ADDENDUM NO.2
TO THE
MITIGATED NEGATIVE DECLARATION
FOR THE CANYON LAKE HYBRID TREATMENT PROCESS – PHASE 1
(SCH#2013041082)

Prepared for:

Lake Elsinore and San Jacinto Watersheds Authority
11615 Sterling Avenue
Riverside, CA 92503

Prepared by:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, California 92405

Original Initial Study Adopted: April 2013
Addendum 2 Compilation Completed: November 2025

TABLE OF CONTENTS

FIGURES

APPENDICES

ADDENDUM NO. 2
TO THE
MITIGATED NEGATIVE DECLARATION
FOR THE CANYON LAKE HYBRID
TREATMENT PROCESS – PHASE 1
(SCH#2013041082)

I. PROJECT INFORMATION

i)	Project Title:	Consideration of the Lake Elsinore and Canyon Lake TMDL Task Force, inclusive of the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) of Continuing to Treat Canyon Lake with Alum as Part of the Phase 3 of the Hybrid Treatment Process.
ii)	Lead Agency Name and Address:	Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) 11615 Sterling Avenue Riverside, CA 92503
iii)	Contact: Phone: E-Mail:	Mr. Rick Whetsel (951) 244-2955 rwhetsel@sawpa.gov
iv)	Project Location:	This Addendum addresses the extension to a previously approved project that would allow the stakeholders of Canyon Lake to continue to apply alum treatment to Canyon Lake's Main Body, East Bay, and transition area from the San Jacinto River just upstream of Vacation Drive, with alum up to twice a year for the next 5 years. The proposed project activities will take place at Canyon Lake, which is located within Riverside County, and is within the City of Canyon Lake (Reference Figures 1 and 2, *Regional Location* and *Site Location* Maps). The Modified Project will take place in the same area identified in the 2013 Initial Study. The alum will be stored at the Lake near the Main Lake or East Bay Boat Launch Area as shown in Figures 5 and Figure 6.

II. PROJECT DESCRIPTION

A. Introduction

This document is prepared as an Addendum No. 2 to the Initial Study and Mitigated Negative Declaration (MND) adopted by the City of Canyon Lake in April 2013 (SCH No. 2013041082). In 2013, the City prepared an Initial Study that evaluated the proposed in-lake management activities that were designed to reduce excessive algae growth by reducing phosphorus concentrations in Canyon Lake. An overgrowth of algae can deplete dissolved oxygen levels in the lake, causing fish kills and disrupting recreation. Alum binds with phosphorus to form aluminum phosphate as

a floc, an inert mineral compound that settles to the bottom rendering it no longer bioavailable to algae.

In 2013, the City of Canyon Lake prepared an Initial Study to evaluate the environmental effects of a pilot alum application program in Canyon Lake. During the pilot program, 840 tons of alum was applied to Canyon Lake in five separate events (Sept., 2013, Feb., 2014, Sept., 2014, April, 2015 and Sept., 2015). The Initial Study states that after the five pilot applications were completed, the Lake Elsinore Canyon Lake TMDL Task Force (Task Force) agencies would evaluate water quality data from the Lake to determine whether the alum was working as intended, to confirm that there were no adverse environmental effects, and to decide whether additional applications were necessary and appropriate. That evaluation was conducted and reported in the TMDL Progress Report for Evaluation of Compliance with the 2015 Interim Response Targets (prepared for the LECL TMDL Task Force (Risk Sciences 2016). In the interim period following the adoption of the 2013 IS/MND, Addendum No. 1 was prepared to in response to the stakeholders' desire to extend the pilot alum application program in the lake for the next 10 years (2015-2025). Subsequent updates to the effectiveness of alum additions were incorporated into the 2020 TMDL Compliance Demonstration Report (LESJWA, 2021) and annually, in the Riverside County stormwater program report appendices.

The current proposal is to continue the phosphorus applications to Canyon Lake for up to five additional years. If this extension is approved/authorized by LESJWA, the Canyon Lake phosphorus applications can be continued as necessary for the next 5 years, i.e., through 2030, subject to Santa Ana Water Quality Control Board review and approval of the existing offsets program as required by the Revised Total Maximum Daily Load for nutrients in Lake Elsinore and Canyon Lake (adopted by the Santa Ana Water Board on July 25, 2025).

Water quality monitoring data confirms that the average phosphorus concentrations have declined significantly and by mid-2015, the Main Body of Canyon Lake was already meeting Total Maximum Daily Load (TMDL) target for total phosphorus (0.1 mg/L) five years ahead of the regulatory deadline. By the fall of 2015, the East Bay had reached this goal as well. Ongoing data from GEI Consultants (Appendix 1) confirms alum remains effective in reducing phosphorus in Canyon Lake through June 2025. Although annual phosphorus levels do fluctuate year-to-year based on the previous season storm activity, the 5-year rolling average, which has declined 69% since 2011, demonstrates sustained improvement.

Chlorophyll-a concentrations serve as a surrogate for algal biomass levels of the Lake. Similar to total phosphorus, average annual chlorophyll-a concentrations vary year to year, but the 5-year rolling average show continual improvement - decreasing from 60 µg/L to 23.4 µg/L (a 61% decrease). Additionally, lake wide chlorophyll-a levels have met the <25 µg/L Final Response Target specified in the TMDL for 6 of the last 7 years (2019 to present). Notably, the Interim and Final Response Targets referenced here are those contained in the 2004 Lake Elsinore Canyon Lake Nutrient TMDL, which is still in effect. On July 25, 2025, the Santa Ana Water Board adopted a revised nutrient TMDL for Canyon Lake and Lake Elsinore. However, the revised TMDL will not go into effect until they are approved by the State Water Resources Control Board, Office of Administrative Law and the United States Environmental Protection Agency.

This addendum is being prepared in response to the stakeholder's desire to extend the alum application program in the Lake for the next 5 years, to 2030. After considering the available options for complying with the California Environmental Quality Act (CEQA) regarding this proposed extension of the alum treatment at Canyon Lake, LESJWA concluded that compiling a

second Addendum to the 2013 MND would be the most appropriate way to comply with CEQA for the proposed extension of the alum treatment into the future.

Thus, the proposed minor modifications to the previously approved project are as follows:

1) The extension of the pilot alum application program in Canyon Lake for the next 5 years.

2) Continue treating the transition area immediately above the north causeway (Vacation Drive) at the confluence between the San Jacinto River and Canyon Lake (see Figure 7).

3) Provide additional flexibility to apply alum at times and under water quality conditions that will assure the highest level of effectiveness and the lowest potential for any unintended impacts. Greater flexibility in timing is a new operational measure that was developed based on knowledge and experience gained from the pilot program.

4) Provide additional flexibility to make alum applications in the Main Body and in the East Bay of Canyon Lake at different times of year. The decision as to when and how the alum will be applied will be made by the Task Force after consulting with the alum application contractor, their internal consulting team, and the Santa Ana Water Board.

5) Clarify that the program allows, but does not require, stakeholders to make up to two alum applications annually. And, if the alum applications for the Main Body and the East Bay occur at different times, this may result in up to a total of six application events on the Lake (e.g. 2 x Main Body, 2 x San Jacinto/lake interface, and 2 x East Bay).

The documentation in this Addendum, combined with the adopted 2013 MND and Initial Study, will serve as the basis for this second tier environmental review of the proposed continued alum treatment program. The alum treatment will continue to be carried out in the Main Body, East Bay, and transition area from the San Jacinto River.

No other changes to the project are envisioned at this time.

Pursuant to the provisions of CEQA and State and local CEQA Guidelines, LESJWA will serve as the Lead Agency for the Modified Project of the alum treatment at Canyon Lake. This is because LESJWA has agreed to serve as the CEQA Lead Agency on behalf of the stakeholders. LESJWA works alongside the Task Force, and serves as the Task Force administrator. As part of its decision making process, LESJWA is required to review and consider all potential environmental effects that could result from modifying the Original Project. LESJWA has compiled this Addendum as the basis for making a new CEQA environmental determination for this second extension to the originally approved project.

B. Background

Pursuant to CEQA and the State CEQA Guidelines, this Addendum has been prepared in order to determine whether the proposed extension of the Canyon Lake Hybrid Treatment Process Alum Treatment Program, summarized above, would result in conditions that would require a subsequent environmental document to be prepared because of changes in circumstances or new or additional adverse environmental impacts. This Addendum also reviews any new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the MND was approved in 2013. This examination includes an analysis in accordance with the provisions of Sections 15164 and 15162 of the State

CEQA Guidelines, which outline the criteria and procedures for preparing an Addendum and conducting a second tier environmental evaluation based on a previous environmental document, in this case the 2013 Initial Study/MND.

Also pursuant to CEQA and the State CEQA Guidelines, LESJWA's environmental review of the proposed project modifications is limited to examining the environmental effects associated with the physical changes in the environment from implementing the Modified Project in comparison to the approved and implemented project. This narrow focus is due to the fact that the previously certified MND has already addressed the environmental impacts of implementing Phase 1 of the Canyon Lake Hybrid Treatment Process through the use of alum. As permitted by CEQA Section 15150 of the State CEQA Guidelines, the 2013 Initial Study and MND, SCH No. 2013041082, as well as Addendum No. 1 to the 2013 IS/MND, are hereby incorporated by reference as part of the Addendum evaluation. A copy of this document is available to review at the LESJWA's office located at 11615 Sterling Avenue, Riverside, California 92503 or online at https://mywatersheds.com/.

