Environmental analysis and checklist

SUBSTITUTE ENVIRONMENTAL DOCUMENT

Proposed Revision to the existing Nutrient TMDLs for Lake Elsinore and Canyon Lake

Lead Agency:

Santa Ana Regional Water Quality Control Board

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Section 1   
Introduction

As a Lead Agency, the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board or Regional Board) is required to comply with the California Environmental Quality Act (CEQA) when considering amendments to the Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin. Accordingly, this Substitute Environmental Document (SED) has been prepared to address the potential environmental effects of an action involving an amendment to the Basin Plan to revise the existing Nutrient Total Maximum Daily Loads (hereafter referred to as the ‘TMDLs’) for Lake Elsinore and Canyon Lake (Proposed Action). A more detailed description of the Proposed Action is provided in Section 2, and a summary of the overall environmental setting is provided in Section 3.

The SED includes an Environmental Checklist that serves as the basis for a systematic evaluation of the potential for the amendment to result in a significant impact relative to a variety of environmental factors such as biological resources, recreation, water quality and other such topics as presented in Section 4. Section 5 includes a discussion of alternatives to the Proposed Action.

1.1 Regulatory Setting

Pursuant to Section 15251(g) of the State CEQA Guidelines, the Water Quality Control/Section 208 Planning Program of the State and Regional Water Boards is exempt from the requirements of preparing an Environmental Impact Report, Negative Declaration or Initial Study. However, the program is subject to other provisions in CEQA, including the policy of avoiding significant adverse effects on the environment where feasible. This is to be presented in a substitute document which includes, at a minimum, a description of the proposed activities and either: 1) alternatives to the activities and mitigation measure to avoid or reduce any significant or potentially significant effects that the Proposed Action may have on the environment; or 2) a statement that the Proposed Action would not have any significant or potentially significant effects on the environmental as supported by a checklist or other documentation.

Additionally, the Santa Ana Water Board must comply with the State Water Resource Control Board’s regulations on exempt regulatory programs when amending basin plans (California Code of Regulations, Title 23, Section 3775-3782). These regulations require the completion of an Environmental Checklist and a written report that includes: 1) a brief description of the proposed activity; 2) reasonable alternatives to the proposed activity; and 3) mitigation measures to minimize any significant adverse environmental impacts of the proposed activity.

The analysis must consider a reasonable range of environmental, economic, and technical factors, population and geographic areas, and sites. Where specific data are not available, the Santa Ana Water Board may utilize numerical ranges and averages but is neither required nor encouraged to engage in speculation or conjecture. A project-specific level analysis is not required nor is it feasible.

Pursuant to Water Code Section 13360, the Santa Ana Water Board is prohibited from specifying the design, location, type of construction, or particular manner of compliance with waste discharge requirements or other orders. Instead, those entities subject to the proposed Basin Plan amendment are responsible for identifying compliance strategies, and conducting the required CEQA analysis of implementation of the selected strategies at the project-level. Thus, the Santa Ana Water Board cannot conduct project-level CEQA analyses of strategies that would be implemented by others, nor is it required to do so.

Consistent with the State CEQA Guidelines and Water Code Sections identified above, the environmental analysis contained herein includes a written analysis that identifies a reasonable range of reasonably foreseeable compliance strategies (Section 2.3), presents an Environmental Checklist (Section 4), evaluates reasonably foreseeable environmental effects (Section 4) and mitigation measures if applicable, and discusses alternatives to the Proposed Action (Section 5). This analysis takes into consideration a reasonable range of environmental and economic factors, population and geographic areas and sites.

Section 2   
Proposed Action Description

2.1 Background

The Santa Ana Water Board adopted TMDLs for nutrient discharges to Lake Elsinore and Canyon Lake in 2004.[[1]](#footnote-2) The TMDLs became effective when the United States Environmental Protection Agency (EPA) gave it final approval on September 30, 2005. The scientific data and analysis used to justify the TMDLs are summarized in a detailed technical support document prepared by the Santa Water Board staff.[[2]](#footnote-3) The 2004 TMDLs specified numeric targets for Dissolved Oxygen (DO), Chlorophyll-*a*, Ammonia, Total Phosphorus (TP) and Total Nitrogen (TN) concentrations in each lake (see Table 2-3). It also established Load Allocations (LA) and Waste Load Allocations (WLA) to govern the discharge of excess nutrients from non-point sources and point sources, respectively. The 2004 TMDLs included a detailed Implementation Plan which described activities that must be undertaken to meet water quality standards in Lake Elsinore and Canyon Lake. In the decade following EPA's approval, stakeholders throughout the watershed, working together through the Lake Elsinore Canyon Lake (LECL) Task Force, initiated a large number of programs and projects to comply with the requirements set forth in the TMDL Implementation Plan.

Concurrent to the implementation actions, the LECL Task Force also supported a large number of supplemental scientific studies designed to aid the stakeholders in selecting the most effective and efficient management strategies to control nutrient loads in both lakes. These special studies provided additional scientific information that shed light on limitations of the analysis developed to support the 2004 TMDLs, as documented in the petition by the LECL Task Force for the Santa Ana Water Board to reconsider the TMDLs.[[3]](#footnote-4) The petition also referenced changes in the watershed from development and new water quality regulations that should be considered in a revision of the TMDLs. The Santa Ana Water Board reopened the TMDLs to incorporate new scientific information to support water quality targets and allocations that are appropriate and achievable, reflect current land use conditions and account for the large nutrient load reductions that have resulted from Best Management Practice (BMP) implementation, low-impact development (LID) requirements, restrictions on dairy discharges, changes in certain water quality standards (e.g., ammonia), and the in-lake remediation projects that have occurred over the last 10 years.

According to EPA, updating a TMDL to reflect new information will "facilitate better watershed planning and adaptive implementation".[[4]](#footnote-5) In fact, the Santa Ana Water Board believed that regular review and revision is so critical to ultimate success that it adopted an Implementation Plan specifying that the TMDL be “re-evaluated at least once every three years to determine the need for modifying the load allocations, numeric targets or implementation schedule.”[[5]](#footnote-6) Doing so provides reasonable assurance of continued progress toward attainment of water quality standards and protection of beneficial uses in Lake Elsinore and Canyon Lake.

2.2 Proposed Action

The proposed action involves adoption of revised TMDLs for Lake Elsinore and Canyon Lake. This involves revised numeric targets for water quality within the lakes (see Staff Report Section 3: Numeric Targets) and LAs and WLAs (see Staff Report Section 6: Allocations) to govern the discharge of excess nutrients from non-point sources and point sources, respectively. The scientific basis for these proposed revisions to the TMDL numeric targets and allocations are summarized in the following sections. Other sections in the Staff Report characterize water quality and use impairment (Staff Report Section 2: Problem Statement), estimate the current loading of nutrients to be reduced from non-point sources and point sources (Staff Report Section 4: Source Assessment), and describe the water quality models used to translate nutrient loads to the lakes to expected water quality within the lakes (Staff Report Section 5: Linkage Analysis). Complete descriptions of how the scientific data were used to develop revised numeric targets and allocations is provided within the Staff Report.

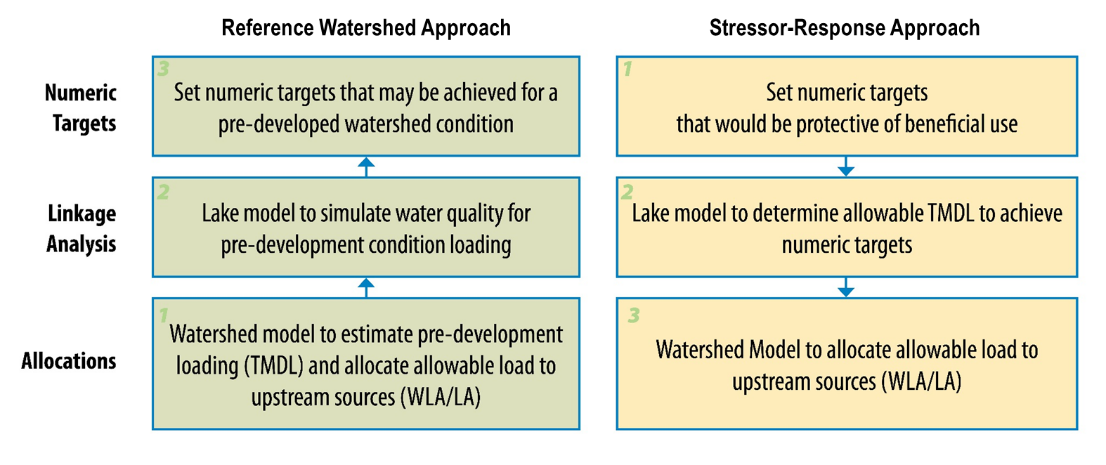
The 2004 TMDLs and the proposed TMDLs Revision involve very different approaches in developing allocations (Figure 2-1). A stressor-response approach was employed in developing the 2004 TMDLs, which first identified the in-lake water quality numeric targets that would be protective of designated uses. The linkage analysis determined the nutrient load that can be allowed without exceeding these numeric targets. The proposed TMDLs Revision operate in the reverse order, by first constraining the allowable nutrient loads to the lakes to achieve levels representative of a reference condition. The linkage analysis determines expected in-lake water quality response for a reference condition in the watershed.

Figure 2-1 Alternative Approaches to TMDL Development

### 2.2.1 Numeric Targets

Lake Elsinore and Canyon Lake are impaired for the warm freshwater aquatic habitat (WARM) and water contact and non-water contact recreation (REC1 and REC2, respectively) beneficial uses. Canyon Lake is considered impaired for WARM, REC1, REC2 and Municipal and Domestic Water Supply (MUN) uses. A TMDL establishes numeric targets to provide a basis for demonstrating attainment of water quality objectives (WQOs) and protection of impaired beneficial uses. That is, achievement of the numeric target(s) is expected to result in the waterbody of concern no longer being impaired. Where the water quality objective(s) are narrative, the TMDL translate narrative water quality objective into appropriate response targets to assure attainment of the objective.

Table 5-9n in the 2004 TMDL presents the numeric targets for Lake Elsinore and Canyon Lake for interim (2015) and final (2020) compliance timelines. [[6]](#footnote-7) The Staff Report for the TMDLs describes the scientific basis used to determine these targets, including several important areas for further study including; 1) the applicability of DO to the entire water column, 2) the relationship between the TN target and ammonia toxicity, and 3) evaluation of in-lake BMP effectiveness in both lakes.[[7]](#footnote-8) The LECL Task Force implemented numerous studies to address these important research needs specified in the 2004 TMDLs. These study findings provide the level of additional scientific understanding for the Santa Ana Water Board to revise the numeric targets for Lake Elsinore and Canyon Lake (Main Lake and East Bay).

