
Santa Ana Regional Water Quality Control Board

September 9, 2026

Erika Beyer
LESJWA Administrator
11615 Sterling Avenue
Riverside, Ca, 92503

Subject: Canyon Lake Alum Applications for Spring and Fall 2026

Dear Ms. Beyer:

Thank you for your letter dated July 7, 2026, submitted on behalf of the Lake Elsinore and Canyon Lake TMDL Task Force (LECL TMDL Task Force) regarding planned alum applications to Canyon Lake for Spring and Fall 2026. In your letter, the LECL TMDL Task Force reported that alum has been applied to Canyon Lake, semiannually, to “control various forms of algae, including cyanobacteria, to protect the lake’s beneficial uses, including recreation (REC-1).” Your letter presents a hypothesis that reductions in total phosphorous associated with alum treatment may alter water-quality conditions in ways that influence golden algae abundance and/or toxicity. The currently available information does not establish a causal relationship, and further study is needed to evaluate this hypothesis and other potentially important water-quality factors.

In your letter, you request written confirmation from the Executive Officer of the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) supporting a temporary pause in alum application while the LECL TMDL Task Force conducts exploratory studies, as described in your submittal. Additionally, you request confirmation that suspending alum applications in the short term will not result in compliance issues for MS4 permittees and other Task Force participants under their existing authorizations granted by the Santa Ana Water Board for discharges of nutrients to Canyon Lake.

The Santa Ana Water Board concurs with the conclusion that a pause in alum application is warranted at this time, and the request to forgo alum applications in the short term (i.e. spring and fall 2026) until additional studies can be performed is hereby APPROVED. Extension of this pause in alum application may be granted provided justification.

Santa Ana Water Board Staff will continue to engage with the Task Force on monitoring data, study progress and findings, and lake conditions, including risks associated with

JOHN SCANDURA, CHAIR | ERIC LINDBERG, EXECUTIVE OFFICER

cyanobacteria, golden algae, nutrient conditions, and protection of beneficial uses. This letter of conditional support is subject to following requirements and considerations:

1. Coordination with Santa Ana Water Board Staff on Cyanobacteria Management

Alum applications have been implemented in Canyon Lake under the Comprehensive Nutrient Reduction Program for more than a decade, with semiannual applications conducted as part of the nutrient-management program. Given the potential for cyanobacteria blooms to disrupt recreational uses, aquatic life, and other beneficial uses in Canyon Lake, the LECL TMDL Task Force must continue to coordinate with Santa Ana Water Board staff regarding cyanobacteria monitoring, assessment, and response actions. During the suspension period, monitoring must provide adequate temporal and spatial coverage and include cyanobacterial abundance and relevant cyanotoxins, together with other water-quality parameters needed to evaluate bloom conditions. The Task Force must use predefined or otherwise scientifically supported response criteria to determine when management intervention is warranted. The LECL TMDL Task Force must promptly notify the Santa Ana Water Board of observed increases in cyanobacteria or cyanotoxins that may threaten beneficial uses and describe the monitoring, mitigation, and response actions that will be implemented

2. Evaluation of Alternatives to Alum

In addition to evaluating the potential direct and indirect effects of alum and lanthanum-based products on golden algae abundance and toxicity, including associated changes in nutrient and water-quality conditions, the LECL TMDL Task Force must continue evaluating feasible alternatives for nutrient and cyanobacteria management in Canyon Lake. The evaluation should consider tradeoffs among phosphorus control, cyanobacteria, golden algae abundance and toxicity, and protection of beneficial uses. Task 4 of Phase II TMDL Implementation requires an evaluation of the effectiveness of the Canyon Lake alum project and exploration of the feasibility of implementing other in-lake projects. This task is to be completed within one year of the TMDL's effective date. The LECL TMDL Task Force should continue to include Santa Ana Water Board staff in planning discussions related to this evaluation and consideration of alternative management options.

3. Submit "Canyon Lake Golden Algae Toxicity Evaluation" Report to Santa Ana Water Board

The June 5, 2026 revised scope of work describes an experiment with "overarching goals to understand the influence of basic water quality parameters on the viability of golden algae and assess the potential indirect impact of alum and lanthanum-based products on the growth of golden algae." A draft report is expected to be available by mid-October 2026. Water Board staff would appreciate the opportunity to review and provide comment on the draft report. The report should provide a comprehensive and scientifically supported

assessment of the experimental findings. Delivery of the final report to the Executive Officer is a requirement of this approval. At a minimum, the final report should include:

- Study hypotheses; treatment and control design; replication; treatment concentrations and doses; methods and quality assurance/quality control (QA/QC); and statistical analysis
- Results for golden algae abundance and an appropriate toxicity endpoint, together with relevant phosphorus and nitrogen measurements, pH, temperature, conductivity/salinity, dissolved oxygen, and other pertinent water-quality parameters
- Evaluation of relevant spatial differences, including East Basin and Main Basin conditions, and discussion of potential confounding factors, uncertainties, limitations, and deviations from the scope of work
- Summary of results and conclusions, including a clear statement of whether the findings support causation, association, or no supportable relationship; management and/or monitoring recommendations; and proposed next steps that consider the effects and tradeoffs associated with both golden algae and cyanobacteria

Provided the conditions outlined above are met, Santa Ana Water Board staff will exercise enforcement discretion to the extent permitted by law with respect to exceedances of waste load allocations for Canyon Lake to the extent monitoring data and technically supported analysis demonstrate that an exceedance is reasonably attributable to the temporary suspension of the Spring 2026 alum application and the Fall 2026 alum application. This enforcement discretion applies to Task Force participants operating under existing waste discharge requirements issued by the Santa Ana Water Board for discharges of nutrients to Canyon Lake. All other requirements of those waste discharge requirements remain in full effect.

The Santa Ana Water Board appreciates the LECL TMDL Task Force's continued efforts to improve water quality conditions in Canyon Lake and values the collaborative approach taken to address golden algae and the complexities this adds to lake management.

If you have any questions regarding this letter, please contact Lauren Hubbell at lauren.hubbell@waterboards.ca.gov or (951) 320-6375.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eric T. Lindberg', with a stylized, flowing script.

Eric T. Lindberg, PG CHG
Executive Officer