III. CEQA REQUIREMENTS FOR AN ADDENDUM

This Addendum has been prepared in accordance with the current CEQA Statutes and Guidelines for implementing CEQA (2025). CEQA Section 15164 includes the following procedures for the preparation and use of an Addendum:

- (a) The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described any of the conditions in Section 15162 calling for the preparation of a subsequent EIR have occurred.

- (c) An addendum need not be circulated for public review, but can be included in or attached to the Final EIR or adopted negative declaration.

- (d) The decision-making body shall consider the addendum with the Final EIR or adopted negative declaration prior to making a decision on the project.

- (e) A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's required findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.

If changes to a project or its circumstances occur or new information becomes available after certification of an EIR or MND, the lead agency may: (1) prepare a subsequent EIR if the criteria of State CEQA Guidelines Section 15162(a) are met, (2) prepare a subsequent negative declaration, (3) prepare an addendum, or (4) prepare no further documentation. (State CEQA Guidelines Section 15162(b)) When only minor technical changes or additions to an approved Negative Declaration are necessary and none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred, CEQA allows the lead agency to prepare and adopt an addendum. (State CEQA Guidelines, Section 15164(b))

Under Section 15162, a subsequent EIR or negative declaration is required only when:

(1) Substantial changes are proposed in the project which will require major revisions of the previous negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the negative declaration due to the involvement of any new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

IV. ENVIRONMENTAL ANALYSIS OF THE PROPOSED MODIFICATION

Following the request from the Task Force to continue the alum application in Canyon Lake for the next five years, LESJWA considered the options for CEQA compliance with this second tier decision under the adopted and implemented Initial Study and MND and the 2015 Addendum No. 1. After considering the available compliance alternatives, a decision was made by LESJWA to recommend the adoption of a second Addendum to the MND as the appropriate CEQA environmental determination for the project modifications.

Based on the information available for this second tier evaluation, an addendum was prepared to provide the appropriate level of evaluation for the third Phase of the alum application at Canyon Lake as summarized in the preceding text. The purpose of this Addendum is to assess the related potential environmental impacts that would result from the extension of this project and the resulting changes when compared to the impact forecast contained in the 2013 Initial Study and MND. The following evaluation provides an analysis of potential environmental impacts in relation to the facts and findings contained in the 2013 Initial Study and MND incorporated by reference in the preceding sections. The following conclusions were developed regarding potential impacts from approval and implementation of the proposed project modifications and extension.

Note that a review of the changes in environmental circumstances over the past 12 years since the Initial Study and MND and Addendum No. 1 were adopted indicates that no major changes

have occurred in general land use within the project area. Uses surrounding Canyon Lake remain essentially the same: a mix of residences and water recreation support facilities.

After discussions with LESJWA, a review of current environmental conditions at Canyon Lake was conducted. As detailed in the Project Description, both the East Bay and Main Body continue to show positive responses to alum treatment through June 2025, with sustained reductions in total phosphorus and algal biomass (Appendix 1). Based on this information, the following analysis was performed:

a. *POTENTIAL TO DEGRADE: Does the project 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?*

Less than Significant Impact/No Changes or No New Information Requiring Preparation of an additional environmental document – Under the Original Project, as described in the 2013 MND and Initial Study, the entirety of Canyon Lake and the potential effects of the alum application were evaluated and approved. The project's implementation has been successful and there have been no significant adverse effects on the Canyon Lake environment since the alum applications commenced that are attributable to the project. Continuing to make up to two annual alum applications in Canyon Lake for the next five years (2025-2030) is not projected to cause any further changes to the environment that were not envisioned or discussed in the Original Project.

The initial biological resources analysis in 2013 is provided in Subsection IV of the Initial Study. No further biological studies have been conducted; thus, the analysis in the 2013 Initial Study will be used as the data for this Addendum henceforth.

On or around April 19, 2025, a bloom of golden algae (*Prymnesium parvum*) in Canyon Lake led to a major fish die-off. Originating in the East Bay, the bloom spread to the Main Lake within three weeks, affecting both areas. The event began with Threadfin Shad (*Dorosoma petenense*)and quickly expanded to include Largemouth Bass (*Micropterus salmoides*), Black Crappie (*Pomoxis nigromaculatus*), Common Carp (*Cyprinus carpio*), Bluegill (*Lepomis macrochirus*), and other sunfish species (*Lepomis* spp.). Golden algae densities rose steadily until June 11, then dropped sharply by June 25, and were undetectable by July 31. During this period, hundreds of juvenile and adult fish were removed, likely altering the lake's population structure. EPA-standard laboratory toxicity tests using fathead minnows showed a strong correlation between golden algae density and observed toxicity. In addition, aluminum levels measured shortly before and after the beginning of the fish die-off were below acute toxicity thresholds, which rules alum out as a direct factor and likely rules out alum as a contributing factor.

Although no formal fish population survey has been conducted in Canyon Lake since alum applications began in 2013, prior to the 2025 golden algae bloom, anecdotal reports from stakeholders and anglers suggest populations were stable or improved. In his 2013 Initial Study, Dr. John Reuter, a limnologist at UC Davis, noted that properly applied alum does not harm fish or lake ecosystems long-term. In fact, reductions in algal biomass and more stable dissolved oxygen levels often enhance ecological conditions. Between 2015 and 2025, no adverse effects from alum treatments have been observed, and based on original biological data, continued biannual applications over the next five years are not expected to cause significant negative ecological impacts.

The cultural resources evaluation in the 2013 Initial Study is provided in Subsection V of the Initial Study. No further cultural studies have been deemed necessary to conduct because the environment has not been substantially modified. The Initial Study found that there would be no cultural impacts that would result from implementing the proposed project, and no impacts are projected to arise from project implementation based on this Addendum. Thus, based on the data in the Initial Study, no new significant adverse cultural resource impacts will result from continuing to apply alum to Canyon Lake twice annually for the next five years.

In Conclusion, relative to the biological and cultural impacts forecast in the 2013 Initial Study, no significant adverse change or affect is forecast to occur in approving this Addendum and implementing the proposed extension of the alum application. No mitigation is required to support the implementation of the Modified Project.

b) *CUMULATIVE IMPACTS: Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when reviewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future project.)*

Less Than Significant Impact/No Changes or No New Information Requiring Preparation of an EIR. Those project-related environmental resources or issues subject to cumulative effects include the following: Aesthetics, Agricultural/Forestry Resources, Air Quality, Energy, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Public Services, Recreation, Transportation/Traffic, Tribal Cultural Resources, and Utilities and Service Systems. The 2013 Initial Study determined that, with the implementation of its recommended mitigation measures, the identified environmental issues would not result in significant project-specific or cumulative adverse impacts. Based on the analysis supporting this Addendum, the Modified Project is not expected to generate cumulative impacts beyond those already addressed in the 2013 Initial Study.

Aesthetics: Aesthetic issues are discussed in Subchapter I of the Initial Study. Future alum treatments will follow the same application methods outlined in the 2013 Initial Study, including the upstream transition zone where the San Jacinto River enters Canyon Lake. The proposed time extension does not involve any new above-ground structures, and all related activities will remain within the Original Project area as previously defined. There are no designated scenic highways near the project site, and scenic resources will either remain unchanged or improve with the Modified Project's continued implementation. Since the alum treatments began, water clarity in Canyon Lake has noticeably improved, enhancing its visual appeal. The Modified Project does not require any additional mitigation measures. Thus, the Modified Project is not forecast to negatively alter any aesthetic or visual impacts and no cumulatively considerable adverse aesthetic impacts will result from the Modified Project.

Agricultural Resources: Agricultural resources are discussed in Subchapter II of the 2013 Initial Study. Forestry resources were added to the Initial Study Checklist Form after 2015, but there are no forestry resources at Canyon Lake so no adverse impacts were anticipated on this resource. The project area of potential effects did not contain any agricultural resources and none will be affected by the Modified Project. No mitigation measures were proposed and none are required for the Modified Project. No cumulative adverse farmland impacts can result from implementing the Modified Project.

Air Quality: Air quality issues are discussed in Subchapter III of the 2013 Initial Study. The Initial study notes that projects such as the proposed Canyon Lake treatment project do not directly

relate to the Air Quality Management Plan (AQMP) in that there are no specific air quality programs or regulations governing water quality management activities. Emission calculations were based on the activities required to facilitate the alum application in the Lake twice a year in the Main Body and East Bay. The Modified Project may result in slightly different emissions calculations compared to those presented in the 2013 Initial Study, due to the potential for alum applications to occur at separate locations within Canyon Lake at different times, rather than simultaneously across all areas. This change could require transporting additional alum, potentially adding up to two more trucks per treatment than originally anticipated. As a result, emissions may increase slightly, but not to a level that would significantly affect air quality in the Canyon Lake area, as characterized in Table III-6 of the Initial Study. The proposed extension will continue to generate less-than-significant emissions from treatment activities. With the continued implementation of existing air quality mitigation measures, daily and annual emissions will remain below thresholds for cumulatively considerable impacts.

Energy: Energy was not identified as an issue of concern in the 2015 Initial Study Checklist. The energy demand associated with water treatment activities at Canyon Lake remains minimal. Support operations will involve approximately one to six truck trips and around six boat trips to deliver and apply alum, along with employee travel for treatment implementation. All equipment used will comply with standard air emission regulations. Given the limited scope of activity, the continuation of this water treatment program is not expected to result in any significant impacts to energy resources.

Greenhouse Gas Emissions (GHG): GHG was not an issue in the 2013 Initial Study. There will be no GHG construction emissions associated with the proposed project. The South Coast Air Quality Management District (District) has established a 3,000 MTCO2e threshold for the GHG significant emissions threshold. A recent evaluation of a 108-unit residential project determined that GHG emissions from this project are well below the established GHG significance threshold. Refer to Appendix 2. Given the limited activities associated with the proposed project when compared to that of a 108-unit residential project with far greater trips generated over the long term that would generate GHG emissions, the proposed project will clearly not generate significant GHG emissions.