The primary objective in the development of revised numeric TMDL targets is to establish water quality conditions that are equal to or better than what would occur in the lakes if the watershed was returned to a reference condition (i.e., pre-development). To accomplish this objective, long-term hydrologic simulations of external loading for a reference condition (see Staff Report Section 4: Source Assessment for hydrologic model and Section 6: Allocations for reference condition load estimate) were input to dynamic lake water quality models capable of simulating spatially varying in-lake water quality (see Staff Report Section 5: Linkage Analysis). Modeling results were expressed as cumulative distribution functions (CDFs) to develop new TMDL numeric targets accounting for large range of temporal and spatial variability (see Staff Report Section 3: Numeric Targets). The use of a reference watershed approach for developing TMDL numeric targets is consistent with EPA guidance, as demonstrated in Staff Report Section 3. Differences in the estimation approach and resulting numeric targets between the 2004 TMDLs and the proposed TMDLs Revision are summarized below:

Response targets parameters

The 2004 TMDLs set numeric targets to characterize the narrative WQOs for excess algae using a response target for chlorophyll-*a* and causal targets for TP and TN. The proposed TMDLs Revision only provide a response target for chlorophyll-*a*, a direct measure of algae concentration. Both the 2004 TMDLs and proposed TMDLs Revision contain numeric targets for DO and ammonia that rely on numeric WQOs in the Basin Plan for protection of the WARM use.

Temporal resolution

The 2004 TMDLs set numeric targets for response targets based on a static condition in both Lake Elsinore and Canyon Lake present in 2000-2001, assumed to represent a ‘reference’ state for Lake Elsinore and thereby Canyon Lake. The proposed TMDLs revision creates frequency-based numeric targets, expressed as CDFs, that account for the dynamic hydrology of the watershed and impoundment operation in the San Jacinto River watershed. While it is not possible to quantitively compare seasonal or annual average targets with CDF-based targets, the proposed TMDL numeric targets allow for higher concentrations of chlorophyll-*a* most of the time in Lake Elsinore and lower concentrations most of the time in Canyon Lake Main Lake and Canyon Lake East Bay.

Spatial resolution

The 2004 TMDL set numeric targets for DO that apply to the entire water column, including   
1 meter from the lake bottom in Lake Elsinore and a hypolimnion average for Canyon Lake, but specifically identified the need for better scientific understanding of seasonal differences that may result in DO variations associated with stratification in the lakes and relationship between nutrient input and DO levels in the lakes. The TMDLs Revision employed coupled water quality and hydrodynamic models to evaluate the role of naturally occurring thermal stratification on DO concentrations in Lake Elsinore and Canyon Lake for nutrient inputs representative of a reference watershed condition. The proposed TMDL numeric target for DO allows for a portion of the lake volume to have DO concentrations less than 5 milligram per liter (mg/L), the numeric WQO in the Basin Plan, as would occur naturally.

### 2.2.2 Allocations

Allocations in the TMDL distribute the allowable nutrient loads to each lake segment that would result in achieving the numeric targets. The proposed TMDLs Revision involve different methodologies to estimate both current and allowable nutrient loads from the 2004 TMDLs. The fundamental change in the TMDL development process from a stressor-response to a reference watershed approach yields different allowable loads and upstream allocations. In the 2004 TMDLs, allocations were estimated as the external nutrient load that would achieve the in-lake nutrient numeric targets determined to be protective of uses. The full details are provided in the technical staff report for the 2004 TMDLs.[[8]](#footnote-9) Conversely, the proposed TMDLs revision begins by computing allowable nutrient loads for a reference watershed, then evaluating downstream water quality response to set numeric targets. Concentration of nutrients in runoff from a reference watershed were estimated from monitoring conducted from the San Jacinto River at Cranston Guard Station, which is a watershed that is primarily undeveloped. This water quality data serves as the basis for all allocations for point and non-point sources in the proposed TMDLs Revision, and results in a reduction to the total allowable nutrient loading to Lake Elsinore and Canyon Lake. The reduced allocation is a function of an error made in the linkage analysis of the 2004 TMDLs, as described below.

The linkage analysis developed to translate in-lake nutrient targets to allowable watershed loads for the 2004 TMDLs involved a flow-weighted average runoff inflow to the lakes based on representative hydrologic years (1994 as ‘moderate’, 1998 as ‘wet’, and 2000 as ‘dry’). A significant error was made in calculating this flow-weighted loading that would be protective of the TMDL numeric targets. The calculation of runoff volume inflow to Lake Elsinore used 133,981 acre-feet per year (AFY) for the ‘wet’ year, but the United States Geological Survey (USGS) gauge measured 17,230 AFY in 1998. This error also impacted the calibration of runoff inflows to Canyon Lake for 1998 hydrologic conditions. Allocations to both lakes were significantly greater than intended because of this error. This was later confirmed by Anderson (2012)[[9]](#footnote-10) in an evaluation of a ‘TMDL-prescribed external loads reduction’ scenario for Canyon Lake using the DYRESM-CAEDYM model. Results show that in-lake nutrient concentrations consistently exceeded the 2004 TMDL numeric targets when external loads are reduced to the allocated allowable mass. The linkage analysis error creates the unusual condition whereby the proposed TMDLs Revision would reduce allowable nutrient loads, presumably improving downstream water quality with the new allocations, but make some numeric response targets less stringent than the 2004 TMDLs.

### 2.2.3 Required Load Reductions

The difference between allocations and current nutrient loads (Staff Report Section 4: Source Assessment) amounts to the reduction in nutrients that must be achieved from all sources to comply with the TMDLs. The basis for making changes to the allocations is described above. Key differences for estimation of current loads include:

Land use change

Land use change in the watershed has occurred with development. Many developments also included LID BMPs. The proposed TMDLs Revision rely on a watershed model that accounts for land use mapping updated in 2014.

Mass emission data

The 2004 TMDLs had limited nutrient mass emission data at the inflows to Lake Elsinore and Canyon Lake. USGS operated a flow gauge to record flows in the San Jacinto River coming into Lake Elsinore, which consists of predominantly overflows from Canyon Lake following the construction of Railroad Canyon Dam in 1929. Water quality samples were collected from four storm events in January through March 2001 to support the source assessment for the 2004 TMDLs. Flow gauges at the key inflows to Canyon Lake (San Jacinto River at Goetz Road and Salt Creek at Murrieta Road) were brought online in 2000. These data provided a limited record to support the 2004 TMDLs. In 2007, the watershed monitoring program was developed to collected wet weather water quality data at the inflows to each lake segment. To date, this program in conjunction with ongoing operation of co-located USGS gauges, has amassed water quality mass emission data for 35 storm events between 2007 and 2017. These events represent the majority of wet weather in the San Jacinto River watershed over the past decade. The source assessment in the proposed TMDLs revision employs a data driven approach based on a recent (2012-2017) subset of this data (see Staff Report Table 4-6) to determine current nutrient loads to be reduced to allocations.

Runoff retention within upper watershed

A portion of watershed runoff from drainage areas in the upper watershed is retained within downstream conveyances prior to reaching the lake inflows, including unlined channel bottoms and within storage basins. The major unlined channel segments that infiltrate upstream runoff include Salt Creek, San Jacinto River, and Perris Valley Channel. Runoff is also retained in Menifee Lakes. The proposed TMDLs Revision account for these losses in estimation of current loads by jurisdictional areas.

Mystic Lake

Watershed runoff in the upper San Jacinto River is captured in Mystic Lake, a large shallow depression in the San Jacinto River valley. Mystic Lake has a storage capacity of approximately 17,000 acre-feet (AF), which is sufficient to retain all runoff from the upper watershed in most years. Given the high efficiency for retaining runoff, there are few data to understand how much runoff overflows Mystic Lake in extreme events. The most recent known overflow occurred in 1998, about five years prior to analysis for the 2004 TMDLs. No data on the volume of this overflow was recorded (USGS gauge at Ramona Expressway installed in 2001). The source assessment for the 2004 TMDLs did include a storage element in the watershed model.[[10]](#footnote-11) The lack of any overflow since the 2004 TMDLs were adopted, including following the 2004-2005 wet season, has provided additional understanding of the retention capacity. The proposed TMDLs Revision include an updated reservoir water budget analysis to approximate the volume of overflow in a given wet season as a function of key water budget components of runoff inflow (*R*), available storage capacity (*S*), and dry season losses (*E*). The estimate of runoff inflow includes factors to account for upstream retention at Lake Hemet and groundwater recharge by Eastern Municipal Water District (EMWD) in spreading grounds (Staff Report Figure 4-8). Accordingly, the portion of downstream nutrient load attributable to drainage areas upstream of Mystic Lake is reduced in the proposed TMDLs revision.

Loads from CAFOs

At the time when the 2004 TMDLs were under development, the National Pollutant Discharge Elimination System (NPDES) permit for Concentrated Animal Feeding Operations (CAFOs) had been adopted and dairies were beginning efforts to comply with the new requirements. The 2004 TMDL source assessments did not make any assumptions about compliance with the new requirements for CAFOs to retain on-site all runoff from storms up to the 25-year, 24-hour return period. The proposed TMDLs Revision recognize the efforts made by CAFOs in the watershed to comply with this on-site retention requirement of the NPDES Permit. As a result, the portion of downstream nutrient loads attributed to runoff leaving CAFO land areas is dramatically reduced in the proposed TMDLs Revision.

Loads from Septic Systems

An important source of nutrients quantified in the 2004 TMDLs was failing septic systems, which required rough assumptions about failure rates and how wet weather conditions mobilize incompletely treated sewage. Septic systems were given a separate LA, which was ultimately combined with the WLA for urban sources and included in the 2010 NPDES permit for MS4s in the watershed. The proposed TMDLs Revision change the way potentially failing septic systems are evaluated by using water quality monitoring data from a site downstream of a residential area with septic systems (Riverside County Flood Control and Water Conservation District Station 834). Results are used to estimate nutrient washoff from a new land use category for ‘residential-septic.’ Based on this approach, current loads and allocations associated with septic systems are parsed by jurisdictional areas. This change as well as expansion of sewer service areas since 2004 has dramatically reduced the portion of downstream nutrient loads attributed to potentially failing septic systems in the proposed TMDLs Revision.

2.3 Identification of Reasonably Foreseeable Methods of Compliance

As discussed previously, while the Santa Ana Water Board cannot specify the particular manner of compliance, with orders it adopts, the analysis conducted for this SED must address possible environmental impacts of the reasonably foreseeable methods of compliance, taking into account a range of environmental, economic, and other factors.

For more than 30 years Lake Elsinore has been managed to stabilize the lake level with a targeted surface elevation of 1,240 feet. This management strategy is contrary to the natural condition, which results in a periodically dry lake (see Staff Report Section 2: Problem Statement). Managing the lake to keep it “wet” changes the water quality dynamics of the lake not only for nutrients but other constituents such as salinity and DO. Regardless, a wet-lake management strategy ensures support of existing recreational beneficial uses. The program of implementation under the revised TMDLs proposes to continue this lake management approach.

TMDL implementation in Lake Elsinore and Canyon Lake has been occurring since 2005 after the effective date of the original TMDLs. Two general strategies are being employed: (1) reduction of external nutrient loads to achieve WLAs and LAs and in turn response targets; and (2) implementation of water quality controls that directly affect the response targets in the lakes.

