discharge into the Creek upstream of Reach 1b. At the present time, the City of Corona discharges approximately 0.37 million gallons per day (mgd) and the Lee Lake Water District approximately 0.82 mgd.

The Lee Lake Water District is building a large recycled water storage pond. Once the pond is in use, the District's discharge to the creek will be infrequent and possibly, only under emergency conditions.

The City of Corona recently indicated its intent to cease operation of WWTP #3, since anticipated growth in the service area of the facility has not yet materialized. The treatment plant may be reopened if and when justified by sufficient development and wastewater flows. Although the City of Corona Municipal WWTP #2 lies adjacent to Reach 1a, its treated effluent is not discharged into Temescal Creek.

Precipitation-derived runoff typically occurs for only relatively short episodic periods during and immediately after rainfall events in the watershed. As is typical of this area, rainfall events almost always occur in the wet season (mid-October through Mid-April) and generally affect stream flows on fewer than 14 days/year. Depending on the amount of nuisance runoff and effluent discharges, dry weather flows

in the channel are normally limited to part of the width of the channel in both reaches (see Figures TC-5 and TC-7).

3.2.1.1 Methods and Fieldwork

Two methods were used to evaluate flow depths and conditions in Temescal Creek: engineering estimates based on gauge data and aerial imagery, and direct stream measurements collected during the UAA technical investigation.

For Reach 1a, depth data were analyzed from a USGS gauging station located just upstream of Main Street. CDM¹³ processed the 15-minute interval USGS flow data from 1980 through 2008 to facilitate time series plotting and flow / depth frequency distribution analyses. CDM developed a rating curve to convert continuous depth records to flow rates. The continuous time series of measured depth and estimated flow rate was analyzed to assess the frequency of different flow conditions in the reach. Cumulative frequency distributions were developed to show the likelihood of a particular flow condition occurring.

For Reach 1b, where there is no gauging station, Flood Control District staff estimated depth based on flow width observation using Google Earth imagery. As the channel bottom in Reach 1b is sloped along the cross section with the centerline 1 foot below the toe (bottom) of the sidewalls, an image showing a wetted flow width narrower than the full channel width would be less than one foot deep at the centerline. Flow depth was estimated by the percentage of wetted channel width. Depths were estimated using 14 available images from 1994 to 2012.

To estimate flows in Reach 1b in dry weather conditions, CDM used the data available at the Main Street gauge and assumed that all the flows at the gauge originated from Reach 1b. Channel geometry was used near the East 6th Street crossing in Reach 1b to estimate flow depth¹⁴.

Additionally, direct depth measurements were obtained by CDM staff and Regional Board staff during separate field surveys. The engineering estimates and field measurements were further corroborated by subjective depth assessments reported each time CDM staff visited surveillance cameras being used to capture evidence of recreational activity in the creek.

¹³ CDM performed technical analysis for the Stormwater Quality Standards Task Force for this UAA, producing the "Use Attainability Analysis Technical Report for Temescal Creek" (August 2010) (CDM Technical Report) and "Recreational Use Survey – Temescal" (November 2006).

¹⁴ CDM Technical Memorandum – Flow Characterization of Temescal Creek UAA Reach 1b (September 2013).

3.2.1.2 Findings and Conclusions

As reported in the CDM Technical Report, given the hydrologic patterns in Southern California, dry weather flow is the predominant condition in Temescal Creek. Dry weather flow consists of urban nuisance flows and treated POTW effluent. Precipitation-derived runoff typically occurs for only relatively short episodic periods during and shortly after rainfall events within the tributary watershed. These events are typically during the wet season (October 15 to April 15), although infrequent late summer rainfall and runoff events do occur.

CDM's analysis of the cumulative frequency curves of flow rate and depth from 1980 to 2008 at Main Street (Reach 1a) showed that more than 90 percent of the time, flow rates and depths are characteristic of dry weather flow conditions. As shown in FigureTC-8, flow depths during 1980 to 2008 were less than 2 feet approximately 99 percent of the time and less than 1 foot approximately 90 percent of the time.