Hydrology/Water Quality: The hydrology and water quality (water) issues are discussed in Subchapter IX of the 2013 Initial Study. The Initial Study proposed a number of mitigation measures that require the implementation of Best Management Practices that will need to be extended into the future for future alum application. No changes from the original hydrology and water quality assessments are predicted to occur with the Modified Project. Data compiled by GEI Consultants since the completion of the 2013 Initial Study (Appendix 1), show that water quality in Canyon Lake has improved due to alum applications. Specifically, the five-year rolling average for total phosphorus has decreased by 69% since 2011, while the five-year rolling average for chlorophyll-a has declined by 61% over the same period.

Additionally, laboratory toxicity testing performed in 2013 by GEI Consultants as part of the 2013 Initial Study and MND prior to the initial alum application in 2013 demonstrated that planned alum doses would not cause toxicity using standard EPA toxicity testing protocols when alum was dissolved in lake water.

Thus, with continued alum applications, the Modified Project has no potential to substantially alter the cumulative impact findings in the Initial Study regarding hydrology or water quality.

Land Use and Planning: Land use issues are discussed in Subchapter X of the 2013 Initial Study. The purpose of the Modified Project will continue in the same manner as the original approved project, which is to continue to treat excess phosphorus in Canyon Lake with alum to create a healthier lake ecosystem over time. The land uses remain the same within the existing project area and the overall community; so, no adverse impacts to or conflicts with existing land use issues can occur as a result of the Modified Project. Also, the project has clearly enhanced Canyon Lake recreation activities, thus, the Modified Project has no potential to substantially alter the cumulative impact findings in the 2013 Initial Study regarding area land use.

Mineral Resources: Mineral resources are discussed in Subchapter XI of the 2013 Initial Study. No mineral resource mining occurs within the project area and the application of the alum treatment to Canyon Lake does not affect mineral resource values or resource availability for the future. Thus, the Modified Project has no potential to cumulatively effect mineral resources as no mineral resource values occur within the project area.

Noise: The noise issue is discussed in Subchapter XII of the 2013 Initial Study. The evaluation of the noise generated by the Original Project concluded that alum transportation and application activities would create a less than significant impact based on the implementation of several mitigation measures, including limiting these activities to daylight hours. The current project extension will operate in the same noise environment as defined in 2013 as no other new noise sources will be generated by the operating activities. Implementing the required mitigations measures can mitigate these noise impacts; thus, these additional sources of noise are not forecast to rise to the level of significant impact, either site specific or cumulative. Thus, the Modified Project has no potential to cause cumulatively considerable noise impacts within the project area.

Population and Housing: Population and housing is discussed in Subchapter XIII of the 2013 Initial Study. There was no direct or indirect effect on population and housing from implementing the Original Project and there will be no population or housing effects from implementing the Modified Project. Thus, the Modified Project has no potential to cumulatively effect population or housing issues within the project area.

Public Services: Public services issues are discussed in Subchapter XIV of the 2013 Initial Study. There were no direct or indirect effects on schools, recreation/parks, or other public facilities from implementing the Original Project, and there will be no potential effects from implementing the proposed project current extension. The impact to fire protection and police protection in the 2013 Initial Study were considered less than significant because of the limited duration and nature of the proposed project. As stated in the Original Project, liquid alum is not flammable, but can decompose in a fire and release toxic vapor; however, the fire risk associated with this chemical is minimal, and therefore, the impacts to fire protection from implementing the Modified Project are less than significant. Also, because the proposed project current extension will operate on the same annual timeline (anticipated to be twice a year), impacts to police protection generated from criminal activity are not expected to deviate from the Original Project's findings. Thus, the Modified Project has no potential to cumulatively effect public service or recreation issues within the project area.

Recreation: Recreation is discussed in Subchapter XV of the 2013 Initial Study. Implementation of the Original Project, including its 10-year extension via Addendum No. 1, did not result in any significant direct or indirect impacts on recreation. While alum is being applied, temporary limitations on water contact activities are recommended, and minor, occasional floc accumulation has been observed in some areas of the lake immediately following treatment. However, these

effects have not been considered significant. Beyond what was evaluated in the 2013 Initial Study, no additional significant recreational impacts are anticipated from continued implementation of the Modified Project. The main goal of the Modified Project is to continue to enhance the physical and aesthetic qualities of the Lake and related aquatic recreation activities. Thus, the Modified Project has no potential to cumulatively effect recreation issues within the project area.

Transportation: Transportation issues are discussed in Subchapter XVI of the 2013 Initial Study. There were minor direct and indirect effects on transportation/traffic issues from implementing the Original Project, as a minimal number of truck deliveries would carry the alum to Canyon Lake twice a year before the date of application. The Modified Project creates a potential need for a maximum of two trucks trips per event may be required. This increase in truck trips is considered less than significant as the Modified Project will adhere to a maximum of 15 truck trips per day, spread throughout the day so as not to adversely disturb traffic circulation. The Original Project required mitigation through a traffic plan that should serve as a basis for the proposed project current extension as the changes to operational activities are negligible. Thus, with implementation of the required mitigation measure to assure adequate traffic flow during each event, the Modified Project has no potential to cause any cumulatively considerable adverse effects.

Tribal Cultural Resources: Tribal Cultural Resources (TCR) was not an issue in the 2013 Initial Study. Since the project's activities will occur within Canyon Lake and no new ground will be disturbed to implement the proposed project, the potential for disturbing any TCR is considered to be less than significant or no impact.

Utilities/Service Systems: The utility and service system issues are discussed in Subchapter XVII of the 2013 Initial Study. The only potential utility or service system impact from implementing the Modified Project is that there is a potential for a small amount of municipal wastes associated with short-term application activities. This impact was considered less than significant in the Original Project and should be considered less than significant under the proposed project current extension. Aside from this minor impact, there were no direct or indirect effects on utilities and service systems from implementing the Original Project and there will be no utilities and service systems effects from implementing the Modified Project. Thus, the Modified Project has no potential to cumulatively effect utilities and service systems within the project area.

Based on the preceding analysis, it is the conclusion of this Addendum that the potential adverse environmental impacts from the continued implementation of the proposed project will not be significantly greater than that identified for the 2013 Original Project, as portrayed in the IS/MND, and the project evaluated in Addendum No. 1 in 2015. There are no new significant impacts that result from the proposed project and no new circumstances occur at the project location that would change previous conclusions in the 2013 IS/MND regarding adverse environmental impacts.

c) *ADVERSE IMPACTS ON HUMANS: Does the project have environmental effects on human beings, either directly or indirectly?*

Less than Significant Impact/No Changes or No New Information Requiring Preparation of an EIR. Those project-related environmental resources or issues that pose a potential to have direct or indirect adverse effects on human beings include the following: air quality, geology and soils, hazards and hazardous materials, hydrology/water quality, noise, and wildfire. The 2013 Initial Study concluded that none of the above environmental issues would experience any significant project specific or cumulative adverse environmental impacts to people. Based on the analysis in

support of this Addendum, implementation of the Modified Project, which extends alum treatment to the next five years (2025 through 2030), will not result in effects on humans any greater than that identified in the 2013 Initial Study. This is because the scope of the Modified Project remains comparable to what was evaluated in the 2013 Initial Study. Substantiation for this conclusion is provided in the following text.

Air Quality: Please refer to the Air Quality discussion presented above. An evaluation of regional air quality effects in the 2013 Initial Study indicated that operating emissions during the alum application events from the Original Project would not cause a significant impact on regional or local air quality with implementation of mitigation measures. The event emissions are below significance thresholds with the application of the air quality mitigation measures identified in the 2013 Initial Study. The mitigation measures identified for the Original Project will be implemented for the Modified Project and no significant adverse impacts to human beings will result from implementing the proposed project.

Geology and Soils: Geology and Soils are discussed in Subchapter VI of the 2013 Initial Study. The project area is in a seismically active region but is not within an Alquist-Priolo Earthquake Fault Zone. However, the Modified Project's operations will all be conducted outside of any structure, which greatly reduces any exposure to hazards from geologic events such as seismic-related ground failure, including liquefaction, landslides lateral spreading or subsidence. As with the Original Project, the proposed Modified Project has no potential for significant geological impacts on humans because the alum application events do not expose human health to geological hazards.

Hazards and Hazardous Materials: Hazards and hazardous materials are discussed in Chapter 8 of the 2013 Initial Study. There is no evidence that identified any contaminated sites at or in the vicinity of the Project site. Mitigation was required in the 2013 Initial Study to control the potential effects of an accidental spill of alum during the application events. The Modified Project will be required to implement these mitigation measures to prevent contamination during the application event. Implementation of the mitigation measures for the Modified Project will ensure that no significant hazards or hazardous material impacts to human will occur. Thus, no potential exists to increase human impacts for this issue with implementation of the Modified Project.

Hydrology and Water Quality: Please refer to the hydrology and water quality discussion presented above. An evaluation of the local hydrology and water quality effects in the 2013 Initial Study identified a potential for water quality impacts during the alum application that could be mitigated through the implementation of a number of mitigation measures to prevent any adverse impacts to hydrology and water quality less than significant. The Modified Project will require these mitigation measures to be implemented in order to bring the impacts to hydrology and water quality to a less than significant level. Thus, with the implementation of these mitigation measures, the Modified Project has no potential to significantly increase the exposure to hydrology impacts or water quality impacts as characterized in the 2013 Initial Study. In fact, according to the historical water quality data compiled by GEI Consultants (Appendix 1), water quality in Canyon Lake has improved substantially since the application of alum. No additional significant adverse direct effects on humans due to exposure to flood hazards or water quality degradation will result from implementing the proposed Modified Project.