Existing and ongoing implementation activities for each lake and their respective watersheds have spanned both of these strategies, including (1) implementation of external nutrient controls for urban and agricultural sources; and (2) application of direct controls to manage algae, nutrients, oxygen, and/or hydrology within the lakes. The current strategies being implemented have resulted in water quality improvements, however, the 2004 TMDL response targets continue to be exceeded despite ongoing implementation of water quality controls.

The potential need for supplemental projects will be evaluated within three years of TMDL adoption and then iteratively thereafter following compliance demonstrations made in five-year increments. Multiple options were conceptualized to provide reasonably foreseeable methods of compliance that could be employed in an adaptive implementation framework (see Section 2.3.2.1 below). The supplemental project considered are the same, or similar to, projects that could be implemented under the current TMDLs. In fact, many of the possible reasonably foreseeable methods of compliance are already being implemented.

Accordingly, existing water quality controls described in Section 2.3.1 below may continue to be implemented and maintained whether or not the proposed TMDLs revisions are adopted. Further, the TMDLs revisions are not anticipated to substantially change the manner or type of water quality controls that are implemented in the future, described in Section 2.3.2 below and in greater detail in Section 7 of the Staff Report.

2.3.1 Continued Implementation of Existing Water Quality Controls or Equivalent

Since adoption of the original TMDLs the implementation of nutrient management programs through discharge permits, water quality management programs and operation of engineered BMPs have resulted in improved water quality in both Lake Elsinore and Canyon Lake. These projects and programs should continue to be implemented and, where appropriate, updated to incorporate the latest available, relevant information. However, per Section 13360(a) of the California Water Code, the Board cannot specify the method of compliance with a regulatory requirement, including TMDL WLAs or LAs. As such, going forward the entities responsible for TMDL compliance will need to determine the best method, such as selection of BMPs or participation in an offset program, to achieve compliance with the requirements of the revised TMDLs. This approach is the same as would have been expected to occur under the existing TMDLs, and thus, the Proposed Action would not trigger the need for new foreseeable compliance methods.

The variety of methods that are in place and being implemented in an effort to achieve compliance with the existing TMDLs, include:

2.3.1.1 External nutrient load controls

* A Comprehensive Nutrient Reduction Plan (CNRP) for Lake Elsinore and Canyon Lake was developed by MS4 permittees per the requirements established in their MS4 permit and approved by the Santa Ana Water Board in 2013. The CNRP includes implementation of BMPs such as street sweeping and debris removal, septic system management, and new stormwater management requirements for certain development projects. CNRP implementation has also involved implementation of significant in-lake controls described in the following section.
* An Agricultural Nutrient Management Plan (AgNMP) for agricultural operators in the watershed prepared by the Western Riverside County Agricultural Coalition (WRCAC) was submitted to the Santa Ana Water Board in 2013. The AgNMP requires agricultural operators to implement BMPs to control, minimize, or eliminate pollutant discharges from their agricultural operations to surface and ground waters. Watershed BMPs implemented have included elimination of manure spreading, berms to retain runoff on-site, and winter crop rotations to provide buffers during wet weather. AgNMP implementation has also involved implementation of significant in-lake controls described in the following section.

2.3.1.2 In-lake Water Quality BMPs

The LECL Task Force continues to implement in-lake BMPs within Lake Elsinore and Canyon Lake. These are described in detail within Section 7: Implementation of the Staff Report, and summarized below:

* Alum addition in Canyon Lake – The LECL Task Force has been implementing a large-scale alum application program in Canyon Lake since 2013. Aluminum sulfate (‘alum’) binds with phosphorus thereby preventing excess algae growth in the lake. As of February 2018, approximately 1500 metric tons of alum have been applied and an estimated 10,000 kilograms (kg) (22,000 pounds [lb]) of phosphorus have been neutralized. Application of alum currently occurs semi-annually.
* Lake Elsinore Management Project (LEMP) – This project entailed the construction of a levee to reduce the surface area of the lake and thereby evaporative losses, to improve water quality as well as provide sustained recreation opportunities.
* Supplemental Water Addition -. The Elsinore Valley Municipal Water District (EVMWD) continues to discharge tertiary treated effluent to Lake Elsinore to maintain lake levels, amounting to a total volume of ~50,000 AF since 2002. While the addition of water stabilizes lake water levels and improves water quality, variations in the lake level and water quality can still be substantial. However, hydrologic models for Lake Elsinore suggest complete lakebed desiccation would likely have occurred in 2015 without EVMWD reclaimed water discharges.
* Lake Elsinore Aeration and Mixing System (LEAMS) – This project relies on a combination of slow turning propellers submerged in the lake and shoreline compressors that disperse air from pipelines anchored to the bottom of the lake to circulate water.
* Fishery Management – Program to reduce the carp population.

While the Santa Ana Water Board cannot specify the method of compliance, it is anticipated that the above management strategies, or equivalent, would continue to be implemented under an overall phased implementation framework.

### 2.3.2 Additional Implementation Actions

The following subsections provide information regarding TMDL implementation actions that are anticipated to occur in addition to the continued implementation of the existing water quality controls or the equivalent discussed in Section 2.3.1.

2.3.2.1 Implementation of Supplemental Water Quality Controls

The existing water quality controls, or equivalent, as described in Section 2.3.1 are planned for implementation under an overall phased TMDL implementation framework. As part of implementation of the revised TMDLs, the responsible entities with WLAs and LAs would evaluate the preference for alternative controls or need for additional controls. As previously described, such supplemental water quality controls could be implemented under both the existing TMDLs and the revised TMDLs. Therefore, the revised TMDLs are not anticipated to substantially change the manner or type of water quality controls that are implemented in the future, and thus, the Proposed Action would not result in the need for additional supplemental water quality controls than would otherwise occur. Therefore, the supplemental water quality controls are not being considered directly in response to the Proposed Action.

Listed below and described in greater detail in Table 2-1 are the potential supplemental water quality controls that will be considered for implementation in the future (see also Section 7 of the Staff Report):

* Mystic Lake drawdown
* Additional EVMWD Effluent Treatment
* Alum additions to wet weather inflows
* Increased recycled water additions
* Enhanced watershed and sediment debris capture
* Treatment wetlands
* Oxygenation
* Dredging
* Indirect potable reuse
* Vegetation management
* Ultrasonic algae control
* Algaecide application
* Physical harvesting
* Lake Elsinore Advanced Pumping System (LEAPS)

The implementation program for the revised TMDLs does not specify which, if any, of the listed supplemental water quality controls will be implemented, only that these are projects for further consideration. Entities subject to the proposed Basin Plan amendment are responsible for conducting the required CEQA compliance documentation for implementation of any of these potential controls at the project-level. Should these, or other supplemental water quality controls be implemented in association with the existing TMDLs or the revised TMDLs, a project specific environmental review pursuant to CEQA would be conducted by the lead agency (i.e., the agency that will carry out the supplemental project). Any potential project specific environmental impacts would be addressed during that process.

Table 2-1 Potential Supplemental Water Quality Controls

| **Project** | **Action** | **Waterbody** | **Description** | **Water Quality Benefits** | **Potential Constraints & Limitations** |
| --- | --- | --- | --- | --- | --- |
| Mystic Lake Drawdown | Hydrologic flushing | Lake Elsinore, Canyon Lake (Main/ East Bay) | Mystic Lake is a sump that captures all runoff from the upper SJR watershed via a breach in the levee on the north side of the river near Bridge Street. Most runoff that does reach Mystic Lake is retained and subsequently lost via evaporation. The most recent overflow to Canyon Lake occurred in 1998. Few data exist on the flow that reaches Mystic Lake, but the watershed model estimates ~3,000 AFY, with many years having zero volume inflow and many years with over 10,000 AFY. While intermittent, this water may have a significant value for EVMWD water supply (at Canyon Lake) and for water quality in both lakes (providing both flushing and dilution). A potential project would involve pumping and conveying the stored runoff out of Mystic Lake (bottom elevation 1408' to the overflow channel leading to the lower SJR (invert elevation 1,423 feet). | * Flushing of nutrients and phytoplankton out of Canyon Lake * Increasing water levels and dilution of TDS in Lake Elsinore | * Intermittent source of water, further reductions of inflows could occur with increased upstream capture * Impacts to waterfowl and other wildlife * Determination of appropriate increased diversions for EVMWD's treatment plant * Subsidence could impact facilities over time |
| Additional EVMWD Effluent Treatment | Phosphorus removal | Lake Elsinore | While EVMWD already treats wastewater to a very nutrient concentration, further polishing with additional alum additions could provide even lower concentrations of phosphorus in reclaimed water additions | Reduction of TP in water column | * Less efficient phosphorus removal when treating water with low initial concentrations * Ensure chemical additions do not conflict with other WWTP processes |
| Alum Addition to Wet Weather Inflows | Phosphorus removal | Lake Elsinore, Canyon Lake (Main/East Bay) | An alternative delivery method for alum additions could involve a small chemical feed storage and deliver system at the two inflows to Canyon Lake. This would treat bioavailable phosphorus immediately as it arrives in the lake and provide a better flocculation with lower pH of wet weather runoff. | Reduction of TP in water column | * Requires on-site chemical storage of low pH material * Outdoor chemical feed system may be susceptible to damage by high flows, wind or vandalism |
| Increased Recycled Water Additions | Hydrologic flushing/ dilution | Lake Elsinore | EVMWD currently discharges up to 7.5 of its 8 million gallons per day (mgd) capacity to Lake Elsinore. Phase 1 of the wastewater treatment plant (WWTP) expansion will allow for discharge of up to 9.0 mgd to Lake Elsinore by 2020, a rate estimated to provide sufficient capacity to maintain at water level of 1240' over the long term. Increased recycled water addition will dilute TDS during periods of drought, and increase habitat for submerged vegetation and fish. | Reduction in TDS, aquatic habitat, indirect controls on nutrient cycling and algae | * Agreement to ensure up to 9.0 mgd will be discharged to Lake Elsinore in perpetuity |
| Enhanced Watershed Sediment and Debris Capture | Phosphorus and nitrogen reduction | Lake Elsinore, Canyon Lake - Main Lake and East Bay | The State Water Board established a statewide trash management policy in 2015 applicable to all inland surface waters (State Water Board 2015). Depending upon land use, the provisions in the statewide policy require deployment of full capture (> 5 millimeter diameter) systems or allow for a combination of controls to achieve equivalent capture. Implementation is anticipated to occur over a 10-year period by municipal separate storm sewer systems (MS4) permittees within each lake’s watershed following the policy’s effective date. In addition to reduced trash, it is expected that policy implementation will result in other water quality benefits. | Reduction of TP and TN in water column | * None; program required for implementation through MS4 Program |
| Treatment Wetlands | Phosphorus & nitrogen reduction | Lake Elsinore | The Back Bay wetlands were created as part of the LEMP project to provide habitat areas. Use of the wetlands for water quality treatment was not the objective of the current facility and therefore there is negligible nutrient removal achieved. A project could be developed to modify the wetlands to provide increased residence time and greater nutrient reduction. | Reduction of TP and TN in water column | * Nutrient reduction in wetland system is uncertain * Longer residence time needed for nutrient removal may require larger wetland footprint |
| Oxygenation | DO control, phosphorus & nitrogen reduction | Canyon Lake (Main) | Oxygenation involves the direct addition of oxygen to the lake bottom waters in Canyon Lake Main Lake during periods of thermal stratification. The oxygen would reduce anoxic conditions in the lake bottom and thereby limit the internal loading of nutrient to the water column | Reduction of TP and TN in water column | * Low DO in hypolimnion of Canyon Lake occurs in reference condition * Requires large scale on-site oxygen storage |
| Dredging | Phosphorus & nitrogen reduction | Canyon Lake (Main/East Bay) | Dredging involves the physical removal of lake bottom sediments. This is a very effective way to reduce the pool of mobile nutrients within the lake bottom. | Reduction of TP and TN in water column | * Dredging is very costly * Disposal of sediment may require hauling |
| Indirect Potable Reuse | Hydrologic flushing | Canyon Lake (Main/East Bay) | EVMWD may consider using Canyon Lake as an environmental buffer to allow for potable reuse of advanced treated reclaimed water. Advanced Wastewater Treatment (AWT) water would be discharged at the upstream end of the lake to maximize residence time prior to reaching the drinking water treatment plant intake. AWT water would serve to dilute ambient water in the lake as well as create additional flushing of water when overflows are not occurring. | Reduction of TP and TN in water column; flushing of nutrients and phytoplankton out of Canyon Lake | * Water quality in the lake may limit the amount of reclaimed water that can be diverted for potable supply. * Operation of the system during the wet season may be less reliable given water quality and capacity limitations. |
| Vegetation Management | Algae control | Lake Elsinore, Canyon Lake (Main/East Bay) | Establishment of submerged aquatic vegetation that will take up nutrients and release oxygen to the water column. Macrophytes can compete for limited nutrients and light with algae thereby providing another control on algae growth. | Reduction of TP and TN in water column, control of algae growth | * Macrophytes may not get established. * Water level fluctuations can kill vegetation by either desiccation or drowning. |
| Ultrasonic Algae Control | Algae control | Canyon Lake (East Bay) | Devices can be deployed that will kill algae within a 50-foot radius by sonication | Control of algae growth | * Sonication is effective over a small area and may require too many devices to impact larger zones. * Impact to other aquatic species could become an important consideration |
| Algaecide Application | Algae control | Canyon Lake (Main/East Bay) | Algaecides may be effective in controlling algae blooms as they begin to occur | Control of algae growth | * Repeated use of some algaecides can cause elevated levels of toxins in the lake bottom * Nutrients are not addressed and therefore new algae blooms may arise shortly after an algaecide treatment |
| Physical Harvesting | Algae control | Lake Elsinore, Canyon Lake (Main/East Bay) | Skimmers and other tools can be used to physically remove algae from the surface of the lake | Control of algae growth | * Labor intensive * Nutrients are not addressed and therefore new algae blooms may arise shortly after physical removal |
| LE Advance Pumped Storage (LEAPS) | Hydrologic flushing, DO control | Lake Elsinore | Construction of a 200-foot tall dam and new 50 to 100-acre concrete lined reservoir with a spill elevation of ~2,800 feet in the Cleveland National Forest southwest of Lake Elsinore. On average, 5,000 AF of water would be pumped from Lake Elsinore in the evening during periods of low energy demand. Return of the water would generate hydroelectric power in turbines between the new 'upper' reservoir and Lake Elsinore, the 'lower' reservoir. | Control of algae growth, reaeration, potential to reduce Phosphorus with additional treatment | * Potentially numerous regulatory challenges to obtain approval |