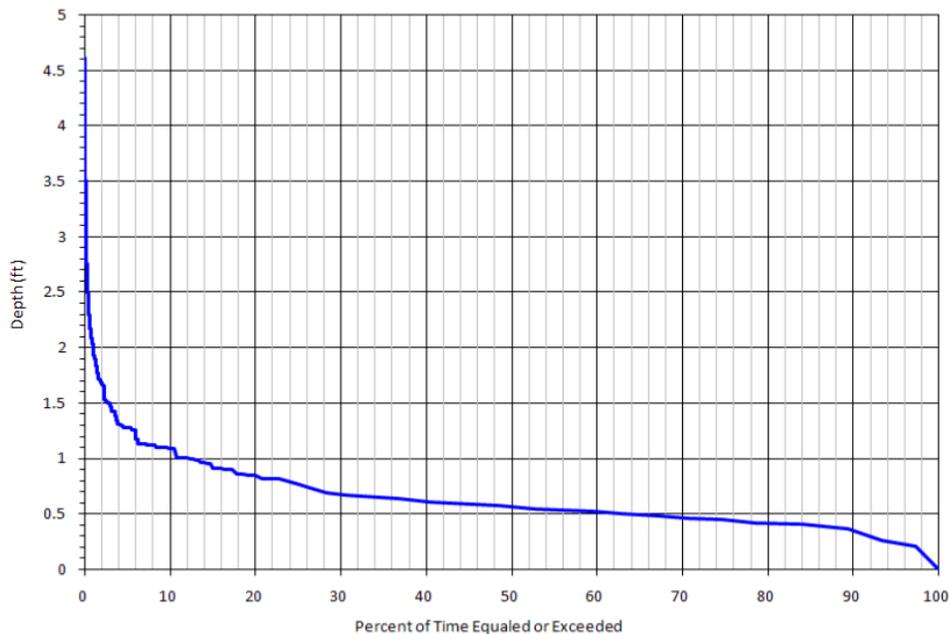


Figure TC-8. Channel Depth Curve for Temescal Creek at Main Street (Reach 1a) (1980-2008) (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figures 4-3 and 4-4)

CDM's engineering estimates are consistent with the actual depth measurements collected by Regional Board staff. Regional Board staff have observed that dry weather flows are contained within the designed low flow centerline depression in Reach 1a, with depths less than one foot. On August 15, 2013 Regional Board staff measured the deepest depth of flow to be four inches just upstream of Cota Street. Board staff observations confirm shallow (less than one foot) dry weather flows in Reach 1a near Lincoln Avenue, although water sometimes pools in a small area at the downstream end

of this reach segment near the Lincoln Street Bridge. Regional Board staff measured the deepest depth in the pool to be 2.75 ft. on August 15, 2013.

For Reach 1b, aerial imagery indicated an average depth of less than 5 inches. On August 15, 2013, Regional Board staff measured flow depth to be 1 inch deep at the downstream end of the reach and observed the channel to be completely dry at the upstream end. CDM's flow characterization analysis shows depths less than 6 inches 98% of the time from 1988 to 2008.

CDM staff made 47 visual observations of flow in Reach 1a from July 2005 to November 2006. CDM staff depth estimates averaged approximately 14 inches. A small number of observations during wet periods exceeded 4 ft. of depth.^{15,16}

Flows in Temescal Creek are too shallow to support swimming or other forms of primary contact recreation.¹⁷ The creek is a naturally ephemeral stream. During dry weather conditions, it would normally dry up completely were it not for the discharge of treated wastewater or nuisance flows from landscape irrigation. Analysis/observation of Reaches 1a and 1b indicates that for a significant majority of the time, flow in the channel is shallow (less than ~ 1 foot). In Reach 1a the dry weather flows are confined to the designed low flow centerline depression. Flow depths are less than less than 1 foot approximately 90 percent of the time and less than 2 feet approximately 99 percent of the time. In Reach 1b, dry weather flows are typically very shallow, less than 6 inches, with periods of time when the channel is completely dry.

Based on the preceding analysis, Regional Board staff has concluded that the natural, ephemeral, intermittent and low flow conditions preclude attainment of water contact recreation in Reaches 1a and Reach 1b. Therefore, Reaches 1a and 1b should not be designated REC1 in Table 3-1 of the Santa Ana Basin Plan.

3.2.2 Dams, Diversions and Hydrologic Modifications Preclude the Recreational Use (40 CFR 131.10(g) Factor 4)

Wet weather flows can be quite large in Temescal Creek. Consequently, the creek has been engineered and heavily modified for flood control protection purposes.

3.2.2.1 Methods and Fieldwork

The hydrological modifications made to Temescal Creek were evaluated using both field surveys and aerial imagery. Regional Board staff made seven (7) field visits to all

¹⁵ CDM. Stormwater Quality Standards Study - Recreational Use Survey Weekly Data Collection Forms. Temescal Creek for the period from July 2005 to November 2006.

¹⁶ Evidence from other UAA investigations conducted by Regional Board staff and the Stormwater Quality Standards Task Force indicates that flow depth estimates are subject to variability and inaccuracy.

¹⁷ Federal Cooperative Instream Flow Service Group (members include: U.S. Fish & Wildlife Service, U.S. EPA, U.S. Heritage Conservation and Recreation Service, & U.S. Bureau of Reclamation). Methods of Assessing Instream Flows for Recreation. FWS/OBS-78/34 (June, 1978) pg. A-7.

sections of Reaches 1a and 1b between 2006 and 2013. In addition, staff reviewed as-built designs for the channel provided by the Riverside Flood Control District.

3.2.2.2 Findings and Conclusions

Both Reaches 1a and 1b have been engineered and significantly modified to provide flood control protection. Reach 1a consists of 2.5 miles of trapezoidal, concrete lined channel with a bottom width of 100 ft. and channel height of 14 ft. (see Figure TC-11). The most downstream 0.5 mile segment of Reach 1a is lined with rip rap (see Figure TC-12). Reach 1b consist of 3 miles of vertical walled, concrete-lined channel with a bottom width of 84 ft. and channel height of 14 ft. (see Figure TC-13).