Noise: Please refer to the noise discussion presented in the previous section. The evaluation of noise generated by the Original Project concluded that the alum application events would be less than significant based on the implementation of several mitigation measures, including limiting construction activities to daylight hours. No complaints from lake users or residents of the City of

Canyon Lake have been logged regarding noise related to alum application and none are expected to result from the implementation of the Modified Project. With the maximum of two additional truck trips and alum applications per event, the noise levels are not expected to increase to an objectionable level. Thus, by implementing the required mitigation measures, no significant adverse direct or indirect noise effects on humans will result from implementing the Modified Project.

Wildfire: Wildfire was not a major issue of concern on the Initial Study Checklist Form in 2015. However, the potential areas where the alum will be delivered and applied are not areas exposed to significant wildfire hazards. In addition, the alum is not a known wildfire hazard chemical. Thus, the continued application of alum at Canyon Lake does not significantly increase wildfire hazards or exposure to such hazards.

Based on the above analysis, the implementation of the Modified Project to 2035 is not forecast to cause any significant direct or indirect adverse impacts on humans. No major changes have occurred within the project's environmental setting to increase such hazards. In fact, since the Original Project's implementation, many positive effects, such as water quality and water clarity, have been measured and observed to be improved. Thus, no new or additional significant adverse impacts to humans can occur from implementing the Modified Project.

V. CONCLUSION

The information presented in the 2013 Initial Study, prepared for the City of Canyon Lake as the CEQA Lead Agency, was used as a basis for the analysis in this Addendum, updated with current information from the sources cited, referenced, and attached. Upon review of the 2013 Initial Study the information and findings contained in this Addendum and all of the supporting evidence, it is the conclusion of this Addendum that the potential adverse environmental impacts from continued implementation of the Modified Project, as described in the Project Description of this document, will not cause any new or more significant impacts to the environment than described in the 2013 Initial Study and summarized in this Addendum. There are no new significant impacts that result from the Modified Project, based on continuing to implement all of the mitigation measure commitments in the 2013 Initial Study.

As described in Section IV, a significant fish die-off occurred in Canyon Lake in April 2025, which some residents attributed to recent alum applications. Although alum was applied during the week of March 24, about three weeks before the event, aluminum levels measured on April 17 as part of routine TMDL monitoring (prior to the die-off) and April 23 (after dead fish were observed), were below acute toxicity threshold concentrations. These results indicate that based on current available data and information alum is likely not a contributing factor. Additionally, EPA protocol laboratory tests showed a strong correlation between golden algae density in lake water and fathead minnow toxicity. A similar trend was observed in the lake, where declining golden algae levels coincided with a reduction in fish deaths.

This Addendum updates the Modified Project activities, which involve continuing alum treatments at Canyon Lake up to twice annually through 2030. It provides stakeholders and LESJWA with evidence supporting the conclusion that the Modified Project will not result in substantial physical environmental changes requiring a new negative declaration or environmental impact report. Such documentation would only be necessary if the project introduced new significant environmental effects or substantially increased the severity of previously identified impacts. Based on the findings presented, LESJWA may appropriately rely on this Addendum in accordance with Section 15164(b) of the State CEQA Guidelines.

Pursuant to CEQA Section 15164, the Initial Study adopted in 2013, as updated with this Addendum, can be relied upon for documentation of the effects of the Modified Project on the environment. Because the changes in this project do not exceed the thresholds outlined in Sections 15162 and 15164 of the State CEQA Guidelines, no further analysis of the environmental impacts of the project is required in a Supplemental/Subsequent EIR or MND. The Modified Project does not alter the conclusions contained in the Initial Study as adopted by the City in 2013. The analysis presented above of the changes and additions to the adopted project justifies the issuance of an Addendum to the City of Canyon Lake's original 2013 Initial Study by LESJWA.

This Addendum to the Initial Study for the extension of alum applications to Canyon Lake for the next 5 years (2025-2030) includes the changes or additions necessary to make the adopted environmental document adequate under the CEQA for the Modified Project. This Addendum incorporates the adopted 2013 Initial Study, Addendum No. 1 to the 2013 Initial Study, and this document and all staff reports and information submitted to the decision-makers regarding environmental issues affected by the proposed Modified Project. This Addendum is intended as an additional information document to provide decision-makers and others, as appropriate, with an objective assessment of the potential environmental impacts associated with the implementation of the Modified Project.

VI. REVIEW AUTHORITY

LESJWA serves as the CEQA lead agency for this project in 2025. It is recommended that an Addendum be adopted as the appropriate CEQA environmental determination for the proposed extension of alum applications to Canyon Lake twice a year for the next 5 years, through 2030.

VII. CERTIFICATION

FIGURES

FIGURE 1
Regional Location

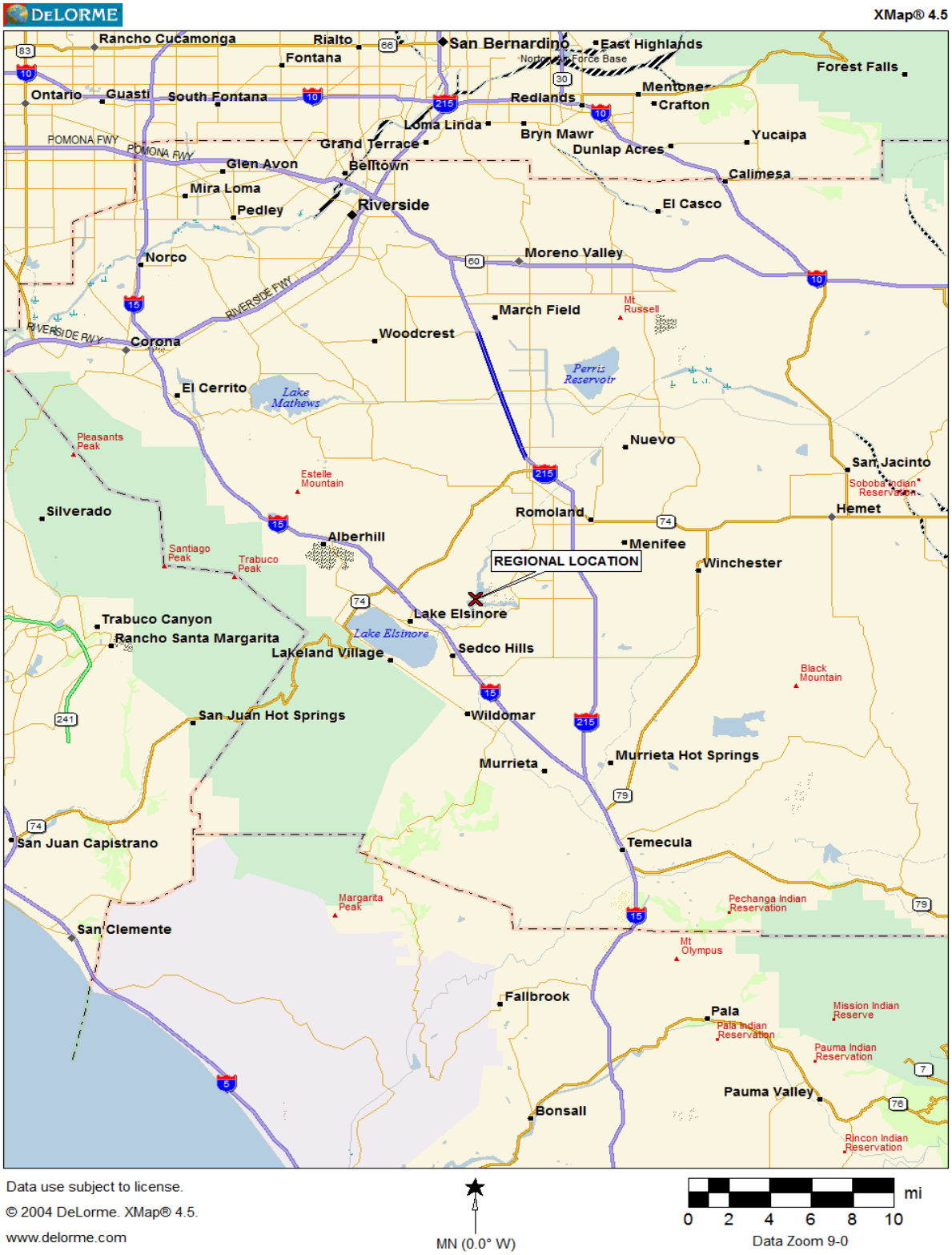
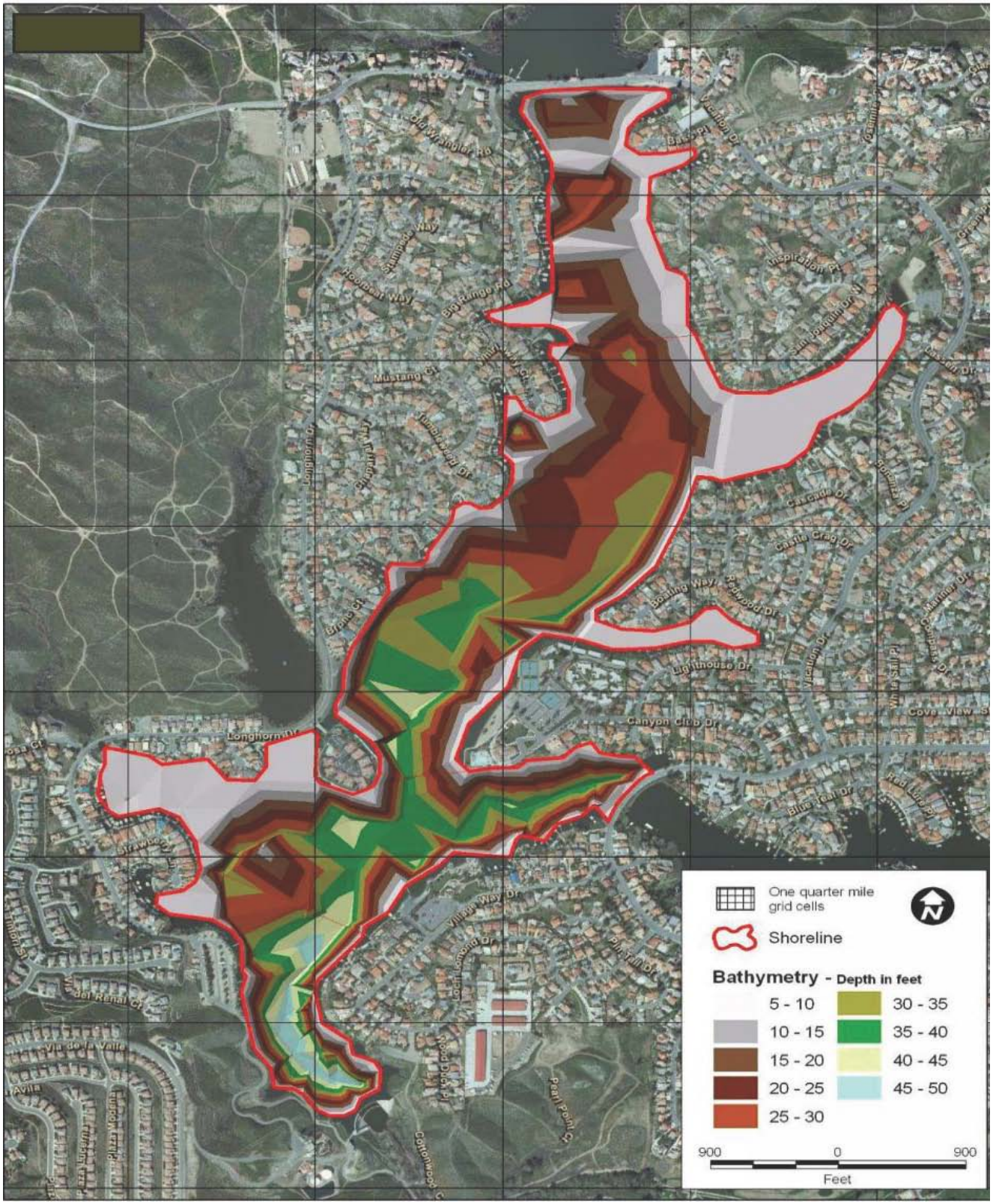