2.3.2.2 Actions Recommended for Implementation by Other Agencies

The Santa Ana Water Board will work with the United States Department of Agriculture/United States Forest Service (USFS) on revisions to, or implementation of, the San Bernardino National Forest and the Cleveland National Forest Management Plans to manage the discharge of nutrients from federally-owned lands to reduce nutrient loads. Nutrient loads should be reduced to the maximum extent practicable to the expected nutrient load from the watershed reference condition. In addition, when wildfire occurs, BMPs shall be actively implemented on federally owned lands to minimize downstream water quality impacts from mobilized nutrients. Required revisions to USFS Management Plans shall be completed within three years of the effective date of the revised TMDLs.

Such actions are the same, or similar to, projects that could be implemented under the current TMDLs to better achieve compliance with the requirements. Thus, the proposed TMDLs revisions are not anticipated to substantially change the manner or type of water quality controls recommended for implementation by other agencies that may be put into place in the future.

2.3.2.3 Evaluation of Technical Basis of Assumptions in Revised TMDLs

The revised nutrient TMDLs are based on assumptions developed from numerous technical studies that have been completed during or since adoption of the original TMDLs in 2004. It is recommended that responsible entities consider implementation of the following specific studies or implement other special studies where deemed necessary to support implementation. The implementation of additional studies is not anticipated to trigger new foreseeable methods of compliance that are different from those identified in Section 2.3.2.1 above. However, should any substantially different water quality controls be identified in the studies, such water quality controls are too speculative to be considered in this SED and would be subject to project-specific CEQA review in the future.

Reference Watershed Nutrient Loads

To establish nutrient concentrations representative of a reference watershed, the revised TMDLs rely on water quality data from the San Jacinto River at Cranston Guard Station monitoring site. Other grab samples from undeveloped canyon sites in the San Jacinto watershed support the estimated values for TP and TN from undeveloped watersheds represented by the Cranston Guard Station. To establish a larger dataset to validate the representation of reference nutrient concentrations in the San Jacinto River watershed, it is recommended that the responsible entities research options for selection of additional watershed reference sites. As part of this research, a special study could be conducted to identify best locations for inclusion in the watershed monitoring program including the original Cranston Guard Station site. Any final selected sites would be incorporated in the San Jacinto River Watershed monitoring program.

Other Special Studies

Stakeholders may implement special studies on an as needed basis to provide supporting data for anticipated technical or regulatory outcomes. These studies may be deemed necessary to verify assumptions in the revised TMDLs or refine understandings of watershed or lake dynamics, such as with regards to nutrients, or update lake models. For example, wildfire has been implicated as a potential source of increased nutrients in the watershed. Studies could be developed to further understand the role of wildfire in establishing background or reference nutrient conditions in the watershed. Where a special study is recommended for implementation, a workplan, budget and schedule will be developed for consideration by the LECL Task Force.

2.3.2.4 Development and Implementation of Revised Monitoring and Reporting Program

After the revised TMDLs become effective, the entities responsible for compliance with WLAs or LAs in each lake should revise the existing Monitoring and Report Program, as needed. The modifications may include variations in the frequency or location of monitoring and the water quality parameters analyzed, and increased use of satellite imagery (see Section 8 of the Staff Report for additional details).

Section     
Environmental Setting

3.1 Surrounding Land Uses and Setting

Lake Elsinore and Canyon Lake lie within the San Jacinto River Watershed (see Figure 3-1), an area encompassing approximately 780 square miles in the San Jacinto River Basin. Located approximately 60 miles southeast of Los Angeles and 22 miles south of the City of Riverside, the San Jacinto River Watershed lies primarily in Riverside County with a small portion located within Orange County.

Area climate is characterized as semi-arid with dry warm to hot summers and mild winters. Average annual precipitation in the entire Lake Elsinore/Canyon Lake watershed area is approximately 11 inches occurring primarily as rain during winter and spring seasons. Within just the upper portion of the watershed that drains to these lakes, the precipitation averages 18.7 inches annually. Historically, land use development in the San Jacinto River watershed has been associated with agricultural activities. However, a continual shift from agricultural to urban land use has been occurring for many years.

Following is summary of Lake Elsinore and Canyon Lake, including information on surrounding land uses, water quality, and biological conditions. Section 2 of the Staff Report provides additional detail, including a background on the lakes’ history, historical and current water quality, and the biological characteristics.

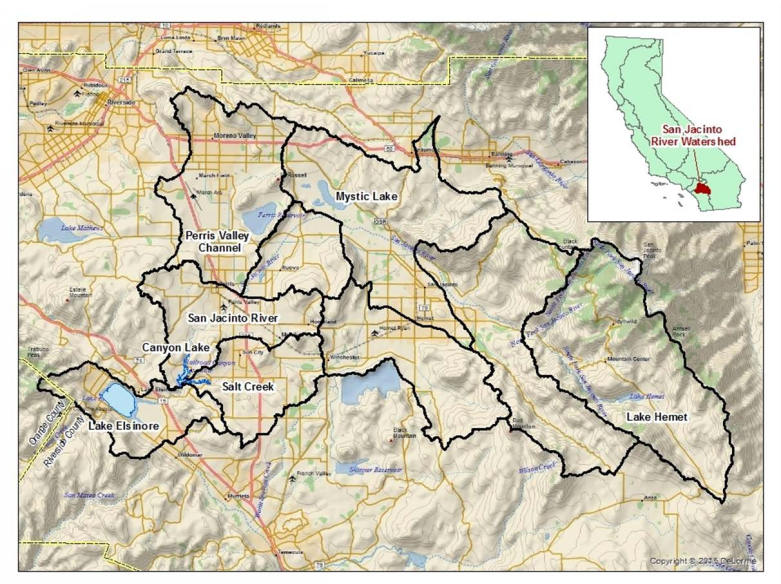


Figure 3-1 San Jacinto Watershed

### Lake Elsinore

Lake Elsinore is the largest natural lake in Southern California. Originally, at a lake elevation of 1,260 feet the surface area of the lake was approximately 5,950 acres with an average depth of 21.5 feet). Under historical natural conditions, Lake Elsinore periodically became a dry lakebed, eliminating aquatic life as well as opportunities for recreation. Under current conditions, the lake continues to experience significant fluctuations in lake levels that effect the attainability of beneficial uses in the lake.

Lake Elsinore is within the City of Lake Elsinore and also adjacent to the community of Lakeland Village in unincorporated Riverside County along the southwestern shore. Land uses surrounding the lake include recreational uses along the shoreline (such as parks, beaches, boat launch, and camping areas). Other uses in the vicinity primarily consist of residential and commercial development, except for the eastern side of the Lake which is open space. Lake Elsinore is identified in the County of Riverside Elsinore Area Plan as posing a flood hazard. A boundary line has been established around the lake at an elevation of 1,260 feet above mean sea level that limits the construction of any new development.[[11]](#footnote-12)

Formerly a State Recreation Area, the Lake and adjoining recreational area was transferred to City of Lake Elsinore in 1993 under the condition that it be used for a public park and recreational purposes in perpetuity. Recreational uses at the Lake include boating, jet skiing, water skiing, wake boarding, kayaking and fishing (in some areas).[[12]](#footnote-13)

As a result of modifications to the Lake, particularly the Lake Elsinore Management Project (LEMP) implemented in the 1980s, Lake Elsinore today now has current approximate surface area of 3,000 acres (approximately 50 percent of original surface area), average depth of approximately 13 feet, and a maximum depth of approximately 27 feet. Monitoring data indicate that with the exception of periods of stratification Lake Elsinore is typically well-mixed with a limited thermocline.

