

Ventura Marsh in Iowa
Total Maximum Daily Load for Algae and Turbidity
SUMMARY OF COMMENTS AND RESPONSES
Prepared by the Environmental Protection Agency (EPA), Region 7
Water, Wetlands and Pesticides Division
March 2010

COMMENTOR:

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INTRODUCTION

The Ventura Marsh Total Maximum Daily Load (TMDL) for Algae and Turbidity was public noticed from February 5, 2010 to March 10, 2010. This document summarizes public comments and United States Environmental Protection Agency (EPA) responses. If no change is noted in the response, then no change is made in the final TMDL.

COMMENTS AND RESPONSES:

Comment: "More explanation of the model (algorithms, assumptions, limitations, etc.) would be helpful in the document. Perhaps it is in the modeling appendices, which were not included in the copy sent to Iowa DNR [Department of Natural Resources] for review."

Response: Modeling appendices were included in the draft TMDL which was public noticed. Ventura Marsh modeling spreadsheets are available electronically by email or compact disc by contacting Debby White at White.Debby@epa.gov or Debby White, WWPD/WQMB/TMDL, 901 North 5th Street, Kansas City, Kansas 66101. The algorithms, assumptions, and limitations of the modeling are explained throughout the TMDL. Modeling data is presented in the appendices and references found on page 31 of the TMDL.

Comment: "The calibration was performed by increasing the internal loading until the simulated output matched observed data (page 19 of TMDL). This method was questioned by EPA Region 7 in previous TMDLs prepared by Iowa DNR. Does EPA Region 7 now agree that in cases where the internal load cannot be directly calculated (i.e., nearly every case) this acceptable practice/method?"

Response: Internal load estimates for lakes, such as the one used in Ventura Marsh, are integral and common to TMDL development in situations where there is limited data. EPA and Region 7 have approved these methods for estimating internal load for TMDLs from many states, including Region 7 states. However, the applicability and approvability of any particular TMDL's modeling is specific to each TMDL. TMDLs are assessed individually based on modeling documentation, references and discussion that support the load estimates, translators and conclusions yielded through the methodology.

Comment: “On the bottom of page 20, the document notes the difference between ISS [inorganic suspended sediment] concentrations during clear (post carp removal) and turbid phases is 30 mg/L [milligrams per Liter]. It is unclear where the number comes from and appears to conflict with data reported in Table 6 on page 19, which indicates the difference between the two phases is less than 20 mg/L.”

Response: The periods in Table 6 do not represent fish kill and non-fish kill periods but periods of normal and dry weather conditions. The post-fish kill ISS concentration was 2 mg/L, while the turbid phase ISS concentration was approximately 30 mg/L. Section 3.3.1.3.1 *ISS Nonpoint Source Assessment* of the TMDL (page 15) describes the methods used to estimate ISS loads using measured data and computer modeling, including a more refined breakdown of total internal loads and exported loads of ISS. Please refer to the section cited for a detailed explanation of how the load was estimated.

Comment: “Table 7 reports average TP [total phosphorus] load from Internal Sources of 223,628 lb/yr [pounds per year]. Table 9 reports 1,304 lbs/yr [sic] average net internal TP load. Why is there a difference in the number? Related to this apparent discrepancy, the text states that internal TP loads were increased until the model matched observed data (similar to ISS in comment above). EPA Region 7 has criticized this approach in previous TMDLs prepared by Iowa DNR. Traditionally, EPA has required more thorough documentation of the internal loads, which Iowa DNR provided by citing other TMDLs or studies. Is this additional documentation/justification for internal loads no longer required?”

Response: Table 7 and Table 9 are reporting different measurements: Table 7 is total phosphorus loading and Table 9 is net phosphorus loading. Section 3.3.1.3.2 *TP Nonpoint Source Assessment* of the TMDL describes the methods used to estimate total phosphorous loads using measured data and computer modeling, including a more refined breakdown of total internal loads and exported loads of total phosphorus. Modeling is explained on page 23 of the TMDL, and a discussion of further TMDL analysis (by comparing Ventura Marsh to Little Clear Lake, the first embayment in Clear Lake) is found on page 24 of the TMDL. Internal load estimates for lakes, such as the one used in Ventura Marsh, are integral and common to TMDL development in situations where there is limited data. EPA has approved these methods for estimating internal load in previous TMDLs. EPA Region 7 has approved numerous Iowa TMDLs where internal load was estimated using the model of Nurnberg. However, the applicability and approvability of any particular TMDL’s modeling is specific to each TMDL. TMDLs are assessed individually based on modeling documentation, references, and discussion that support the load estimates, translators, and conclusions yielded through the methodology.

Comment: “Long-term loading targets for ISS and TP are converted to daily loads with no explanation for the coefficient of variation and percentiles chosen in the analysis.”

Response: The explanation is on page 26 of the TMDL. Because no point sources of ISS or TP discharge to Ventura Marsh or its watershed, all of the loading capacity has been allocated to the Load Allocation (LA) and Margin of Safety. The long term average LA for ISS and TP are 617 tons/year and 41,276 lb/year, respectively. The TMDL analysis used to develop these loads was based on data collected over a 2-year period; thus, they represent longer term loading values that

result in attainment of WQS. The approach used to convert these loads to maximum daily values is based upon the maximum daily permit calculations provided in the *Technical Support Document (TSD) for Water Quality-Based Toxics Control* (EPA, 1991). These long-term averages were then converted to maximum daily limits using Table 5-2 of the TSD, assuming a coefficient of variation of 0.6 and a 95th percentile probability. This results in a multiplication factor of 2.13. A summary of long term and daily loads is provided in Table 13 of the TMDL. This is explained on page 26 of the TMDL.

End Comments and Responses