Figure TC-9. Temescal Creek, Reach 1a at Cota Street. Regional Board staff photograph, December 2010



Figure TC-10. Temescal Creek, Reach 1a downstream downstream of Cota Street. Regional Board staff photograph, May 2011



Figure TC-11. Temescal Creek, Reach 1b facing downstream at Magnolia Avenue in the City of Corona. Regional Board staff photograph, May 2011

The entire length of Reaches 1a and 1b is fenced with locked gates to prevent access, with signs forbidding trespassing.



Figure TC-12. Fence and Gate on Temescal Creek at Cota Street. Regional Board staff photograph, May 2011.

Gaining access into Reaches 1a and 1b is difficult. In Reach 1a, the trapezoidal slopes are very steep making it difficult for an individual to climb down or back up the slope. In Reach 1b, the 14 ft. high vertical walls make getting into the channel extremely difficult and dangerous (see Figures TC-11 and TC-13). Those intent on water recreation are far more likely to choose other stream locations. Other areas of Temescal Creek upstream of Reaches 1a and 1b provide individuals with the opportunity to hike along a natural stream section (these other areas are designated both REC1 and REC2 and would remain so designated). More suitable and accessible water contact recreation opportunities may also be found in the nearby Santa Ana River upstream of the City of Corona.

Given the existing level of development in the vicinity of the creek and high degree of urbanization, there is an ongoing and increasing need to provide flood protection. Therefore, it is not feasible to restore the channel to its original condition or to operate the channel so as to attain the REC 1 use.

Based on the preceding analysis, Regional Board staff has concluded that the existing dams, diversions and other hydrologic modifications made to provide flood control protection preclude attainment of water contact recreation in Reaches 1a and 1b of Temescal Creek. Therefore, Reaches 1a and 1b should not be designated REC1 in Table 3-1 of the Santa Ana Basin Plan.

3.3 REC2 Designation

REC2 (non-contact recreation) activities 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". Temescal Creek Reach 1 is currently designated REC2.

Reach 1a

There are documented observations, albeit limited, of individuals walking or biking in Reach 1a (see Section 4.1, below). There is also evidence of individuals periodically living under the Main Street and River Road Bridges inside the channel fences; Riverside County conducts periodic sweeps to clear these individuals from the area¹⁸. The evidence of any water contact is extremely limited. While it appears that the individuals observed are or may be using the channel as a convenient travel route rather than as an opportunity for REC2 activities, it is possible that such activities are taking place. Board staff recommends continuing to designate the REC2 beneficial use for Reach 1a, consistent with the current Basin Plan REC2 designation for Temescal Creek Reach 1.

Reach 1b

REC2 is not attainable in Reach 1b for many of the same reasons that REC1 (water contact recreation) is precluded. There have been no documented observations of individuals in or around Reach 1b. Reach 1b passes through a largely industrial area of the City of Corona, with very limited viewing opportunities and no access to the channel for the public. There are no sidewalks or walking/cycling trails adjacent to the reach. The vertical walls and fencing make getting into Reach 1b extremely difficult and dangerous. The flat concrete channel bottom provides very poor habitat for plants or wildlife, thereby significantly limiting wildlife viewing opportunities. Therefore, Board staff recommends that REC2 not be designated for Reach 1b.

4.0 Existing Use Analysis

As noted in Section 3.1, states may not remove the recreational use designation if it is an "existing use." Nor can recreational uses be de-designated if such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Clean Water Act and by implementing cost-effective and reasonable Best Management Practices for non-point source control.¹⁹ A formal analysis was conducted to evaluate these conditions.

¹⁸ This is part of the Comprehensive Bacteria Reduction Plan (June 28, 2011) developed and being implemented by the Riverside County Stormwater Program. Riverside County identifies and removes transient encampments for health and safety reasons, as well as to protect water quality.

¹⁹ 40 CFR 131.10(h)

This analysis consisted of numerous site visits by Regional Board and CDM staff, extensive digital photo REC surveys, on-site field surveys, interviews of Flood Control District staff, and an analysis of all representative and reliable water quality data.

4.1 Evaluation of Actual Recreational Activities

4.1.1 Photo Reconnaissance Survey

From July 2005 through November 2006, recreational use surveys were performed to obtain information regarding existing levels and types of recreation use. Digital field observation cameras and data transfer technology, coupled with on-location physical surveys were used to collect data. Digital cameras were installed at two locations in Reach 1a to collect information. Electronic photos were transmitted, over the cellular phone network, to a secure network server for storage and analysis. The two locations within Reach 1a that were surveyed were:

- Temescal Creek at Main Street facing upstream (July / August 2005)
- Temescal Creek at City of Corona WWTP No. 2 facing downstream (November 2005 to November 2006)

The duration of the survey and number of images collected for each location are shown in Table TC-4. At each survey location, an image was collected every fifteen minutes during daylight hours throughout the study duration unless signal strength fluctuations or equipment failures precluded collection and transmission.