While one of the key outcomes of LEMP was to stabilize lake water levels, variations in the lake level and water quality can still be substantial in Lake Elsinore due to seasonal fluctuations and alternating periods of drought and heavy rains during El Niño conditions. To mitigate this concern, EVMWD has provided an average of 3,600-AFY of supplemental makeup water since 2007 to maintain lake levels. Sources of supplemental water since 2007 include EVMWD reclaimed water (~ 95 percent of total input) and production from non-potable wells on islands in the lake (~ 5 percent of total input).

During the most recent dry period prior to the winter of 2016-2017, modeling analyses indicate that Lake Elsinore would have been completely dry in 2015 to present day. LEMP coupled with inputs of supplemental water have been successful in avoiding lakebed desiccation or extremely low lake levels, despite the recent period of severe drought.

The Santa Ana Water Board first listed Lake Elsinore as impaired in 1994, based on a historical record of periodic fish kills and excessive algae blooms in the lake since the early 20th century. This listing remains in place on the most recently approved impaired waters or 303(d) list for the region[[13]](#footnote-14) and includes unknown toxicity, nutrients, organic enrichment/low DO and sedimentation/siltation. Uses impaired include WARM, REC1 and REC2. Based on these impairments the Santa Ana Water Board developed nutrient-based TMDLs. During TMDL development, the first Problem Statement developed in 2000 identified hypereutrophication as the most significant water quality problem affecting Lake Elsinore.[[14]](#footnote-15) In 2004, a final Problem Statement was developed that included information from the 2000 Problem Statement and findings from a number of newly completed studies as referenced in the document.[[15]](#footnote-16) These findings provided additional information with regards to the basis for impairment. Specifically, hypereutrophic conditions arise due to nutrient enrichment (phosphorus and nitrogen) resulting in high algal productivity (mostly planktonic algae). Algae respiration and decay depletes available water column oxygen, resulting in adverse effects on aquatic biota, including fish. In 2004, the Problem Statement documented what was known with regards to reported algal blooms and fish kills, which have been documented since early last century. The decay of dead algae and fish also produces offensive odors and an unsightly lakeshore, adversely affecting use of the lake for recreational purposes. In addition, massive populations of algal cells in the water column cause high turbidity in the lake, making the water an uninviting murky green color at times.

Lake Elsinore has a highly variable fishery, with periodic fish kills and intervals of low diversity. The lake has experienced periods of high densities of Common Carp (*Cyprinus carpio*) and a low abundance of sport fish as well as periods of increased fish diversity associated with higher densities of sport fish. Historically, the native Arroyo Chub (*Gila orcuttii*) existed in the lake; however, Lake Elsinore is now a managed fishery with regular stockings of a variety of fish primarily for the purpose of recreational fishing. Stock fish species have included, but are not limited to, Largemouth Bass (*Micropterus salmoides*), Channel Catfish (*Ictalurus punctatus*), Black Crappie (*Pomoxis nigromaculatus*), Bluegill (*Lepomis macrochirus*), and Hybrid Striped Bass (*Morone saxatilis x chrysops*). Other fish known to reside in the lake and considered nuisance species are the Common Carp and Threadfin Shad (*Dorosoma petenense*). The presence of these two nuisance species aggravate the nutrient problem in Lake Elsinore.

Due to the natural cycle of periodic lake drying events, mass extinction events of the fish populations have occurred. The in-lake fishery has recovered from these drying events primarily as a result of stocking and secondarily by repopulation from upstream sources (i.e., Canyon Lake) during high flow events.

There are two distinct types of invertebrate populations in Lake Elsinore: a benthic community which resides in or on the lake-bottom sediment, and a pelagic zooplankton community residing in the water column. Previous studies of benthic invertebrate populations have observed low overall taxa richness across all sample locations and during the wet and dry seasons. None of the sample stations contained sensitive, pollutant intolerant taxa., and the taxa present were those typically found at disturbed or stressed sites.

The zooplankton populations generally exhibit large seasonal variations in composition and density. The zooplankton community in Lake Elsinore is composed of three primary types of invertebrates: cladocerans (water fleas), copepods, and rotifers.

The phytoplankton community of Lake Elsinore is a complex assemblage of genera and species that follow a seasonal succession dominated by diatoms in the winter and cyanobacteria during summer months.

### Canyon Lake

Canyon Lake, also known as Railroad Canyon Reservoir, was constructed to store water from the San Jacinto River for agricultural irrigation in the area in 1928. Approximately 735 square miles of the San Jacinto River Watershed drains into Canyon Lake before reaching Lake Elsinore. In many years, drainage from the San Jacinto River Watershed terminates at Canyon Lake without reaching Lake Elsinore. Only during moderate or wet years does Canyon Lake overflow and send water downstream to Lake Elsinore.

Canyon Lake is located approximately five miles upstream of Lake Elsinore. The lake is located within the City of Canyon Lake, which is a private gated city east of the City of Lake Elsinore. Homeowners in Canyon Lake have rights and access to the lake for recreational uses. Guests of homeowners may also use the lake. Allowable watercraft include ski-boats, fishing boats, row boats, paddle boards, sailboats and kayaks. There are also swimming areas, beaches, docks and rental boat slips along the lake. The land uses adjacent to the Canyon Lake are primarily residential, but also include recreation/open space areas, and community facilities.

The surface area of Canyon Lake is approximately 500 acres, with an estimated current storage capacity of 8,760 AF. The lake has three key areas: (1) Main Lake, which is the deepest part of the lake upstream of the dam; (2) East Bay, the relatively shallow arm of the lake upstream of the causeway crossing the lake; and (3) North Ski Area above the causeway crossing upstream of the Main Lake. Canyon Lake receives inflows from two sources: (1) San Jacinto River drains to the Main Lake; and (2) Salt Creek drains to the East Bay. Canyon Lake has a small surface area (500 acres) and steep topography. Water depth varies greatly depending on the location in the Lake. The Main Lake is deepest (over 50 feet near the Dam); the East Bay is shallow (approximately 8 feet near the Salt Creek inflow).

The temperature profile of the Canyon Lake water column routinely demonstrates that the Lake is thermally stratified in the summer. The most pronounced stratification occurs at the Dam where the water is deepest. Thermal stratification within Canyon Lake disappears in the fall and winter when the lake turns over resulting in more uniform water temperatures and DO profiles throughout the water column.

Canyon Lake is a local source of drinking water. The eutrophic conditions in Canyon Lake may impact the MUN beneficial use. Low oxygen levels result in high concentrations of manganese and iron in the hypolimnion. When manganese levels in the water column exceed 0.45 mg/L, EVMWD shuts down the water treatment plant. The high algal productivity also necessitates periodic shutdown of the Canyon Lake Water Treatment Plant because algal cells can clog the water treatment filters.

Concerns regarding water quality were identified in the latter part of the 1990s, involving periodic algal blooms and fish kills, but neither as significant as occur in Lake Elsinore. However, the water quality concerns were sufficient for the Santa Ana Water Board to place Canyon Lake on the impaired waters list in 1998, where it remains listed for nutrients in the most recent 2010 impairment assessment.

Development of the 2004 nutrient TMDL for Canyon Lake was done in coordination with the Lake Elsinore nutrient TMDL. An initial Problem Statement specific to Canyon Lake was drafted in 2001.[[16]](#footnote-17) This Problem Statement documented that the beneficial uses of the lake were impaired because of excess phosphorus and nitrogen. Subsequently, a revised Problem Statement was prepared in 2004 based on completion of a number of studies that provided additional understanding regarding water quality concerns in Canyon Lake.[[17]](#footnote-18)

The lake was originally populated with fish that had migrated (or been washed down) from the San Jacinto River Watershed as the lake filled after completion of the dam. The lake was drained in 1949 to perform repairs to the floodgates, and the lake slowly refilled over the next two years. In 1951, the California Department of Fish and Game (now called the California Department of Fish and Wildlife [CDFW]) restocked the lake with largemouth bass, crappie, and bluegill. It is likely that the lake contains catfish and other sunfish (*Lepomis* spp.), as well as small baitfish such a threadfin shad given its prevalence in Lake Elsinore. The lake is stocked with catfish and bass by the Canyon Lake Property Owners Association (POA).

Very little information is available on fish kills in Canyon Lake. However, a fish kill was documented on October 29, 2010 when about 50 to 100 shad were observed on Sunset Beach.

Also, very little is known of the aquatic invertebrate populations in Canyon Lake. A 2004 benthic invertebrate study sampled open water locations and shoreline locations. The study observed a total of 24 taxa and found a significant difference between the offshore benthic community and those along the shoreline. The open water sites exhibited very low taxa diversity and were composed almost exclusively of one dipteran taxa, the phantom midge *Chaoborus* spp., and a relatively small number of annelid oligochaetes (aquatic worms). The shoreline sites contained from 8 to 18 taxa. The midge, *Chironomus* spp. and the amphipod, *Hyalella* spp. were the most abundant taxa in shoreline samples, comprising 28 and 36 percent of the entire community, respectively. The study did not observe the presence of any sensitive taxa. Of the entire benthic invertebrate community.

Information on the phytoplankton community is also limited. The Canyon Lake Nutrient TMDL Problem Statement indicated that the dominant types of algal species in Canyon Lake are flagellate-green and green algae.[[18]](#footnote-19) It is likely that diatoms also comprise some proportion of the community during times of the year, given the brownish-green tint of the water during recent 2015-2016 monitoring events.

Section 4  
Environmental Issues

This section presents the Environmental Checklist, evaluates the potential impacts of the action relative to 18 environmental issue areas, and presents mandatory findings of significance required under CEQA. The analysis begins with a summary delineation of the environmental factors (issue areas) addressed in the checklist and whether any potentially significant impacts have been identified in the analysis, and is followed by an explanation of the environmental factors potentially affected.

In formulating answers to the checklist questions, the Santa Ana Water Board staff evaluated the environmental effects of the Proposed Action in the context of the existing regulatory and environmental setting (see Sections 1.1 and 3 respectively). Social or economic changes related to a physical change in the environment were also considered in determining whether there would be a significant effect on the environment; however, adverse social and economic impacts alone are not considered significant effects on the environment. Section 15382 of the State CEQA Guidelines defines a significant effect on the environment as “*a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change by itself* would be limited in size and scope and *all not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant*.”

This section provides an evaluation of, and presents significance findings for, both the proposed TMDLs Revision (Proposed Action) and reasonably foreseeable methods of compliance associated with the Proposed Action. As described in Section 2.3, the existing water quality controls and potential supplemental water quality controls are actions that may be implemented (and continue to be implemented) whether or not the Proposed Action is adopted. Similarly, the proposed TMDLs revisions are not anticipated to substantially change the manner or type of water quality controls recommended for implementation by other agencies that may be put into place in the future. Therefore, continuation of existing water quality controls identified in Section 2.3.1, possible implementation of new water quality controls identified in Section 2.3.2.1, and actions recommended for implementation by other agencies described in Section 2.3.2.2 would not be triggered with implementation of the Proposed Action. Additionally, there are no foreseeable methods of compliance associated with implementation of additional studies, as described in Section 2.3.2.3. Therefore, the analysis of foreseeable methods of compliance addresses only updates to the monitoring plans, which could include a change in the locations and frequency of monitoring activities (see Section 2.3.2.4).

