

**STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – LOS ANGELES REGIONAL WATER BOARD
MARCH 7, 2017**

ITEM 6

SUBJECT

CONSIDERATION OF A PROPOSED RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION (BASIN PLAN) TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR NUTRIENTS IN THE SANTA CLARA RIVER LAKES.

DISCUSSION

The Los Angeles Water Board adopted a TMDL for nutrients in the Santa Clara River Lakes (Elizabeth Lake, Munz Lake, and Lake Hughes) on September 8, 2016 as [Resolution No. R16-006](#). This TMDL addresses water quality impairments due to eutrophic conditions in the Santa Clara River Lakes, which are located in the upper Santa Clara River Watershed. The nutrient-related impairments are caused by excessive loading of nutrients, particularly nitrogen and phosphorus. Nutrient loading and the resulting ecological responses in the Santa Clara River Lakes results in impairments of beneficial uses associated with contact and non-contact recreation, and habitat beneficial uses in all three lakes. In addition, the nutrient loading impairs aquatic life beneficial uses of Elizabeth Lake, and the groundwater recharge beneficial use of Munz Lake.

In general, pollutants loaded to a waterbody come from an external source (i.e., external loading). However, in lakes it is also common for pollutants, particularly nutrients, to be recycled within the lake (i.e., internal loading). This is the case for Elizabeth Lake and Lake Hughes, where internal loading from bed sediments comprises over 99% of the current nutrient loading to the lakes. Other sources of nutrients to these lakes include sheet flow from the surrounding land, atmospheric deposition, onsite wastewater treatment systems (OWTS), and the Lake Hughes Community Wastewater Treatment Facility (WWTF).

To determine the nutrient loading capacity of the Santa Clara River Lakes, the TMDL followed the California Nutrient Numeric Endpoints (NNE) approach developed by U.S. EPA Region 9 and the State and Regional Water Quality Control Boards. This approach has previously been used in the Machado Lake Nutrients TMDL, the Ventura River Algae TMDL, and the Los Angeles Area Lakes TMDL. The NNE approach was used to set numeric targets for biological response indicators (chlorophyll *a*, dissolved oxygen, and pH) as well as the numeric nutrient endpoints (total nitrogen and total phosphorus) that cause the biological response. The NNE BATHTUB modeling tool was then used to calculate an allowable load of total nitrogen and total phosphorus that would meet the chlorophyll *a* targets for each lake. Because the BATHTUB model could not be calibrated to the extremely high nutrient concentrations in Elizabeth Lake and Lake Hughes, the BATHTUB model was calibrated to the conditions in Munz Lake. The calibrated model was then applied to all three lakes, taking into account each one's unique physical characteristics (e.g., depth, size).

For Munz Lake, where the internal loading is negligible, allocations were developed assuming equal percent reductions in all sources. For Munz Lake, each source is required to reduce its total nitrogen loading by 22.83% and total phosphorus loading by 11.74%.

Because the internal loading contribution is so large for Elizabeth Lake and Lake Hughes, an equal percent reduction approach was not appropriate, since it would require that the external sources be reduced significantly lower than background conditions. For Elizabeth Lake, internal loading from lake sediments needs to be reduced by over 99% for total nitrogen and total phosphorus. The remaining sources to Elizabeth Lake need to reduce their loads of total nitrogen and total phosphorus by 19.843% and 18.67%, respectively.

For Lake Hughes, internal loading from lake sediments also needs to be reduced by over 99% for total nitrogen and total phosphorus. The remaining sources to Lake Hughes need to reduce their loads of total nitrogen and total phosphorus by 20.7% and 3.2%, respectively.

The TMDL offers flexibility in how allocations can be attained:

- The load allocations for the internal loading may be implemented through a cooperative approach between lake bed owners and the Regional Board and will be achieved through implementation of lake restoration projects, such as dredging, to reduce internal nutrient loading. The TMDL prescribes a 15-year schedule to attain these load allocations.
- The load allocations for nonpoint source runoff from surrounding land areas may be attained by including measures to prevent runoff from reaching the lakes as part of the Lake Work Plans to address internal loading. The TMDL prescribes the same 15-year timeframe to implement these load allocations.
- The waste load allocations for storm drain discharges will be incorporated into the Los Angeles County MS4 Permit; or for additional responsible entities in the future, MS4 permits under Phase II of the U.S. EPA Stormwater Permitting Program; or the residual designation authority of the state under Clean Water Act section 402(p)(2)(E), and other applicable regulatory programs. The TMDL also prescribes a 15-year schedule for these waste load allocations.
- The load allocations for OWTS may be implemented by first conducting a special study to identify which OWTS, if any, need to reduce nutrient loading. The Regional Board will assist the County in pursuing funding for this special study in light of the fact that the study is expected to reduce the number of OWTS that may need to upgrade. Any OWTS that need to be upgraded are expected to be included in the County of Los Angeles' Local Agency Management Program under the Statewide OWTS Policy. The schedule for achieving these load allocations is 12 years.
- The load allocations for the Lake Hughes WWTF will be implemented by first conducting a special study to examine why the facility's reporting data show low nutrient concentrations in effluent, but elevated nutrient concentrations in groundwater downgradient from the spray irrigation field. If the special study demonstrates that the WWTF is contributing to the nutrient loading in groundwater, the facility will be required to reduce loading through source controls and/or treatment upgrades. If the special study indicates that the WWTF is not contributing to the nutrient loading, the facility may

continue to operate as constructed, and the TMDL will be revised to reallocate the required reductions among other sources or to revise the loading capacity, if necessary.