**Table TC-4.
Recreational Use Survey Duration**

Survey Location	Start Date	End Date	Number of Images
Main Street+	7/26/05	8/4/05	513
WWTP No. 2	11/1/05	11/1/06	10,653

+ Camera vandalized beyond repair on the ninth day of operation

Due to signal strength fluctuation issues and other equipment functionality issues, periodic, short-term gaps in image collection occurred between the start and end dates. The gaps ranged from relatively minor single fifteen-minute interval image gaps (on numerous days) to gaps in image collection spanning several days.



Figure TC-13. Photo of the Camera View at the Recreational Use Survey Location for Temescal Creek at Main Street (Reach 1a) Facing Upstream (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 3-2)



Figure TC-14. Photo of the Camera View at the Recreational Use Survey Location for Temescal Creek at City of Corona WWTP No. 2 (Reach 1a) - Facing

Downstream (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 3-3)

Any image containing a person or persons within creek fencing or boundaries was defined as a recreation event. If a person or persons were observed meeting these same conditions during on-location physical surveys, these were also considered events. An event could include one or more persons. For each event, each person’s activity (type), and the estimated duration of the event were logged. If an activity was captured on only one image, an activity duration was reported as <30 minutes. Likewise, if the same activity by the same person or persons was observed in two consecutive fifteen-minute interval images, the duration was reported as <45 minutes.

Table TC-5 presents a summary of the activity recorded at the Temescal Creek, Reach 1a survey locations over the duration of the survey. The seasonal periods defined in southern California NPDES stormwater permits were used to categorize the observations by season (April 1 to September 30 for the dry season; October 1 to March 31 for the wet season). Full recreational use survey information can be found in the Recreational Use Survey Data Report – Temescal Creek prepared for the Stormwater Task Force by CDM in November 2006.

**Table TC-5.
Recreational Activity Recorded for Temescal Creek**

Location	Number of Individuals			Estimated Duration (min)	Types of Activity
	Total	Dry Season	Wet Season		
Main Street	4	4	0	120	Walking and biking
WWTP #2	29	20	9	840	Walking and biking

As shown in Table TC-5, the camera survey results indicate a very low frequency of human activity of any kind in Reach 1a of the Creek. While no camera survey was conducted in Reach 1b, it is reasonable to expect similar results, and even less activity in Reach 1b given the channel morphology (vertical concrete walls and bottom; see Figure TC-5) and adjacent land use, which is largely industrial and commercial (see Figure TC-11). Of the 11,166 images collected at the camera survey locations in Reach 1a, only two suggested any type of water contact. In both cases, an individual was observed walking in or adjacent to shallow water in the center low flow depression, with any contact limited to below the ankle in depth and of short duration (less than 30 minutes). These images are included here as Figures TC-17 and TC-18. Thirty-one images showed a few individuals either walking or, on rare occasions, riding a bicycle in the channel without water contact. This type of activity is depicted in Figure TC-19.



Figure TC-15. Photo of Activity at Temescal Creek at Main Street (Reach 1a), 7/27/2005, 10:00 (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 3-4)

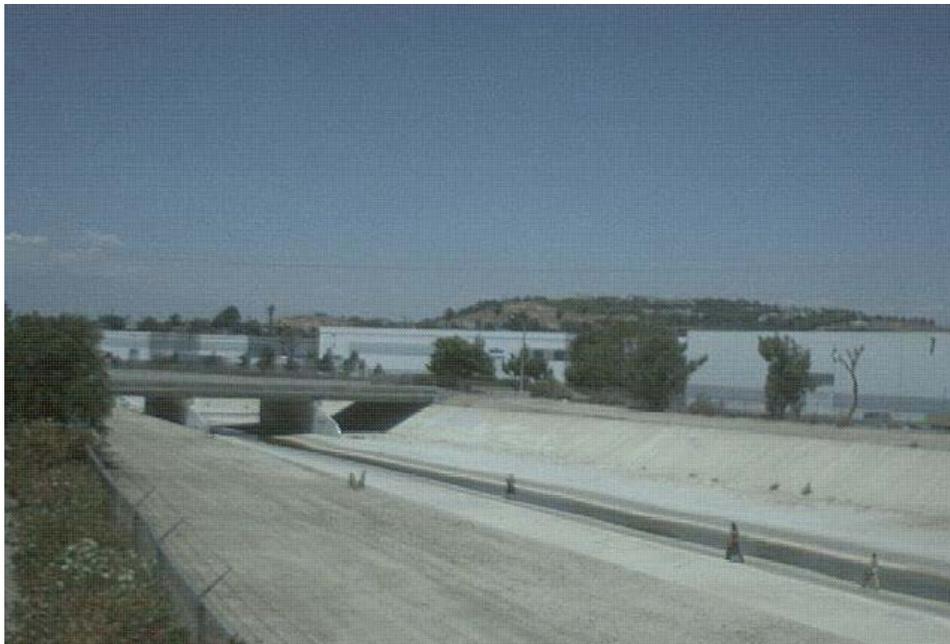


Figure TC-16. Photo of Activity at Temescal Creek at Corona WWTW (Reach 1a), 7/1/2006, 13:30 (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 3-6)