The Santa Ana Water Board staff’s review concluded that the TMDLs Revision and the reasonably foreseeable methods of compliance do not have the potential to result in significant adverse impacts on any of the 18 resource areas. However, pursuant to Section 13360 of the California Water Code, the Regional Board cannot define the specific actions that entities would take to comply with requirements derived from the amendments. While no substantial physical changes resulting from implementation of the Proposed Project are foreseeable at this time, specific compliance actions will be subject to CEQA review and/or approval by the Regional Board or other responsible agencies once they have been developed. As a result, the Regional Board (or other lead/responsible agencies under CEQA) could either disapprove actions with significant and unacceptable environmental impacts, or require implementation of mitigation measures (e.g., best construction management practices) to ensure that potential environmental impacts associated with such actions are reduced to less than significant levels.

Environmental Factors Potentially Affected:

The following environmental factors were considered as part of this analysis.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Aesthetics |  | Agriculture and Forestry Resources | |  | | Air Quality |
|  | Biological Resources |  | Cultural Resources | |  | | Geology and Soils |
|  | Greenhouse Gas Emissions |  | Hazards and Hazardous Materials | |  | | Hydrology and Water Quality |
|  | Land Use and Planning |  | Mineral Resources | |  | | Noise |
|  | Population/Housing |  | Public Services | |  | | Recreation and Parks |
|  | Transportation and Traffic |  | Utilities and Service Systems |  | | Tribal Cultural Resources | |
|  | Mandatory Findings of Significance | | |  | |  | |

The proposed action could potentially affect one or more of these factors, as indicated by the checklist on the following pages.

Determination:

On the basis of this initial evaluation:

|  |  |
| --- | --- |
| **X** | I find that the Proposed Action COULD NOT have a significant effect on the environment. |
|  | I find that the Proposed Action MAY have a significant effect on the environment. However, there are feasible alternatives and/or mitigation measures available that will substantially lessen any adverse impact. These alternatives are discussed in the attached written report |
|  | I find that the Proposed Action MAY have a significant effect on the environment. no feasible alternatives and/or mitigation measures available that will substantially lessen an adverse impact. See Sections 4 and 5 for a discussion of this determination. |

|  |  |  |
| --- | --- | --- |
| Signature |  | Date |
|  |  |  |
|  |  |  |
| Printed Name/Title |  | Date |

Environmental Factors (Issue Areas):

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| I. AESTHETICS: Would the action: | | | | |
| a) Have a substantial adverse effect on a scenic vista? |  |  |  | X |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? |  |  |  | X |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? |  |  |  | X |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? |  |  |  | X |

**Discussion:**

a) Would the action have a substantial adverse effect on a scenic vista?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. This revision would not result in any physical changes that would affect a scenic vista or other aesthetic resources.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel and does not result in any permanent alteration of visual conditions at monitoring locations. A potential change in the frequency or location of monitoring would not affect scenic vistas or other aesthetic resources.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

See I. Aesthetics a) above.

c) Would the action substantially degrade the existing visual character or quality of the site and its surroundings?

See I. Aesthetics a) above.

d) Would the action create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not create a new source of light or glare.

Reasonably Foreseeable Methods of Compliance

Development and Implementation of Revised Monitoring and Reporting Program

Monitoring is a temporary activity that occurs on an infrequent basis. A potential change in the frequency or location of monitoring would not create a new source of light or glare.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **II. AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the action: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? |  |  |  | X |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? |  |  |  | X |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? |  |  |  | X |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? |  |  |  | X |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? |  |  |  | X |

Discussion:

a) Would the action convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. This revision would not result in any physical changes that would result in conversion of

agricultural land to non-agricultural use or otherwise affect agricultural operations.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not affect agricultural land or operations.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action conflict with existing zoning for agricultural use or a Williamson Act contract?

See II. Agriculture and Forest Resources a) above.

c) Would the action conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not affect zoning for forest land or timberland, or otherwise result in the conversion of forest land or timberland to non-forest land/timberland use.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not affect zoning for forest land or timberland or otherwise result in the conversion of forest land or timberland to non-forest land/timberland use.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

d) Would the action result in the loss of forest land or conversion of forest land to non-forest use?

See II. Agriculture and Forest Resources c) above.

e) Would the action involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See II. Agriculture and Forest Resources a) and c) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **III. AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the action: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? |  |  |  | X |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? |  |  |  | X |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the action region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? |  |  |  | X |
| d) Expose sensitive receptors to substantial pollutant concentrations? |  |  |  | X |
| e) Create objectionable odors affecting a substantial number of people? |  |  |  | X |

Discussion:

a) Would the action conflict with or obstruct implementation of the applicable air quality plans?

The Santa Ana region is within the South Coast Air Basin (SCAB), a 6,600-square mile basin encompassing all of Orange County, most of Los Angeles and Riverside Counties, and the western portion of San Bernardino County, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAB is currently designated as a nonattainment area is for both national and state 1-hour ozone and particulate matter (PM) standards. SCAQMD is responsible for administering the Air Quality Management Plan (AQMP), which is a comprehensive air pollution control program for attaining federal and state ambient air quality standards. Conformity with adopted plans, forecasts and programs relative to population, housing, employment is a primary determinant of a project’s consistency with the AQMP.

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. Projects such as the Proposed Action do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing water quality management activities. The TMDLs Revision would not conflict with adopted plans, forecasts and programs relative to population, housing, and employment. As such, the TMDLs Revision would not conflict with or obstruct implementation of the AQMP or any other air quality plans.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not conflict with or obstruct implementation of the AQMP or any other air quality plans.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Under the SCAQMD, the SCAB is designed as a nonattainment area for ozone and particulate matter. In addition, the SCAB is designated as a maintenance area for carbon monoxide and nitrogen dioxide and is in attainment for sulfur dioxide. In determining attainment and maintenance of air quality standards, the SCAQMD has established thresholds of significance for these and other criteria pollutants. A significant impact would occur if project operation results in substantial emissions which would exceed the established thresholds.

Proposed TMDLs Revision

The TMDLs Revision would not involve new construction activities, increased traffic generation, or other activities that could generate new emissions. Thus, the TMDLs Revision would not result in exceedances of established thresholds for criteria pollutants or otherwise result in a violation of air quality standards or substantially contribute to existing or projected air quality violations.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve sufficient traffic or other activities that could generate emissions that result in a violation of air quality standards or substantially contribute to existing or projected air quality violations.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

c) Would the action result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emission which exceeds quantitative thresholds for ozone precursors)?

See **III. Air Quality b)** above.

d) Would the action expose sensitive receptors to substantial pollutant concentrations?

See III. Air Quality b) above.

e) Would the action create objectionable odors affecting a substantial number of people?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction activities, increased traffic generation, or other activities that could generate objectionable odors affecting a substantial number of people.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve sufficient traffic or other activities that could generate objectionable odors affecting a substantial number of people.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **IV. BIOLOGICAL RESOURCES:** Would the action: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? |  |  |  | X |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? |  |  |  | X |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? |  |  |  | X |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? |  |  |  | X |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? |  |  |  | X |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? |  |  |  | X |

**Discussion:**

a) Would the action have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The revised TMDLs would meet statutory and regulatory water quality standards and requirements. The Proposed Action would not lower surface water quality or otherwise adversely impact sensitive wildlife and/or wildlife habitat, including riparian habitat and wetlands; additionally, it would not interfere with the movement of any wildlife species or wildlife corridors, or impede the use of wildlife nursery sites, or conflict with any local policies or ordinances protecting biological resources or conflict with an adopted habitat conservation plan.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel and would not involve modifications to habitat or other adverse impacts to sensitive species. A potential change in the frequency or location of monitoring would not result in a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

See IV. Biological Resources a)above.

c) Would the action have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

See IV. Biological Resources a)above.

d) Would the action interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

See IV. Biological Resources a)above.

e) Would the action conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

See IV. Biological Resources a)above.

f) Would the action conflict with the provisions of adopted habitat conservation plan, natural communities’ conservation plan, or any other approved local, regional, or state habitat conservation plan?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The revised TMDLs would meet statutory and regulatory water quality standards and requirements. The revision would not establish any new uses, adversely impact sensitive habitats or species, nor would it otherwise conflict with the provisions of adopted habitat conservation plan, natural communities’ conservation plan, or any other approved local, regional, or state habitat conservation plan. Further, the revision would contribute to improved water quality which would serve to improve biological resources.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not establish any new uses, adversely impact sensitive habitats or species, nor would it otherwise conflict with the provisions of adopted habitat conservation plan, natural communities’ conservation plan, or any other approved local, regional, or state habitat conservation plan.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **V. CULTURAL RESOURCES:** Would the action: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5? |  |  |  | X |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5? |  |  |  | X |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? |  |  |  | X |
| d) Disturb any human remains, including those interred outside of formal cemeteries? |  |  |  | X |

**Discussion:**

a. Would the action cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction, earth movement, or other disturbance which could impact any structures or buried cultural resources. As such, the TMDLs Revision would not cause a substantial adverse change in significance of a historical resource.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve earth movement or other disturbance which could impact any structures or buried cultural resources.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b. Would the action cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?

See V. Cultural Resources a) above.

c. Would the action directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

See V. Cultural Resources a) above.

d. Would the action disturb any human remains, including those interred outside of formal cemeteries?

See V. Cultural Resources a**)** above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **VI. GEOLOGY AND SOILS:** Would the action: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: |  |  |  | X |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. |  |  |  | X |
| ii) Strong seismic ground shaking? |  |  |  | X |
| iii) Seismic-related ground failure, including liquefaction? |  |  |  | X |
| iv) Landslides? |  |  |  | X |
| b) Result in substantial soil erosion or the loss of topsoil? |  |  |  | X |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the action, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? |  |  |  | X |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? |  |  |  | X |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? |  |  |  | X |

**Discussion:**

a) Would the action expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Severalmajor earthquake faults are located in the Santa Ana region, including the San Andreas Fault, the San Jacinto Fault, the Elsinore-Whittier Fault, and the Newport-Inglewood Fault. In the vicinity of Lake Elsinore and Canyon Lake, the State of California Earthquake Hazard Maps designated Alquist-Priolo Earthquake Fault Zones are located southeast and northwest of Lake Elsinore.

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve the construction of habitable structures or otherwise result in any human safety risks related to fault rupture, seismic ground-shaking, ground failure, or landslides.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve the construction of habitable structures or otherwise result in any human safety risks related to fault rupture, seismic ground-shaking, ground failure, or landslides.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

(ii.) Strong seismic ground shaking?

See VI. Geology and Soils a)(i.) above.

