

**DEPARTMENT OF TRANSPORTATION**

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**4/3/07 BdMtg Item 4**

Clear Lake

Deadline: 3/19/07 noon



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March 16, 2007

Song Her  
State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95814



**Subject: Comment Letter on the Proposed Amendment to the Water Quality Control Plan for the Central Valley Region (Basin Plan) to Establish a Total Maximum Daily Load (TMDL) for Nutrients in Clear Lake**

Dear Ms. Her:

The following general comments are submitted for consideration on the proposed amendment to the Central Valley Basin Plan, TMDL for Nutrients in Clear Lake:

***A review of several factors indicates that the allocation of phosphorous to the Department of Transportation (Caltrans) may have been set arbitrarily low.***

The current allocation for Caltrans, as stated on page 8 of the 2006 Final Staff Report prepared by the Central Valley Regional Water Quality Control Board (RWQCB), is 100 kg/yr, phosphorous. This represents one-tenth of a percent of the entire annual allowable loading capacity of 87,100 kg/yr, phosphorous. The annual allowable loading capacity of 87,100 kg/yr, phosphorous, represents an estimated 40% reduction of the estimated current loading rate.

The proposed TMDL amendment allocates 2,100 kg/yr, phosphorous, for the National Pollutant Discharge Elimination System (NPDES) permittees within the watershed. Lake County storm water permittees (Lake County, City of Clear Lake, and City of Lakeport) are allocated 2,000 kg/yr, phosphorous. The remaining 85,000 kg/yr, phosphorous, is allocated to nonpoint source discharges (U.S. Bureau of Land Management, U.S. Forest Service, Lake County, and irrigated agriculture).

The allocation of 100 kg/yr, phosphorous, for Caltrans is based on the estimate that Caltrans maintains approximately 135 miles of highway within the Clear Lake watershed (page 17 of the 2006 Final Staff Report). The Final Staff Report states that this represents no more that 0.1 % of the Clear Lake watershed.

As stated in the Final Staff Report the Clear Lake Watershed covers an area of 441 square miles.

***Caltrans contends that 135 miles of highway within the Clear Lake watershed represents more than 0.1% of the watershed.***

A relatively simple calculation of area represented by 135 highway miles, assuming a standard roadway design of 12-foot lanes with 8-foot shoulders would represent 1.023 square miles, or approximately 0.232 % of the watershed.

Note that this relatively simple calculation does not include a median. Nor does the calculation include the total right-of-way. This would represent a much larger area than referenced in the Final Staff Report. Additionally, there are areas where the highway is four lanes wide, with additional turning pockets and right and left-hand turn lanes at roadway intersections. In total, Caltrans properties, maintenance stations, and 135 highway miles would represent significantly more area of the watershed than the 0.1 % referenced in the Final Staff Report.

It should be noted, that the Final Staff Report does not present a similar analysis for other stakeholders and the associated allocations.

***Caltrans contends that the allocation of 100 kg/yr, phosphorous, does not account for hydrology and anthropogenic drainage regimes within the watershed.***

Storm water from Lake County, City of Clear Lake, and City of Lakeport, as well as other towns around Clear Lake, such as the towns of Nice and Lucerne, drain to Caltrans right-of-way. While not all of the storm water generated by these municipalities drains to Caltrans right-of-way, a simple 'windshield' survey reveals that a portion of the storm water runoff from these municipalities drains to Caltrans right-of-way. As such, there is a potential that any subsequent monitoring programs developed by Caltrans, and/or a third party, to assess Caltrans phosphorous loading capacity to Clear Lake, may in fact, include storm water from these municipalities.

***Caltrans contends that a phosphorous allocation for Caltrans should, initially, be based on current storm water characterization studies that have been completed.***

In compliance with Caltrans Statewide NPDES Permit, Caltrans has completed a November 2003 Discharge Characterization Study Report (CTSW-RT-03-065.51.42). The Report can be downloaded from <http://dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-03-105.pdf>

The Discharge Characterization Study Report (Report) presents monitoring data that includes the results of a three-year statewide study, and the results of other studies conducted prior to or in parallel with the statewide study. In all, over 60,000 data points from over 180 monitoring sites were included in the presentation of monitoring results. The Report includes an in-depth statistical analysis of the factors affecting the quality of storm water runoff from transportation facilities. The statistical analysis is focused on the data from the three-year statewide study, as that data set was designed to be representative of transportation facilities throughout the state, and the data collection was performed using consistent monitoring protocols and data management procedures.

Total phosphorous analysis was based on sample collection at 46 different sites with a total of 631 samples collected. Based on the data collected total phosphorous concentrations are represented as a median of 0.18 mg/l, a mean of 0.29 mg/l, with a standard deviation of 0.39.

Using a mean total phosphorous concentration of 0.29 mg/l, and a very conservative assumption of the area associated with 135 highway miles (i.e. 12-foot lanes and 8-foot shoulders) the current loading of total phosphorous would be approximately 527 kg/yr. It should be noted that this is a result of sampling stations throughout the state and may not be representative of the Clear Lake area. The Report notes that monitoring results provide confirming evidence that traffic volumes and rainfall conditions – including antecedent conditions – are the most significant factors influencing storm water runoff quality from Caltrans facilities. The average annual daily traffic in the Clear Lake area is much less than some of the more urbanized areas throughout the state.

***Caltrans contends that a more appropriate total phosphorous allocation, at a minimum, would be approximately 315 kg/yr.***

An allocation of 315 kg/yr would represent a 40% reduction in the estimated current loading capacity based upon monitoring results as presented in Caltrans 2003 Discharge Characterization Study Report. As outlined in the proposed Basin Plan Amendment, Final Staff Report, it appears that the allocation of 100 kg/yr, phosphorous, was based solely on an estimate of Caltrans highway area as a percentage of the Clear Lake watershed area. As shown above this estimate appears to be exceedingly low.

It is expected that any phosphorous loading from Caltrans highways would not be solely from the highway pavement, but rather are likely due to commingling of highway storm water runoff and storm water runoff **into** Caltrans right-of-way. It is also expected that phosphorous loading from Caltrans right-of-way, absent any commingling of storm water runoff, would be from shoulder and median areas. In particular, any potentially significant phosphorous loadings would be from newly completed Caltrans construction projects where final erosion control is a significant component of the project. A review of

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Caltrans activities and facility operations suggest this is the only potential source of phosphorous that can be directly attributed to Caltrans highway facilities as a result of incorporating fertilizer as part of final erosion control and revegetation.

It is Caltrans intention to further evaluate this component to establish current baseline phosphorous loading from Caltrans right-of-way.

Based on the above, it is Caltrans contention that a total phosphorous allocation of 315 kg/yr is more representative of Caltrans loading capacity to Clear Lake. Again, this also represents a loading capacity directly from Caltrans right-of-way and does not incorporate any analysis of attenuation that is certainly occurring within the watershed regime.

If you have any questions or concerns or would like to generally discuss this project, please contact me at your earliest convenience at (707) 445-5201. Thank you.

Sincerely,

*Original signed by*

David L. Melendrez, P.E.  
Branch Chief  
North Region Office of Environmental Engineering

cc: Lori Webber, Environmental Scientist, Central Valley RWQCB  
Ivan Karnezis, Transportation Engineer, Caltrans