Figure TC-17. Photo of activity at Temescal Creek at Corona WWTP (Reach 1a), 2/25/2006, 12:15. (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 3-7)

4.1.2 Field Surveys

Regional Board staff made at least seven trips to Reach 1a and 1b of Temescal Creek between 2006 and 2013, during which the channel was observed from numerous locations (on two occasions, the surveys were complemented by City of Corona and Riverside County Flood staff persons who drove the concrete-lined portion of these reaches) . During one visit individuals were observed in Reach 1a walking in the channel, though not in the low flow channel and without contacting the water. On two occasions, apparent homeless camps²⁰ were noted under the Main Street bridge crossing. Regional Board staff never observed any individuals in the low flow depression in the center of the channel or in contact with water in the channel. No individuals were ever observed in any section of Reach 1b.

Task Force members performed seven separate recreational use field surveys of Reaches 1a and 1b. Each site visit was conducted on a summer weekend in order to maximize the opportunity to observe any recreational activity that might occur. Four surveys were completed in July and August of 2006. Three additional surveys were conducted in July and August of 2011. Task Force members were required to remain at each location for at least 30 minutes and to record observations on a standardized form. This included the date and time of the visit, the weather conditions, an estimate of the depth and clarity of water in the channel, and the number of people and nature of any recreational activities observed. Individuals were noted in Reach 1a near the River

²⁰ As noted previously, County Flood Control Staff participate with police, city staff, and county social service staff in periodic sweeps of Reach 1 to remove transient encampments.

Road Crossing during two surveys. One surveyor noted that there appeared to be a homeless encampment under the River Road Bridge (located in Reach 1a).

Field surveys were also conducted by CDM staff as they performed regular maintenance at the survey camera locations. The maintenance crews completed a written log documenting their observations during each site visit. The crews logged any observed water contact or evidence of water contact. CDM staff visited the two camera sites a total of 47 times between July 2005 and November 2006 – approximately 3 visits at the Main Street location, 44 visits at the City of Corona WWTP #2 location. Both of these locations were in Reach 1a, about one mile apart. CDM staff provided Regional Board staff copies of the maintenance logs for review. The crews recorded observing no individuals in contact with the water.

4.1.3 Other Evidence of Historical Recreational Use

To collect information regarding historical recreational use, Regional Board staff interviewed local agency staff who frequent or are familiar with Reaches 1a and 1b of Temescal Creek. CDM made similar inquiries and performed additional electronic searches in the course of preparing the UAA Technical Report for Temescal Creek.

County Flood Control staff regularly visit the area to maintain the channel. These maintenance crews state that they have never encountered any unauthorized persons within the confines of Reaches 1a or 1b of Temescal Creek (i.e., "inside the chain link fence").

CDM conducted inquiries to local jurisdictional agencies, online searches of California newspaper archives, databases (engineering and environmental trade journals), and search engines such as Google News archive and Lexis-Nexis to identify any accounts or reference to recreational activities in the channel. No historical use information was identified from these searches.

Finally, the Regional Board received no written comments and no public testimony during the public hearing process for the recreation standards amendments, including these UAAs, documenting any past or present recreational activity in Reaches 1a and 1b.

4.1.4 Probable Future Use

Information regarding probable future recreational uses for Temescal Creek was obtained through discussions with local agencies. The City of Corona was contacted as well as the Flood Control District. Based on these agency inquiries, probable future uses have been documented. Subsequent triennial review may identify future probable uses.

The City's General Plan Land Use Atlas has Temescal Creek designated as Open Space / General, which includes lands permanently committed for public safety, including flood control channels. The City's Zoning Map indicates Temescal Creek as

zoned for Flood Control, with no other uses planned. The City of Corona reported that its General Plan for existing and proposed bicycle trails does list the relevant reach of Temescal Creek as planned for a Class I Bicycle Path (completely separated from traffic). No immediate plans are in place to construct this bicycle path (communication with Michelle Hindersinn, Associate Engineer, City of Corona – Public Works, July 23, 2009).

The Riverside County Parks and Open Space District indicated that there are no water contact recreation use facilities planned for the creek (Communication with Marc Brewer, Riverside County Parks and Open Space District, July 28, 2009). This information was confirmed in a more recent conversation with Mr. Brewer (September 29, 2011), who then indicated that a future bicycle trail is proposed along the entire length of Temescal Creek from Lake Elsinore to the Santa Ana River. The future trail would lay atop the service road adjacent to the channel in Reaches 1a and 1b. Mr. Brewer stated that there will very likely be no funding available for the next several years to initiate the trail.

4.1.5 Summary – Evidence of Past, Present or Probable Future Recreational Use

In summary, there is no evidence of actual current, historic, or reasonable probable future REC1 use in Reaches 1a and 1b of Temescal Creek. Photographic surveys, field surveys and information provided by public agency staff members who routinely visit the Creek corroborate this conclusion.