(iii.) Seismic-related ground failure, including liquefaction?

See VI. Geology and Soils a)(i.) above.

(iv.) Landslides?

See VI. Geology and Soils a)(i.) above.

b) Would the action result in substantial soil erosion or the loss of topsoil?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. This revision would not involve construction or other earthmoving activities that could result in substantial soil erosion or the loss of topsoil.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve construction or other earthmoving activities that could result in substantial soil erosion or the loss of topsoil.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

c) Is the action located on a geologic unit or soil that is unstable, or that would become unstable as a result of the action, and potentially result in onsite or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other earthmoving activities on a geologic unit or soil that is unstable or would be unstable, potentially resulting in landslides, lateral spreading, subsidence, liquefaction, or collapse.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve construction or other earthmoving activities on a geologic unit or soil that is unstable or would be unstable, potentially resulting in landslides, lateral spreading, subsidence, liquefaction, or collapse.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

d) Is the action located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

See **VI. Geology and Soils a), b),** and **c)** above.

e) Would the action have soils that are incapable of supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not entail the construction of septic tanks or alternative wastewater disposal systems.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not entail the construction of septic tanks or alternative wastewater disposal systems.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

f) Is the action located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

See VI. Geology and Soils a), b), and c) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **VII. GREENHOUSE GAS EMISSIONS:** Would the action: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? |  |  |  | X |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? |  |  |  | X |

**Discussion:**

a) Would the action generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve new construction, generation of large numbers of vehicle trips, or other activities that could generate greenhouse gas (GHG) emissions directly or indirectly in quantities that could have a significant impact on the environment.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not result in new construction, generation of large numbers of vehicle trips, or other activities that could generate GHG emissions directly or indirectly in quantities that could have a significant impact on the environment.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. As discussed in VII. Greenhouse Gas Emissions a) above, the revisions would not result in the generation of GHG emissions in quantities that could have a significant impact on the environment, nor would it otherwise conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. As discussed in VII. Greenhouse Gas Emissions a) above, a potential change in the frequency or location of monitoring would not result in the generation of GHG emissions in quantities that could have a significant impact on the environment. Additionally, the amendments would not otherwise conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the action: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? |  |  |  | X |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? |  |  |  | X |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? |  |  |  | X |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? |  |  |  | X |
| e) For an action located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the action result in a safety hazard for people residing or working in the action area? |  |  |  | X |
| f) For an action within the vicinity of a private airstrip, would the action result in a safety hazard for people residing or working in the action area? |  |  |  | X |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? |  |  |  | X |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? |  |  |  | X |

**Discussion:**

a) Would the action create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. This revision would not involve the transport, use, disposal, release, or transmission of hazardous materials.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

See VIII. Hazards and Hazardous Materials a) above.

c) Would the action emit hazardous emissions or handle hazardous materials or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

See VIII. Hazards and Hazardous Materials a) above.

d) Is the action located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other disturbance at a hazardous site such that a significant hazard to the public or the environment would be created.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would notinvolve construction or other disturbance at a hazardous site such that a significant hazard to the public or the environment would be created.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

e) For an action located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the action result in a safety hazard for people residing or working in the action area?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not result in exposing people to a safety hazard associated with a public or private airport.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not result in exposing people to a safety hazard associated with a public or private airport.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

f) For an action located within the vicinity of a private airstrip, would the action result in a safety hazard for people residing or working in the action area?

See VIII. Hazards and Hazardous Materials e) above.

g) Would the action impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other activities that could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve construction or other activities that could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

h) Would the action expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not expose people or structures to wildland fires.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not expose people or structures to wildland fires.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **IX. HYDROLOGY AND WATER QUALITY:** Would the action: | | | | |
| a) Violate any water quality standards or waste discharge requirements? |  |  |  | X |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? |  |  |  | X |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? |  |  |  | X |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? |  |  |  | X |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? |  |  |  | X |
| f) Otherwise substantially degrade water quality? |  |  |  | X |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? |  |  |  | X |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? |  |  |  | X |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? |  |  |  | X |
| j) Inundation by seiche, tsunami, or mudflow? |  |  |  | X |

**Discussion:**

a) Would the action violate any water quality standards or waste discharge requirements?

Proposed TMDLs Revision

As discussed in Section 2, the current Basin Plan for the Santa Ana Region establishes water quality standards for the surface and ground waters of the Santa Ana Region and provides the basis for the Santa Ana Water Board's TMDL and other regulatory programs. The Basin Plan designates the beneficial uses of specific waterbodies within the Santa Ana Region and establishes water quality objectives for the protection of these uses. In addition, the California Water Code (Porter-Cologne Water Quality Act) requires that any entity discharging waste, or proposing to discharge waste that could affect the quality of the waters of the state must submit a report of waste discharge to the Santa Ana Water Board. The Santa Ana Water Board regulates such discharges by issuing general and individual waste discharge requirements which, for discharges to surface waters, are jointly issued as NPDES permits in accordance with the Federal Clean Water Act, and, where applicable, conditional waivers of waste discharge requirements. These waste discharge requirements/permits and waivers of waste discharge requirements include detailed and prescriptive requirement to ensure that discharges do not cause a violation of water quality objectives in surface and groundwaters. The revisions to the TMDLs do not involve construction or other activities that would result in a waste discharge or otherwise violate water quality standards, nor would the proposed revisions result in a lowering of the existing water quality of waters affected by the proposed revisions. Further, the revisions would occur in compliance the Santa Ana Water Board’s regulatory programs, and therefore, would not violate any water quality standards or waste discharge requirements.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not violate any water quality standards or waste discharge requirements.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not deplete groundwater supplies or interfere with groundwater recharge.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not deplete groundwater supplies or interfere with groundwater recharge.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

c) Would the action substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other activities that could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site. The impact is less than significant.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

d) Would the action substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?

See IX. Hydrology and Water Quality c) above.

e) Would the action create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other activities that could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

f) Would the action otherwise substantially degrade water quality?

See IX. Hydrology and Water Quality a) above

g) Would the action place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve the construction of housing and, thus, would not place housing within a 100-year floodplain.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve the construction of housing and, thus, would not place housing within a 100-year floodplain.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

h) Would the action place within a 100-year floodplain structures that would impede or redirect flood flows?

Proposed TMDLs revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake and would not involve any construction. The TMDLs Revision would not place structures within a 100-year floodplain that would impede or redirect flows.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not place structures within a 100-year floodplain that would impede or redirect flows.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

i) Would the action expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake and would not involve any construction. The TMDLs revision would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

j) Would the action expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake and would not involve construction. The TMDLs Revision would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **X. LAND USE AND PLANNING:** Would the action: | | | | |
| a) Physically divide an established community? |  |  |  | X |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the action (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? |  |  |  | X |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? |  |  |  | X |

**Discussion:**

a) Would the action physically divide an established community?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or otherwise result in a physical division that could divide an established community.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would involve temporary activities and would not result in a physical division that could divide an established community.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the action (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The revised TMDLs would meet statutory and regulatory water quality standards and requirements. The revision would not establish any new uses, nor would it otherwise conflict with any land use plan, policy, or regulation; or any habitat conservation plan or natural community conservation plan.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not establish any new uses nor otherwise conflict with any land use plan, policy, or regulation; or any habitat conservation plan or natural community conservation plan.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

**c) Would the action conflict with any applicable habitat conservation plan or natural communities’ conservation plan?**

See X. Land Use and Planning b) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XI. MINERAL RESOURCES:** Would the action: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? |  |  |  | X |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? |  |  |  | X |

**Discussion:**

a) Would the action result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other activities that could result in the loss of availability of a known mineral resource.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve construction or other activities that could result in the loss of availability of a known mineral resource.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

See XI. Mineral Resources a) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XII. NOISE** Would the action result in | | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? |  |  |  | X |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? |  |  |  | X |
| c) A substantial permanent increase in ambient noise levels in the action vicinity above levels existing without the action? |  |  |  | X |
| d) A substantial temporary or periodic increase in ambient noise levels in the action vicinity above levels existing without the action? |  |  |  | X |
| e) For an action located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the action expose people residing or working in the action area to excessive noise levels? |  |  |  | X |
| f) For an action within the vicinity of a private airstrip, would the action expose people residing or working in the action area to excessive noise levels? |  |  |  | X |

**Discussion:**

a) Would the action result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other noise generating activities that would result in temporary or permanent increase in noise levels.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not require construction or other noise generating activities that would result in temporary or permanent increase in noise levels.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action expose persons to or generate excessive groundborne vibration or groundborne noise?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not require construction or other groundborne vibration or groundborne noise generating activities that would result in temporary or permanent increase in noise levels.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve groundborne vibration or groundborne noise generating construction or other activities that would result in temporary or permanent increase in noise levels.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

c) Would the action result in a substantial permanent increase in ambient noise levels in the action vicinity above levels existing without the action?

See **XII. Noise a)** above.

d) Would the action result in a substantial temporary or periodic increase in ambient noise levels in the action vicinity above levels existing without the action?

See XII. Noise a) above.

e) For an action located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the action expose people residing or working in the action area to excessive noise levels?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve exposing people to excessive noise levels associated with a public or private airport.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve exposing people to excessive noise levels associated with a public or private airport.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

f) For an action located within the vicinity of a private airstrip, would the action expose people residing or working in the action area to excessive noise levels?

See XII. Noise e) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XIII. POPULATION AND HOUSING -- Would the action:** | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? |  |  |  | X |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? |  |  |  | X |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? |  |  |  | X |

**Discussion:**

a) Would the action induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve new construction or other activities that could induce population growth to the region, either directly or indirectly; nor would they involve displacing housing or people.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not involve new construction or other activities that could induce population growth to the region, either directly or indirectly; nor would they involve displacing housing or people.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

See XIII. Population and Housing a) above.

c) Would the action displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

See XIII. Population and Housing a) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XIV. PUBLIC SERVICES** | | | | |
| a) Would the action result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| Fire protection? |  |  |  | X |
| Police protection? |  |  |  | X |
| Schools? |  |  |  | X |
| Parks |  |  |  | X |
| Other public facilities?\* |  |  |  | X |

\*See XV. Recreation and Parks below for an evaluation of impacts on parks and other recreational facilities.