FIGURE 2
Site Location

FIGURE 3
Vicinity Map of Canyon Lake

Source: PACE "*Canyon Lake Hypolimnetic Oxygenation System Preliminary Design Phase 1 Report*," April 2011

FIGURE 4
Bathymetry Map of Central Body of Canyon Lake

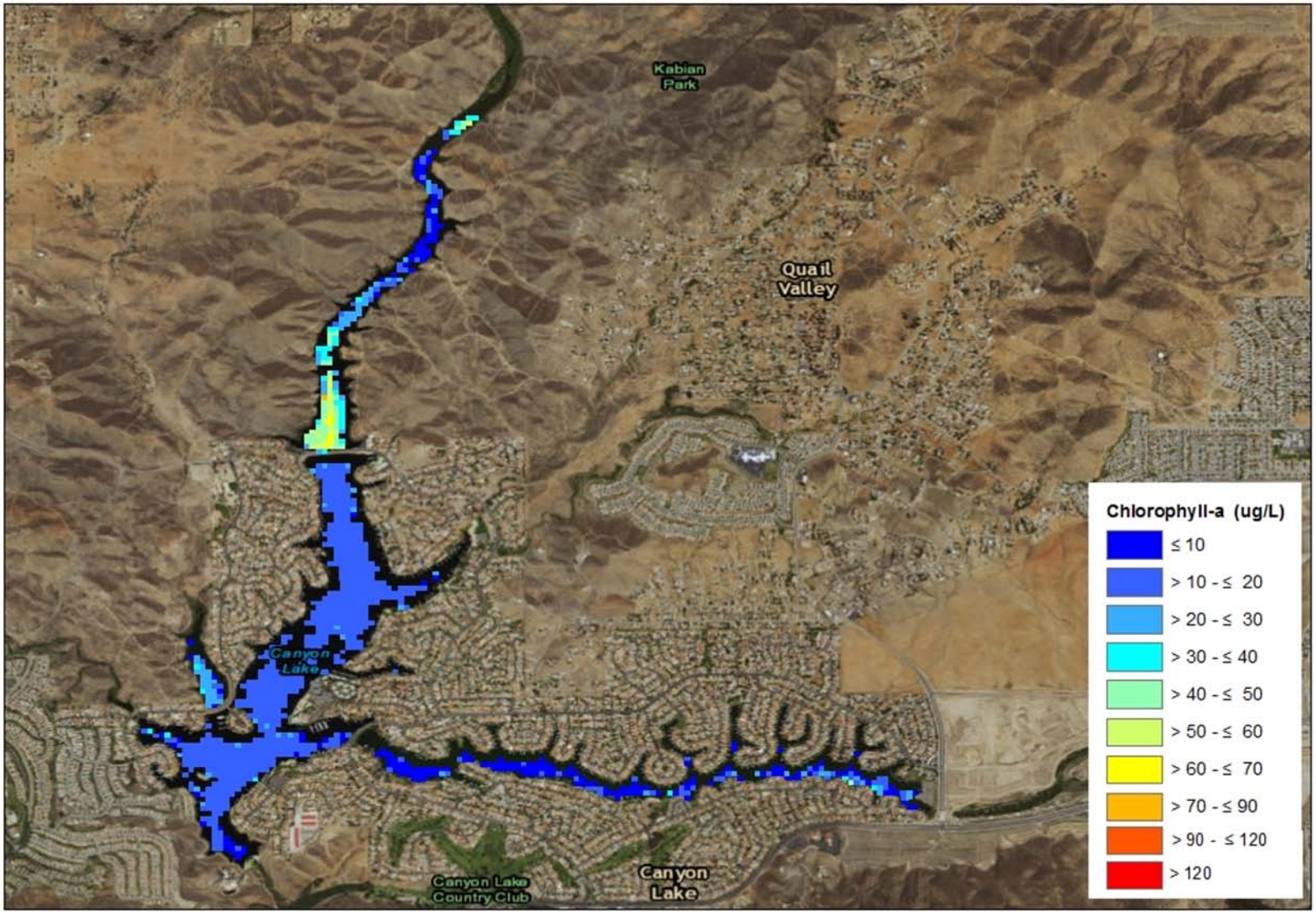


Source: PACE "*Canyon Lake Hypolimnetic Oxygenation System Preliminary Design Phase 1 Report*," April 2011

FIGURE 5
East Bay Boat Launch Area

FIGURE 6
Main Lake Boat Launch Area

FIGURE 7
Satellite Assessment of Chlorophyll-a Concentrations in Canyon Lake



amec foster wheeler

Chlorophyll-a Concentrations
Canyon Lake
July 31, 2015 Sampling Event

APPENDIX 1

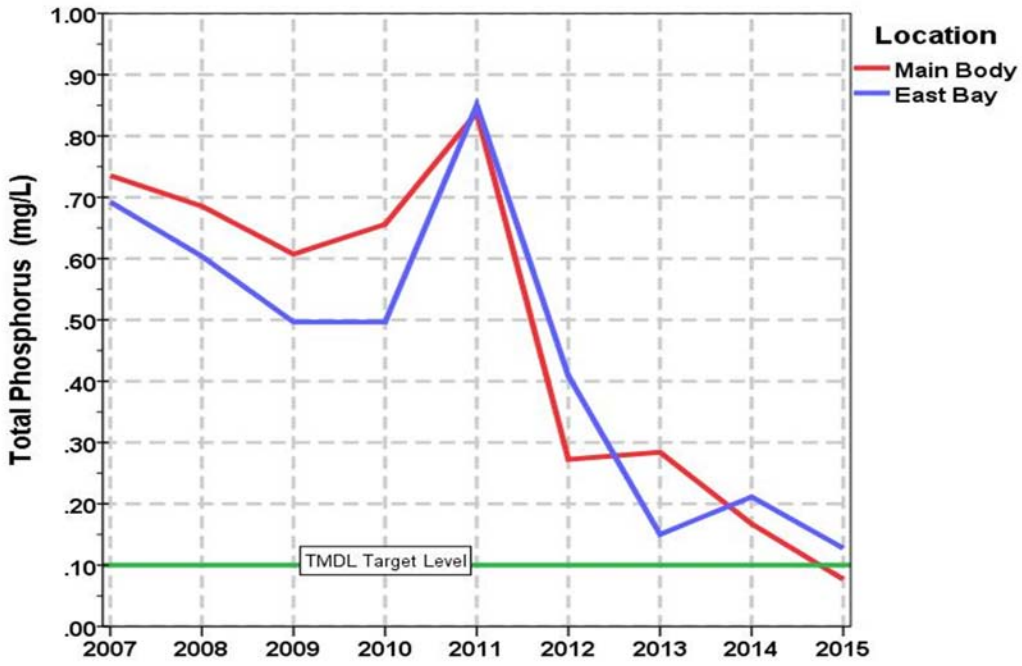
Justification for Extending and Expanding the Pilot Alum Application Program in Canyon Lake

In September of 2013, stakeholders in the San Jacinto River watershed initiated a pilot program to apply aluminum sulfate ("alum") in Canyon Lake. The purpose of this program was to evaluate the efficacy of using alum to reduce phosphorus concentrations lake and thereby prevent the growth of excess algae in the lake.