The absence of any water-related recreation in Reaches 1a and 1b confirms that the low flows, hydrologic modifications, and physical access deterrents are in fact precluding attainment of the REC1 use. No one has been observed paddling, wading, walking, or swimming in any section of channel. These same factors also limit the available habitat and the resulting opportunity to engage in wildlife sightseeing. Taking into consideration this suite of factors, as well as master planning information, there is no evidence that REC1 use in the future is probable.

There are documented observations of people in the Reach 1a channel. While it appears that the individuals observed are using the channel as a convenient travel route rather than as an opportunity for REC2 activities, it is possible that such activities are taking place. Accordingly, REC2 designation is recommended for Reach 1a. No individuals have been observed in Reach 1b and physical deterrents, limited (if any) flows and the commercial/industrial nature of adjacent land use make REC2 use unattainable, now and in the probable future.

Concrete-lined flood control channels are quite common throughout the Santa Ana Region. Photographic evidence from the Greenville-Banning Channel and several similar locations, including Demens Channel, Anza Park Channel, and Cucamonga Creek (shown below), provide strong evidence that there is no meaningful water recreation occurring in these types of facilities.



Figure TC-18. Cucamonga Creek Channel (Source: Recreational Use Survey, CDM 11/2006)

4.2 Evaluation of Ambient Water Quality

4.2.1 Assessment Methods

Water quality samples were collected in Temescal Creek Reach 1 by Orange County Coastkeeper and the Middle Santa Ana River TMDL Grant Project Team. Orange County Coastkeeper performed water quality monitoring from 2002 to 2004 at the Lincoln Avenue crossing, the downstream terminus of Reach 1a. The Middle Santa Ana River TMDL Grant Project team conducted monitoring at this same location from 2007 to 2008. Samples were collected approximately monthly from 2002 to 2004 and analyzed for *E. coli* concentrations. Monitoring for both fecal coliform and *E. coli* was conducted on a more frequent basis from 2007 to 2008. The fecal coliform data are presented in Table TC-6, below. The *E. coli* data are presented in Table TC-7.

For fecal coliform, when 5 or more samples were collected in a 30-day period, a geometric mean (geomean) was calculated and compared to the existing REC1 fecal coliform objective (200 organisms/100mL based on five or more samples in a 30-day period). The fecal coliform data were also compared to that part of the existing REC1 fecal coliform objective that specifies that no more than 10% of the samples exceed 400 organisms/100mL for any 30-day period.

For *E. coli*, insufficient data were collected to compare to the *E. coli* geometric mean recommended in the recreation standards amendments. The recommended geometric mean requires that at least 5 samples be collected during a 30-day period. Accordingly,

the available *E. coli* data were evaluated based on the recommended criteria in USEPA's 2012 Recreational Water Quality Criteria document. These new criteria include the geometric mean of 126/100mL, to be calculated based on the number of samples collected during any 30-day period (no minimum number of samples during that period is specified). In addition to the geometric mean, the 2012 Criteria include a Statistical Threshold Value (STV) of 410/100mL that is not to be exceeded in more than 10% of the samples collected during the same 30-day interval used to assess the geometric mean.

Table TC-6
Monthly Fecal Coliform Data at Temescal Creek at Lincoln Avenue (Reach 1a)
(2007-2008)

Date	Sample results MPN/100mL	Percent greater than 400 / 30 day period ¹	Geometric means (5 samples/30 day period ¹)
7/8/2007	3,800		
7/15/2007	5,000		
7/22/2007	4,600		
7/29/2007	8,100		
8/5/2007	10,200	100%	5,912
8/26/2007	3,700		
9/2/2007	1,800,000		
9/9/2007	1,800		
9/17/2007	3,600		
9/23/2007	9,400	100%	13,232
12/7/2007	16,000		
12/9/2007	2,700		
12/10/2007	350		
12/11/2007	210	50%	
1/13/2008	140		
1/20/2008	300		
1/27/2008	470		
2/3/2008	100		
2/10/2008	110	20%	185
2/17/2008	130	20%	182

Notes:

1. Basin Plan REC1 objective: logmean <200 organisms/100mL based on 5 or more samples/30-day period and not more than 10% of samples exceed 400 organisms/100 mL for any 30-day period.
2. Geometric mean results in bold exceed Basin Plan objective.

Table TC-7

Monthly *E. coli* Data at Temescal Creek at Lincoln Avenue (Reach 1a) (2002-08)

Month and Year	<i>E. coli</i> (MPN/100mL)			
	Number of Samples Collected	Sample results ¹	Percent Exceedance of STV (410 cfu/100mL)	Geometric means ² that exceed USEPA 2012 criterion (126cfu/100mL)
10/2002	1	100	0%	
11/2002	1	100	0%	
12/2002	1	410	0%	410
1/2003	2	100; 100	0%	
2/2003	2	100; 970	50%	311
3/2003	2	200; 1460	50%	540
4/2003	1	1220	100%	1220
5/2003	1	200	0%	200
6/2003	1	520	100%	520
7/2003	1	520	100%	520
8/2003	1	100	0%	
9/2003	1	200	0%	200
10/2003	1	200	0%	200
11/2003	1	100	0%	
12/2003	2	520 ; 200	50%	322
1/2004	2	100; 0	0%	
2/2004	1	200	0%	200
3/2004	2	200; 1480	50%	544
4/2004	1	1100	100%	1100
6/2004	1	310	0%	310
7/2007	4	1,000 ; 690 ; 710 ; 290	75%	614
8/2007	2	200; 720	50%	379
9/2007	4	410,000 ; 500 ; 920 ; 2,200	100%	4513
12/2007	4	9,200 ; 740 ; 310; 220	50%	155
1/2008	3	150; 270; 280	0%	225
2/2008	3	70; 140; 80	0%	