**Discussion:**

a. Would the action result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i.) Fire Protection

ii.) Police Protection

iii) Schools

iv) Parks

v) Other Public Facilities

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve new construction or establishing new land uses that could affect service ratios, response times, or other performance objectives for any public services, including fire protection, police protection, schools, or parks, nor would it induce new population growth to the region, either directly or indirectly, which would could generate a need for expanded public services.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not affect service ratios, response times, or other performance objectives for any public services, including fire protection, police protection, schools, or parks, nor would it induce new population growth to the region, either directly or indirectly, which would could generate a need for expanded public services.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XV. RECREATION AND PARKS** | | | | |
| a) Would the action increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? |  |  |  | X |
| b) Does the action include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? |  |  |  | X |

**Discussion:**

a) Would the action increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake and would not induce new growth to the region that could increase the demand for parks or other recreational facilities in the area.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not induce new growth to the region that could increase the demand for parks or other recreational facilities in the area.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Does the action include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

See XV. Recreation and Parks a) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | | **No Impact** | |
| --- | --- | --- | --- | --- | --- | --- |
| **XVI. TRANSPORTATION AND TRAFFIC:** Would the action: | | | | | | |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? |  |  | |  | | X |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? |  |  | |  | | X |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? |  |  | |  | | X |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? |  |  | |  | | X |
| e) Result in inadequate emergency access? |  |  | |  | | X |
| f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? |  |  | |  | | X |

**Discussion:**

a) Would the action conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve new construction or new uses that could result in the generation of new traffic that could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring could involve a small number of infrequent vehicle trips, but would not involve the generation of new traffic that could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

See XVI. Transportation and Traffic a) above.

c) Would the action result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not result in any construction or other physical changes that would affect air traffic patterns.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not affect air traffic patterns.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

d) Would the action substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. TMDLs Revision would not involve new construction or activities that could substantially increase hazards because of a design feature or incompatible uses.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not substantially increase hazards because of a design feature or incompatible uses.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

e) Would the action result in inadequate emergency access?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve new construction or other activities that could result in inadequate emergency access.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not involve new construction or other activities that could result in inadequate emergency access.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

f) Would the action conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve any construction or land uses changes that create a conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No impact would occur.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XVII. Tribal Cultural Resources** | | | | |
| a) Would the action cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: | | | | |
| (1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k) |  |  |  | X |
| (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe? |  |  |  | X |

**Discussion:**

a(1). Would the action cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k)

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction, earth movement, or other disturbance which could impact any a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe.

Reasonably Foreseeable Methods of Compliance

Monitoring is a temporary activity that occurs on an infrequent basis involving a minimal number of vehicles and personnel. A potential change in the frequency or location of monitoring would not involve construction, earth movement, or other disturbance which could impact any a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

a(2). Would the action cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

See XVII. Tribal Cultural Resources a(1) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XVIII. UTILITIES AND SERVICE SYSTEMS:** Would the action | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? |  |  |  | X |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? |  |  |  | X |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? |  |  |  | X |
| d) Have sufficient water supplies available to serve the action from existing entitlements and resources, or are new or expanded entitlements needed? |  |  |  | X |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the action that it has adequate capacity to serve the action’s projected demand in addition to the provider’s existing commitments? |  |  |  | X |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the action’s solid waste disposal needs? |  |  |  | X |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? |  |  |  | X |

**Discussion:**

a) Would the action exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not increase water demand or generate wastewater which could exceed the Santa Ana Water Board’s wastewater treatment requirements. See also IX. Hydrology and Water Quality a).

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not increase water demand or generate wastewater which could exceed the Santa Ana Water Board’s wastewater treatment requirements.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Would the action require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

See XVIII. Utilities and Service Systems a)above.

c) Would the action require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not alter the amount or rate and stormwater runoff and would not require construction of new stormwater drainage facilities or expansion of existing facilities.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not involve construction of new stormwater drainage facilities or expansion of existing facilities.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

d) Would the action have sufficient water supplies available to serve the action from existing entitlements and resources, or are new or expanded entitlements needed?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not require new or expanded water supply entitlements. No impacts would occur.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not require new or expanded water supply entitlements.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

e) Has the wastewater treatment provider that serves or may serve the action determined that it has adequate capacity to serve the action’s projected demand in addition to the provider’s existing commitments?

See XVIII. Utilities and Service Systems a)above.

f) Is the action served by a landfill with sufficient permitted capacity to accommodate the action’s solid waste disposal needs?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. The TMDLs Revision would not involve construction or other activities that could result the generation of solid waste generation or otherwise affect landfill capacities.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not result in solid waste generation or affect landfill capacities.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

f) Would the action comply with federal, state, and local statutes and regulations related to solid waste?

See XVIII. Utilities and Service Systems f) above.

|  | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporation** | **Less Than Significant Impact** | **No Impact** |
| --- | --- | --- | --- | --- |
| **XIX. MANDATORY FINDINGS OF SIGNIFICANCE** Would the action | | | | |
| a) Does the action have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? |  |  |  | X |
| b) Does the action have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an action are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future actions)? |  |  |  | X |
| c) Does the action have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? |  |  |  | X |

**Discussion:**

a) Does the action have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. As discussed in IV. Biological Resources, this revision would not degrade the quality of the environment (including water quality) or adversely affect biological resources directly or indirectly. As discussed in V. Cultural Resources, no construction, earthwork, or removal of existing structures would occur, and thus, examples of the major periods of California history or prehistory would not be eliminated.

Reasonably Foreseeable Methods of Compliance

A potential change in the frequency or location of monitoring would not degrade the quality of the environment (including water quality) or adversely affect biological resources directly or indirectly as discussed in IV. Biological Resources, and would not result in construction, earthwork, or removal of existing structures, and thus, would not eliminate examples of the major periods of California history or prehistory as discussed in V. Cultural Resources.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

b) Does the action have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of an action are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future actions.)

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. As discussed throughout this section, this revision would not have significant adverse effects on the environment, and thus, would not cause or add to a cumulative impact.

Reasonably Foreseeable Methods of Compliance

As discussed throughout this section, a potential change in the frequency or location of monitoring would not have significant adverse effects on the environment, and thus, would not cause or add to a cumulative impact.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

c) Does the action have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Proposed TMDLs Revision

The Proposed Action would revise the existing nutrient TMDLs for Lake Elsinore and Canyon Lake. As discussed throughout this section, the Proposed Action would not have significant adverse effects on the environment, and thus, would not cause substantial adverse effects on human beings, either directly or indirectly.

Reasonably Foreseeable Methods of Compliance

Development and Implementation of Revised Monitoring and Reporting Program

A potential change in the frequency or location of monitoring would not have significant adverse effects on the environment, and thus, would not cause substantial adverse effects on human beings, either directly or indirectly.

Finding of Significance

No impacts are anticipated and no mitigation is necessary.

Section 5  
Alternatives

Pursuant to the State Water Board’s regulations for implementing CEQA (CCR title 23, sec. 3777[a]), this environmental review must include an analysis of reasonable alternatives to the Proposed Action. The intent is to consider whether there are reasonable alternatives that would fulfill the underlying purpose of the Proposed Action which involves TMDLs revision, to also achieve and protect water quality standards, but that would minimize or eliminate the potential adverse environmental effects of the Proposed Action. Further pursuant to CEQA Section 15187, this environmental review must also include an analysis of reasonable foreseeable alternative means of compliance with the rule or regulation which would avoid or eliminate the identified impacts.

As described in the discussion of potential Environmental Issues (Section 4), there are no potential adverse environmental impacts associated with the TMDLs Revision (Proposed Action) or reasonably foreseeable methods of compliance. As there are no potential environmental impacts which could be reduced by an alternative to the Proposed Project or alternative means of compliance with the Proposed Project, the only alternative addressed herein is the No Project Action Alternative, which entails leaving the current TMDL in place.

5.1 No Action Alternative

Under the “No Action” Alternative, the Santa Ana Water Board would not adopt the proposed TMDLs Revision. The existing TMDLs would remain in force and the existing implementation actions would continue. Several of the 2004 TMDL response targets continue to be exceeded despite ongoing implementation of water quality controls. Thus, as described in Section 2.3, existing water quality controls would continue to be implemented and additional supplemental water quality controls may also be implemented. The water quality controls implemented under the No Action Alternative and the associated water quality improvements would occur at a functionally equivalent level to the Proposed Action.

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2. Santa Ana Water Board. 2004. *Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads Technical Report*. Original report dated March 26, 2004; revised May 21, 2004; public workshop: June 4, 2004. [↑](#footnote-ref-3)
3. https://www.waterboards.ca.gov/santaana/water\_issues/programs/basin\_plan/docs/2015/Comments/LESJWA.pdf [↑](#footnote-ref-4)
4. EPA. 2012. Considerations for Revising and Withdrawing TMDLs. Draft for Review. March 22, 2012. https://www.epa.gov/sites/production/files/2015-09/documents/draft-tmdl\_32212.pdf. [↑](#footnote-ref-5)
5. Santa Ana Water Board. 2004. *Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Incorporate Nutrient Total Maximum Daily Loads (TMDLs) for Lake Elsinore and Canyon Lak*e. Resolution No. R8-2004-0037. Task #14 on page 21 of 22. December 20, 2004. [↑](#footnote-ref-6)
6. Santa Ana Water Board. 2004. Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Incorporate Nutrient Total Maximum Daily Loads (TMDLs) for Lake Elsinore and Canyon Lake. Resolution No. R8-2004-0037. December 20, 2004. [↑](#footnote-ref-7)
7. Santa Ana Water Board. 2004. *Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads Technical Report*. Original report dated March 26, 2004; revised May 21, 2004; public workshop: June 4, 2004. [↑](#footnote-ref-8)
8. Santa Ana Water Board. 2004. *Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads Technical Report*. Original report dated March 26, 2004; revised May 21, 2004; public workshop: June 4, 2004.

   https://www.waterboards.ca.gov/santaana/water\_issues/programs/tmdl/docs/elsinore/final\_3.pdf [↑](#footnote-ref-9)
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10. Tetra Tech, Inc. 2003. *Lake Elsinore and Canyon Lake Nutrient Source Assessment. Final Report Prepared for SAWPA*. January 2003. [↑](#footnote-ref-11)
11. City of Lake Elsinore. 2011. *City of Lake Elsinore General Plan. Section 7.0 Lake Edge District*. December 2011. http://www.lake-elsinore.org/city-hall/city-departments/community-development/planning/lake-elsinore-general-plan [↑](#footnote-ref-12)
12. City of Lake Elsinore. 2011. *City of Lake Elsinore General Plan Update Final Recirculated Program Environmental Impact Report SCH #2005121019*. *Section 3.15 Parks and Recreation*. December 13, 2011. http://www.lake-elsinore.org/city-hall/city-departments/community-development/planning/lake-elsinore-general-plan/general-plan-certified-eir [↑](#footnote-ref-13)
13. State Water Board. 2010. 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report). <http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml>. [↑](#footnote-ref-14)
14. Santa Ana Water Board. 2000. Lake Elsinore Nutrient TMDL Problem Statement. [↑](#footnote-ref-15)
15. Santa Ana Water Board. 2004b. *Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads Technical Report*. Original report dated March 26, 2004; revised May 21, 2004; public workshop: June 4, 2004 [↑](#footnote-ref-16)
16. Santa Ana Water Board. 2001. Canyon Lake Nutrient TMDL Problem Statement. [↑](#footnote-ref-17)
17. Santa Ana Water Board. 2004b. *Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads Technical Report*. Original report dated March 26, 2004; revised May 21, 2004; public workshop: June 4, 2004 [↑](#footnote-ref-18)
18. Santa Ana Water Board. 2001. Canyon Lake Nutrient TMDL Problem Statement. [↑](#footnote-ref-19)