The pilot program was scheduled to apply approximately 840 tons of alum to the lake in five separate events spread over 25 months. The final alum application for the pilot program occurred in September of 2015.

Throughout the pilot project, routine water quality monitoring was performed to assess the effectiveness of the program. Each ton of phosphorus is expected to neutralize at least nine pounds of phosphorus. Therefore, the pilot alum application program sequestered more than 7,600 pounds of phosphorus. Preliminary water quality monitoring data confirms that average phosphorus concentrations have declined significantly. By mid-2015, the Main Body of Canyon Lake was already meeting the TMDL target for total phosphorus (0.1 mg/L) five years ahead of the regulatory deadline. And, the East Bay was almost there as well (see Fig. 1).

Fig. 1: Long-term Trends for Average Phosphorus Concentrations in Canyon Lake



Reducing the bioavailable phosphorus concentrations in the water column is expected to reduce algae levels in the lake. Data from the water quality monitoring program confirms that this is, in fact, occurring (see Table 1). Compared to the two years prior to initiation of the pilot alum project, average Chlorophyll-a concentrations in the Main Body have fallen 27% in the Main Body and 37% in the East Bay. And, as a result water clarity is improving dramatically throughout Canyon Lake (see Fig. 2).

Table 1: Average Chlorophyll-a Concentrations in Canyon Lake

Chlorophyll-a	Main Body	East Bay
2011-12	48 mg/L	81 mg/L
2014-15*	35 mg/L	51 mg/L
Algae Reduction	13 mg/L	30 mg/L
Pct. Improvement	27%	37%

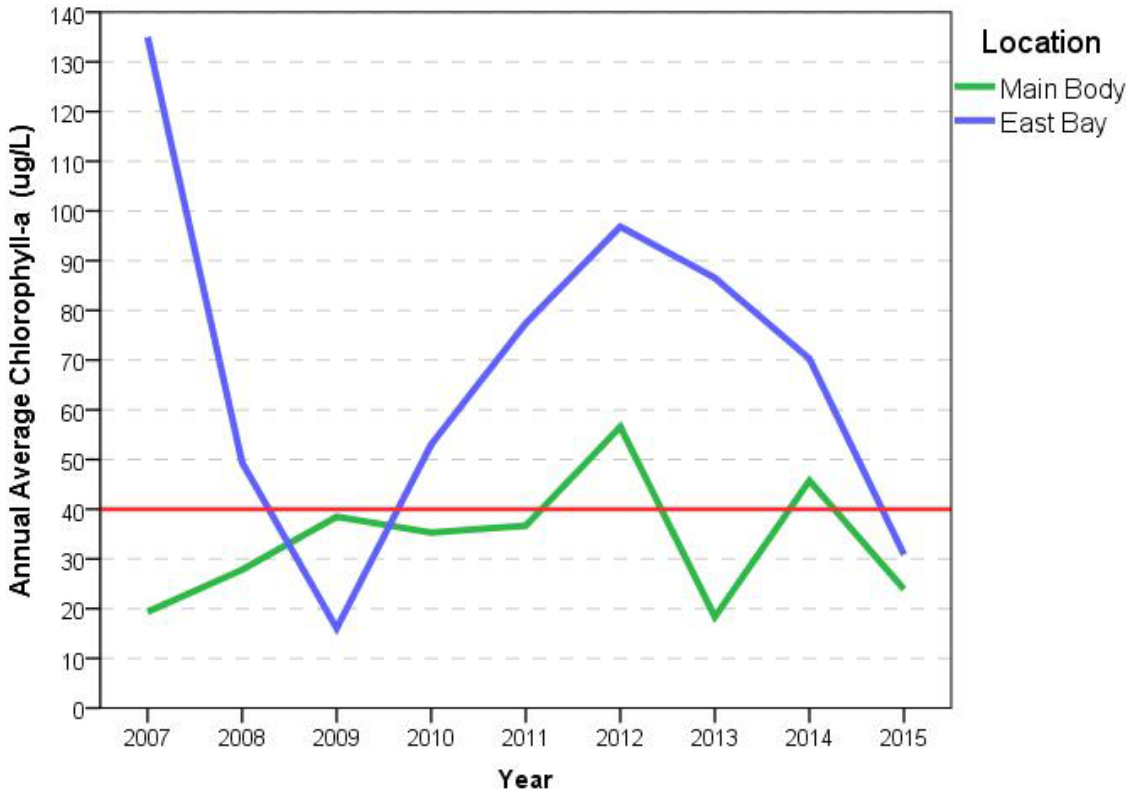
**Jan., 2014 –May, 2015*

Fig. 2: Long-term Trends for Water Clarity in Canyon Lake**

***Jan., 2007 – Aug., 2015.*

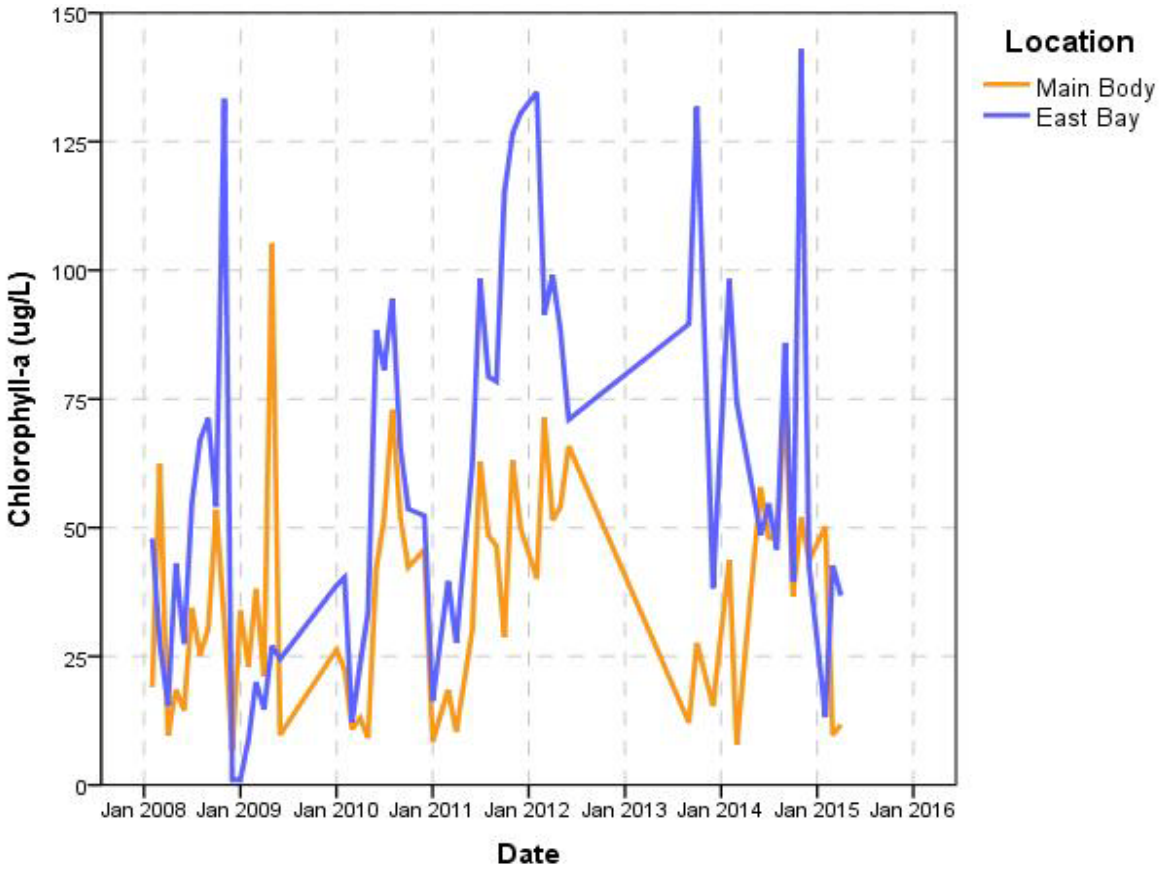
It appears that both the Main Body and East Bayt of Canyon Lake are likely to meet the TMDL target of 40 mg/L for Chlorophyll-a by the end of 2015 (see Fig. 3). The annual average Chlorophyll-a concentration for the entire lake must be at or below 25 mg/L by December 31, 2020. Additional alum applications will be necessary to meet the final TMDL target.