Notes:

- 1 Sample results in bold exceed USEPA 2012 Recreational Water Quality Criteria (2012 Criteria) recommended Statistical Threshold Value (STV) (410 cfu/100mL) corresponding to recommended geometric mean of 126 cfu/100mL
- 2 USEPA 2012 Criteria recommend that the geometric mean not be exceeded in any 30-day interval. No minimum number of samples for the geometric mean calculation is identified.

4.2.2 Findings and Conclusions

Water quality data and analysis show that the existing REC1 fecal coliform objectives are not consistently attained in Temescal Creek. As shown in Table TC-6, two geomean values were calculated for fecal coliform (5,912 and 13,232 MPN per 100 mL). Both values significantly exceeded the current Basin Plan fecal coliform geomean objective (200/100 mL). That part of the established REC1 objective that specifies that no more than 10% of the samples exceed 400 organisms/100mL for any 30-day period was consistently exceeded. Figure TC-21 presents fecal coliform concentrations from 2007 through 2008. As shown, more than half of the samples exceeded 400/100 mL fecal coliform.

As shown in Table TC-7, *E. coli* concentrations frequently exceeded USEPA's recommended geometric mean (126 cfu/100mL) and associated Statistical Threshold Value of 410/100 mL.

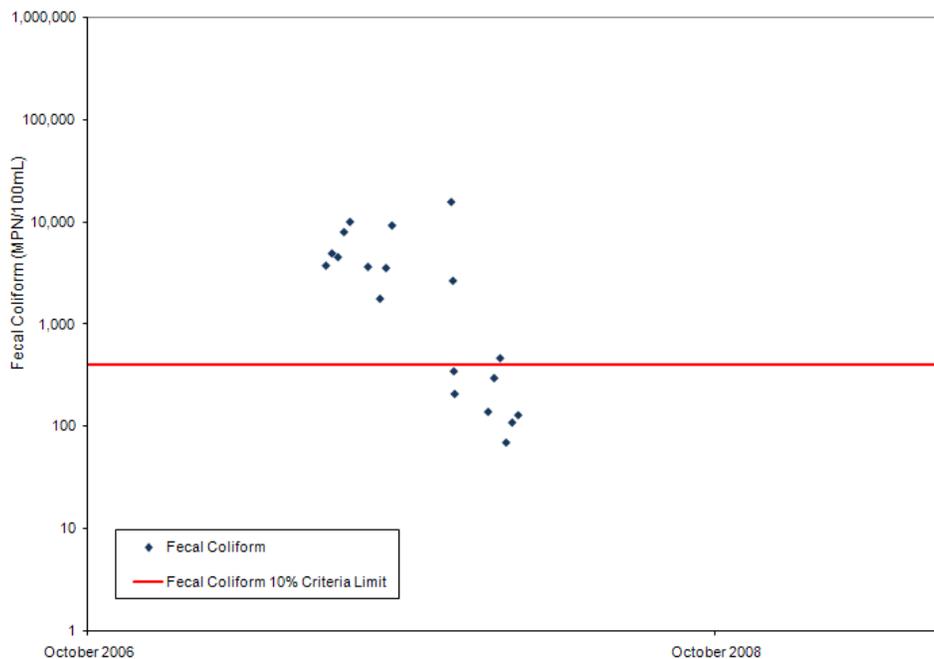


Figure TC-19. Time Series of Fecal Coliform Concentrations in Temescal Creek at Lincoln Avenue (Reach 1a) from 2007 through 2008 (Source: Use Attainability Analysis Technical Report for Temescal Creek, CDM, August 2010, Figure 3-9)

In summary, water quality sampling conducted in Temescal Creek indicates that the existing fecal coliform and recommended *E. coli* objectives are not consistently achieved.

4.2.3 Probable Future Water Quality

The Riverside County Stormwater Program was formed to meet the requirements of the Municipal Separate Storm Sewer System (MS4) Permit issued to the County and its municipal co-permittees. The Riverside County Stormwater Program has developed and

implemented a wide range of Best Management Practices (BMPs) focused on source control of pathogens and other pollutants. Riverside County has developed a “Stormwater BMP Design Handbook”, which provides design procedures for structural BMPs for new development and redevelopment with the County. The Handbook includes a treatment control BMP matrix that describes the appropriate BMPs to select to address particular pollutants of concern. For pathogens, this matrix lists infiltration- and filtration- type BMPs as potentially providing “medium” or “high” levels of removal efficiency²¹.