The TMDL includes a reconsideration within six years to revise the numeric targets, revise or redistribute allocations among sources, and revise the implementation schedule and any other element of the TMDL based on the results of any new information or data.

POLICY ISSUE

Should the State Water Board approve the amendment to the Basin Plan to establish a TMDL for nutrients in the Santa Clara River Lakes?

FISCAL IMPACT

The Los Angeles Water Board and State Water Board staff work associated with or resulting from this action will be addressed with existing and future budgeted resources.

REGIONAL BOARD IMPACT

Yes, approval of this resolution will amend the Los Angeles Water Board's Basin Plan.

STAFF RECOMMENDATION

That the State Water Board:

1. Approves the amendment to the Basin Plan adopted under Los Angeles Water Board Resolution No. R16-006.
2. Authorizes the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. R16-006 as approved, and the administrative record for this action to the Office of Administrative Law and the TMDL to the U.S. EPA for approval.

State Water Board action on this item will assist the Water Boards in reaching Goal 1 of the Strategic Plan Update: 2008-2012 to implement strategies to fully support the beneficial uses for all 2006-listed water bodies by 2030. In particular, approval of this item will assist in fulfilling Objective 1.1 to implement a statewide strategy to efficiently prepare, adopt, and implement TMDLs, which result in water bodies meeting water quality standards, and adopt and begin implementation of TMDLs for all 2006-listed water bodies by 2019.

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STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 2017-

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD FOR NUTRIENTS IN THE SANTA CLARA RIVER LAKES.

WHEREAS:

1. On September 8, 2016, the Regional Water Quality Control Board for the Los Angeles Region (Los Angeles Water Board) adopted [Resolution No. R16-006](#), an amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan amendment), to incorporate a Total Maximum Daily Load (TMDL) for nutrients in the Santa Clara River Lakes (Elizabeth Lake, Munz Lake, and Lake Hughes).
2. The Los Angeles Water Board found that the analysis contained in the California Environmental Quality Act (CEQA) "Substitute Environmental Documents" for the proposed Basin Plan amendment, including the CEQA Checklist, the final staff report entitled "Total Maximum Daily Load for Nutrients in Elizabeth Lake, Munz Lake, and Lake Hughes in the Santa Clara River Watershed," and the responses to comments complies with the State Water Board's regulations for the implementation of CEQA, as set forth in the California Code of Regulations, Title 23, sections 3775 through 3781. The State Water Board has reviewed the Substitute Environmental Documents for the Basin Plan amendment and concurs with the Los Angeles Water Board's findings and determinations, including the Statement of Overriding Considerations.
3. The Los Angeles Water Board also adopted the Basin Plan amendment pursuant to the "Necessity" standard of the Administrative Procedures Act, Government Code section 11353, subdivision (b).
4. The Los Angeles Water Board found the Basin Plan amendment is consistent with the Statement of Policy with Respect to Maintaining High Quality of Waters in California (State Water Board Resolution No. 68-16) and the federal Antidegradation Policy (40 C.F.R. § 131.12), in that it does not allow degradation of water quality, but requires restoration of water quality and attainment of water quality standards.
5. The State Water Board finds that the Basin Plan amendment is in conformance with Water Code section 13240, which specifies that regional water quality control boards may revise basin plans, and section 13242, which requires a program of implementation for achieving water quality objectives. The State Water Board also finds that the TMDL as reflected in the Basin Plan amendment is consistent with the requirements of section 303(d) of the federal Clean Water Act.
6. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by the Office of Administrative Law (OAL). The TMDL must also receive approval from the U.S. Environmental Protection Agency (U.S. EPA).

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7. Los Angeles Water Board staff determined that minor, non-substantive changes to the language of the Basin Plan amendment were necessary to correct minor clerical errors or to improve clarity and consistency. The Los Angeles Water Board's Executive Officer made these minor non-substantive changes in a memorandum dated January 13, 2017 ([Attachment I](#)). The memorandum adds additional decimal places for values located in the allocations section of the Basin Plan amendment and the allocations and source assessment section of the Staff Report to be consistent with the technical support document and model output for the TMDL, and corrects the table number of the Basin Plan amendment.

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the Basin Plan amendment adopted under Los Angeles Water Board Resolution No. R16-006.
2. Authorizes and directs the Executive Director or designee to submit the Basin Plan amendment adopted under Los Angeles Water Board Resolution No. R16-006 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on March 7, 2017.

Jeanine Townsend
Clerk to the Board