Fig. 3: Long-term Trends for Average Annual Chlorophyll-a Concentrations in Canyon Lake



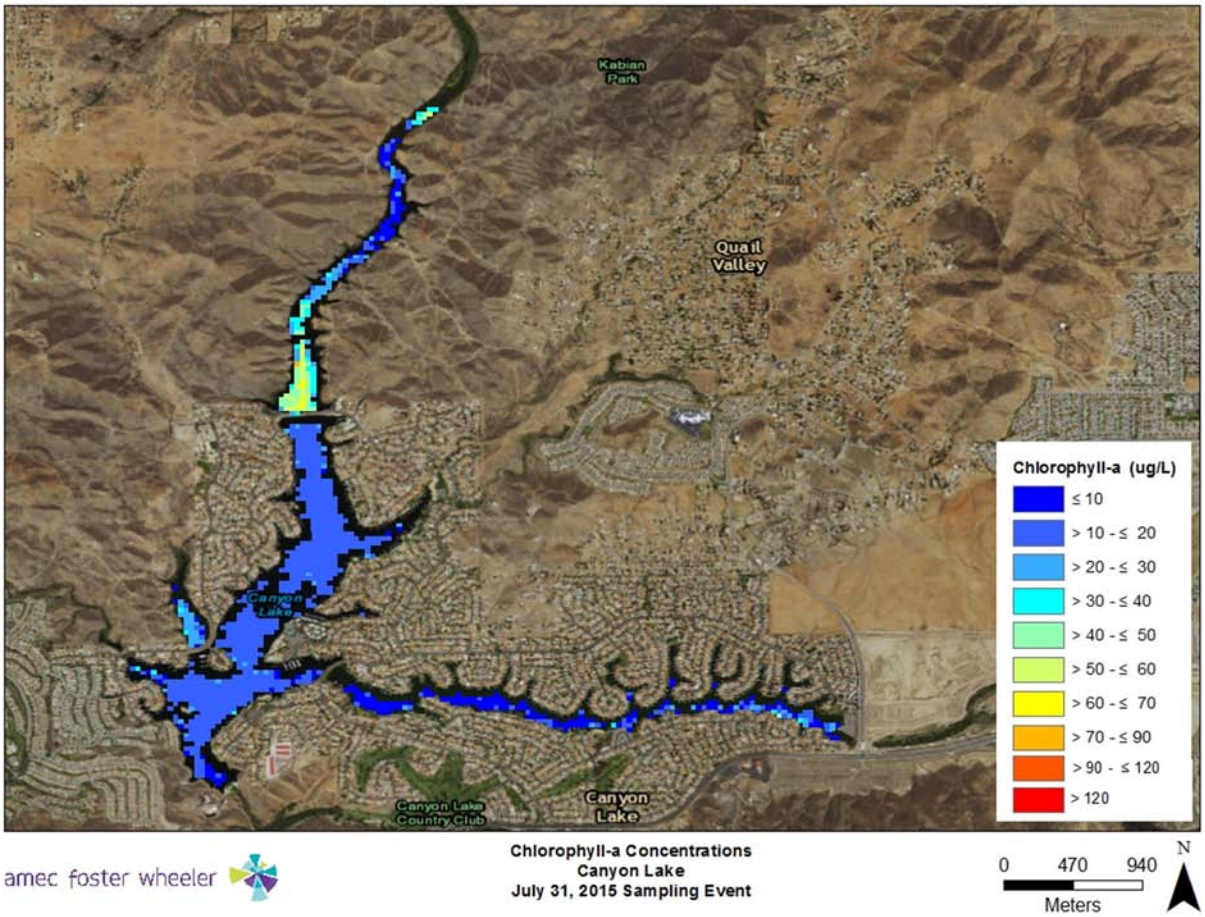
Results from the pre- and post-project water quality monitoring program show that regular alum applications are significantly reducing average phosphorus and Chlorophyll-a concentrations in the lake while dramatically improving water clarity. However, there continue to be wide month-to-month variations in measured chlorophyll concentrations (see Fig. 4). This will likely continue to be the case until the cumulative effect of all alum applications is sufficient to offset the legacy load of phosphorus resident in the lake bottom sediments. Dr. Michael Anderson of U.C.-Riverside estimates that, to date, the pilot program has sequestered approximately 30% of the bioavailable phosphorus in Canyon Lake.

Fig. 4: Average Monthly Chlorophyll-a Concentrations in Canyon Lake

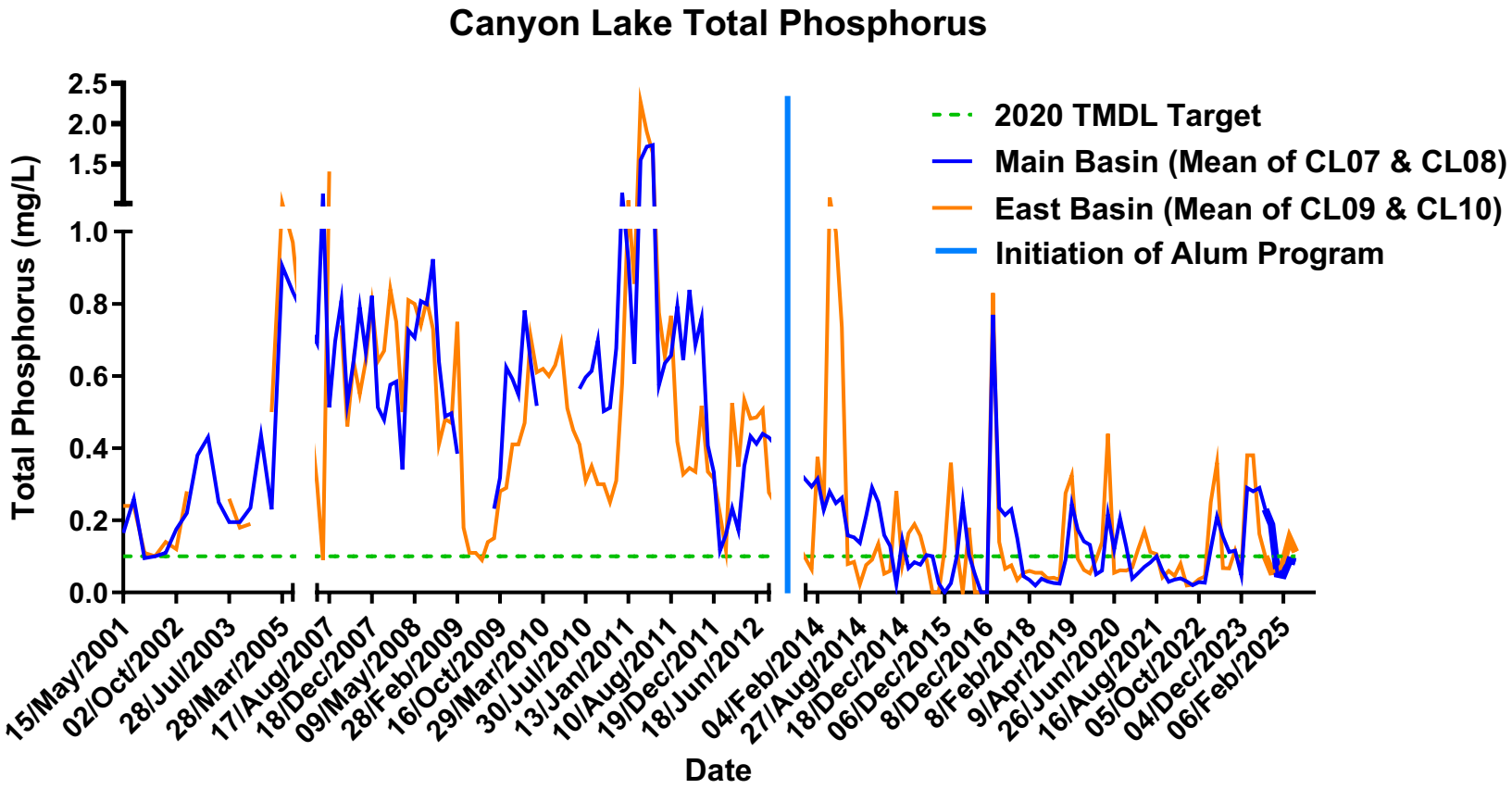


Empirical evidence from the pilot project is sufficient to demonstrate that the program should be extended to allow, but not require, additional alum applications for the next 10 years. In addition, the program should be expanded to allow alum applications in the area where the San Jacinto River broadens and begins forming Canyon Lake. Recent satellite monitoring data shows this is the only area of Canyon Lake with elevated Chlorophyll-a concentrations and would likely benefit from alum applications similar to those that have been performed throughout the rest of the lake (see Fig. 4).