In response to the Middle Santa Ana River Bacteria Indicator TMDL and requirements of the MS4 Permit implementing that TMDL, the Riverside County Stormwater Program prepared a Comprehensive Bacteria Reduction Plan (CBRP) (June 28, 2011), which was approved by the Regional Board and is now being implemented. The CBRP identifies a multi-step procedure that is being and will be used to prioritize and investigate MS4 outfalls and then to select and implement the most appropriate control strategy for each MS4 outfall that is tributary to the Middle Santa Ana River. Tributaries to the Middle Santa Ana River include Temescal Creek. A range of structural and non-structural BMPs are identified and evaluated in the CBRP. Implementation of these BMPs is expected to be an adaptive, iterative process, based on demonstrated success.

While BMPs are expected to have a beneficial effect, the problematic nature of achieving consistent compliance with bacteria quality objectives through BMP implementation (apart from complete removal/diversion of flows from surface waters (with the potential for significant concomitant adverse effects on the beneficial uses of those waters)), must be recognized.

5.0 Protection of Downstream Uses

5.1 Regulatory Requirements

In designating the uses of a water body, and in considering changes to those designations, states must take into consideration the water quality standards of downstream waters and ensure that water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.²² Reaches 1a and 1b of Temescal Creek are tributary to the Prado Basin Management Zone and to the Santa Ana River, which are designated REC1 and REC2

²¹ See also “Stormwater Bacteria BMPs” (Excel spreadsheet and related references). Prepared for the Stormwater Quality Standards Task Force, April 2009 – Prepared by Stuart Goong, PhD, County of Orange, Orange, CA

²² 40 CFR 131.10(b)

5.2 Compliance Strategies

As described above, BMPs are being implemented to reduce fecal indicator bacteria in the Temescal Creek Watershed and downstream waters as part of implementation of the area-wide MS4 Permit and CBRP. Antidegradation bacteria indicator targets have been identified to prevent water quality degradation (see discussion in January 12, 2012 staff report for the recreation standards amendments, Sec. 5.2).

To address potential impacts to downstream waters, the Flood Control District has proposed a diversion project, a type of BMP identified and evaluated in the CBRP. The proposed Temescal Channel Cota Street Recharge Pond Diversion Project would divert base flows from Temescal Creek just downstream of Cota Street (Reach 1a). Three existing ponds located adjacent to Temescal Creek and to the west of Cota Street have excess capacity to allow recharge of base flow, additional reclaimed water and/or imported water. Depending on downstream water rights and habitat issues, a certain amount of base flow could be diverted from the channel into the recharge ponds. It is anticipated that up to half of the base flow of the creek below Cota Street could be diverted into the ponds. Implementation of the diversion is expected to result in significant reduction of indicator bacteria loading to downstream waters. The project has been budgeted and the Flood Control District is working on necessary agreements with the City of Corona to be able to begin the project.²³ It is important to point out that the implementation of this project rests on the assumption that recreational use designations for Reach 1a and 1b are modified in accordance with the recommendations of this UAA, making it unnecessary to achieve REC1 objectives in the two reaches themselves. To require compliance with these objectives in the two reaches would be inappropriate, based on the findings of this UAA, and would defeat the intended purpose of the diversion project.

6.0 Triennial Review Requirements

6.1 Regulatory Requirements

Section 101(a)(2) of the Clean Water Act states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for ... recreation in and on the water be achieved..." Federal regulations [40 CFR 131.6(a)] requires states to enact water quality standards and "use designations consistent with the provisions of section 101(a)(2)."

A UAA must be conducted when "the State designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act" [40 CFR 131.10(j)]. In addition, in accordance with 40 CFR 131.20(a)(1): "Any water body segment with water

²³ Jason Uhley. Riverside County Flood Control and Water Conservation District. Personal Communication, August 2013

quality standards that do not include the uses specified in section 101(a)(2) of the Act shall be re-examined every three years to determine if any new information has become available. If such new information indicates that the uses specified in section 101(a)(2) of the Act are attainable, the State shall revise its standards accordingly.”

6.2 Reassessment Procedures

If UAA Reaches 1a and 1b of Temescal Creek are not designated REC1 and/or REC2, the Regional Board will re-examine this decision every three years as part of the regular Triennial Review process. The focus of this review will be to determine whether there has been any substantial change to the factors supporting the original determination.

In preparation for the Triennial Review, Regional Board staff will visit Reaches 1a and 1b of the Temescal Creek to confirm that the existing hydromodifications and access restrictions remain in place and unaltered. Finally, the Regional Board will solicit any new information concerning actual or potential recreational use of Temescal Creek when public notice is given for the Triennial Review.

If new evidence indicates that recreation in or on the water may be attainable because one or both factors previously precluding the use have changed, the Regional Board may elect to: 1) designate Reach 1a and 1b for REC1 and/or REC2; or 2) require that a new UAA be conducted in order to determine whether Reach 1a and 1b should continue to be de-designated for REC1 and/ or REC2.

The Regional Board retains the authority and discretion to re-examine the issue of appropriate use designations for Temescal Creek more frequently than once every three years when warranted.

7.0 References

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