Fig. 4: Satellite Assessment of Chlorophyll-a Concentrations in Canyon Lake



APPENDIX 2

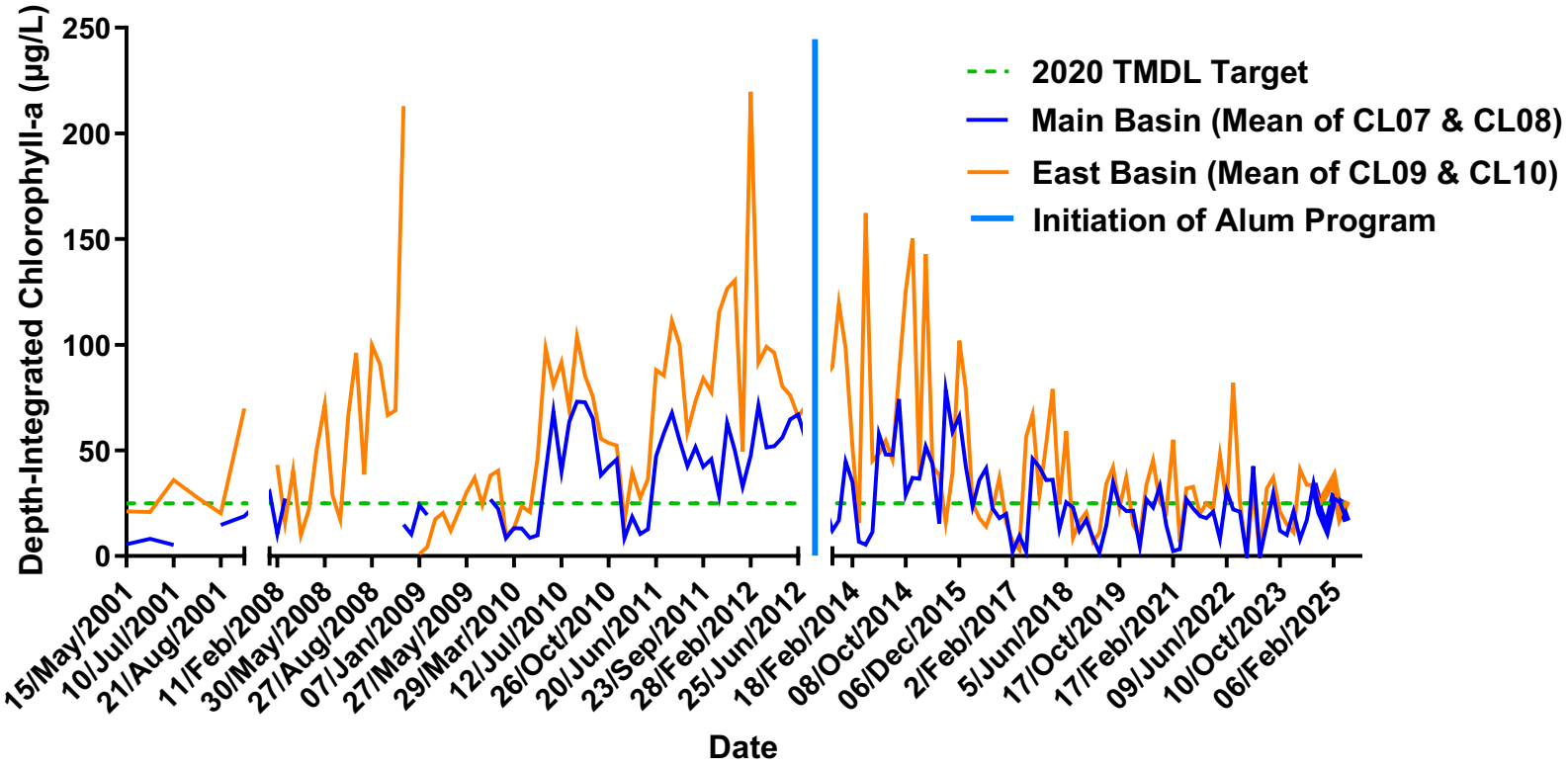


No data available from May 2005-July 2007; June 2012-Sept 2013

TMDL target of 0.1 mg/L is annual average to be attained by 2020

Bold represents current monitoring year July 2024-June 2025

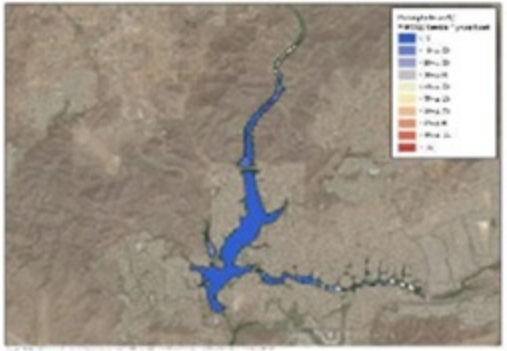
Canyon Lake Depth-Integrated Chlorophyll-a



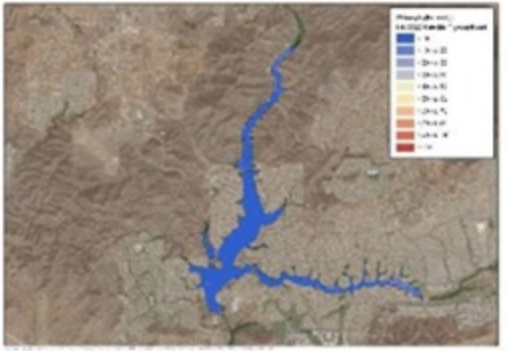
No data available from June 2012-July2015

2020 TMDL target of 25 µg/L is annual average to be attained by 2020

Bold represents current monitoring year July 2024-June 2025

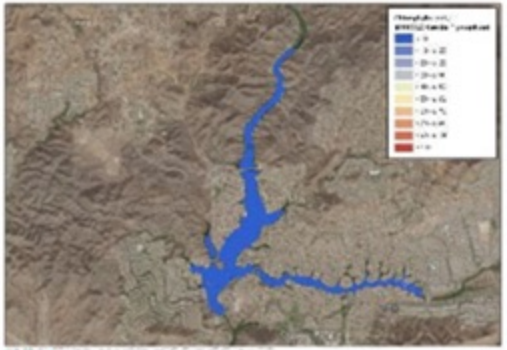


July 18, 2022



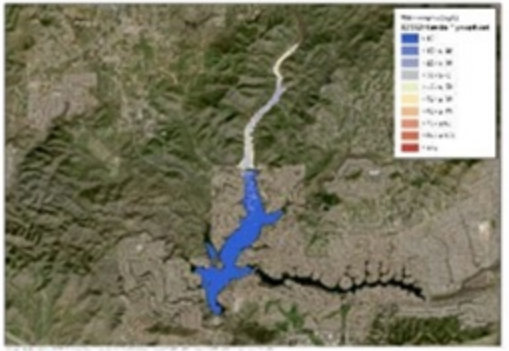
August 11, 2022

September 20, 2022



October 5, 2022

December 19, 2022



February 7, 2023

Figure 3-21. Satellite Imagery of Chlorophyll-a Concentrations in Canyon Lake

(February 2023 data gap in the eastern arm due to source file corruption)

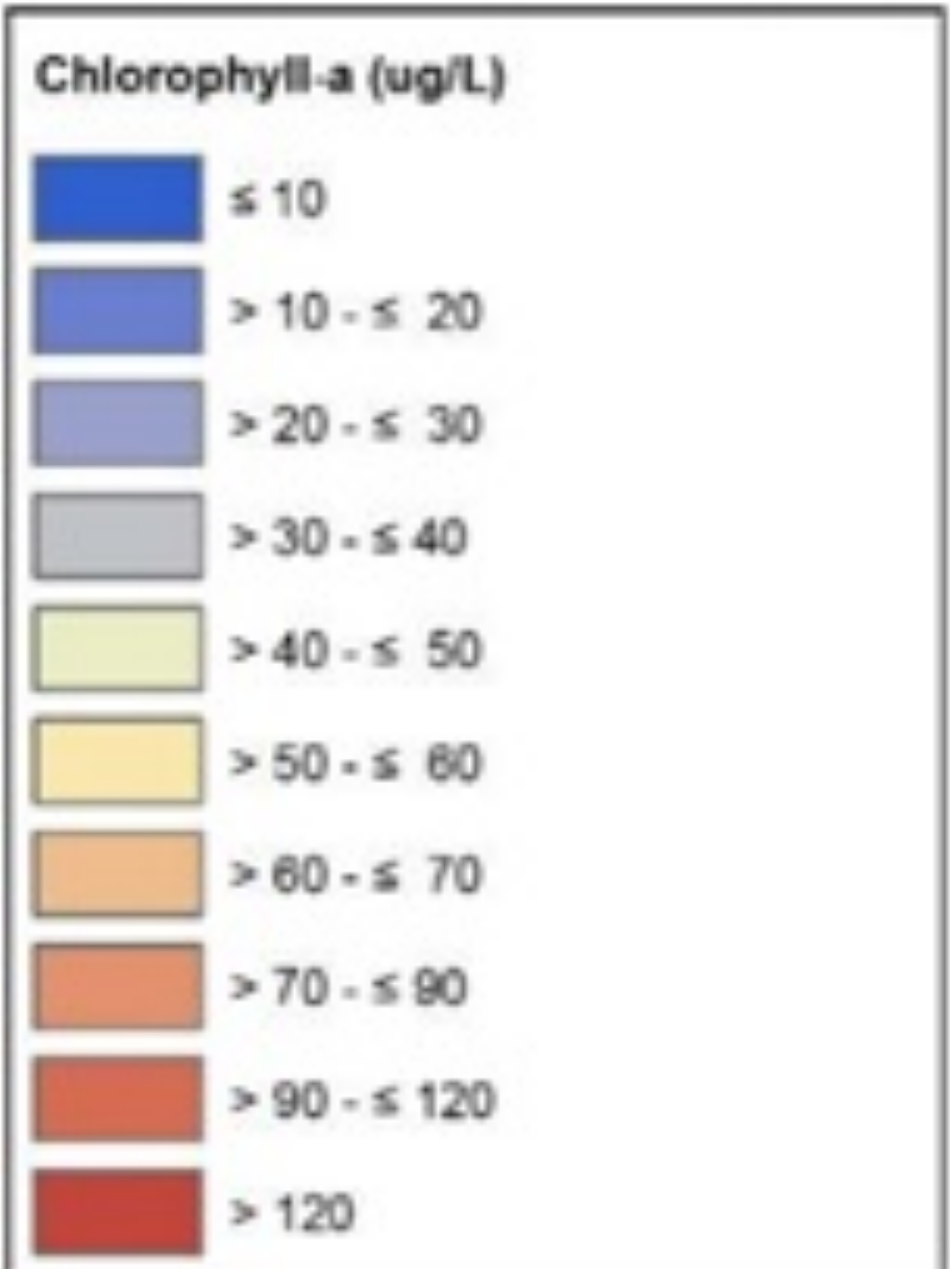

Chlorophyll-a (ug/L)
≤ 10
> 10 - ≤ 20
> 20 - ≤ 30
> 30 - ≤ 40
> 40 - ≤ 50
> 50 - ≤ 60
> 60 - ≤ 70
> 70 - ≤ 90
> 90 - ≤ 120
> 120

Fig. 2: Long-term Trends for Water Clarity in Canyon Lake**