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July 28, 1999

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Gulf of Mexico Hypoxia Working
Group National Centers for
Coastal Ocean Science
WS 13446 SSMC4
1305 East-West Highway
Silver Spring, MD 20910

Ladies and Gentlemen:

Subject: Hypoxia in the Gulf of Mexico

This responds to the notice in the *Federal Register* on May 4, 1999, inviting comments on the integrated assessment of the causes and consequences of hypoxia in the Gulf of Mexico. The Metropolitan Water Reclamation District of Greater Chicago has the following comments on the reports for Topics 3 and 5.

Topic 3 - Flux and Sources of Nutrients in the Mississippi-Atchafalaya River Basin

1. Executive Summary, page 13. In addition to reporting the mean annual flux of nutrients for the combined period 1980-1996, it would be helpful to include the mean annual flux for a more recent period, 1994-1997. Comments should then be included regarding recent trends in the data.
2. Introduction, page 18. If available, include percent of fertilizer and pesticide usage in the Mississippi River basin compared to the United States.
3. Methods, page 20. Phosphorus atmospheric deposition should be included as a source of nutrients to the Mississippi River Basin.
4. Methods, page 21. Include sample collection frequency during the 1970s and 1980s for the United States Geological Survey's National Stream Quality Accounting Network program.

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5. Research Needs, page 75. Additional research is needed as to the role of instream nitrification and denitrification in reducing nitrogen in urban rivers and streams.
6. Recommendation 2, page 78. It is recommended to establish an effluent monitoring program for determining nutrient loading from municipal and industrial point sources. Under the current National Pollutant Discharge Elimination System program, all dischargers monitor constituents of concern, including nutrients, in permitted effluents and submit Discharge Monitoring Reports to the permitting authority. Thus, this recommendation is not required.
7. Figure 3.1. The time period for this figure is not given. Assuming that it is a long interval, an additional figure showing nutrient data for a recent period (1994 through 1997) should be included to indicate recent trends.

Topic 5 Report - Reducing Nutrient Loads, especially Nitrate-Nitrogen, to Surface Water, Groundwater, and the Gulf of Mexico

1. Introduction, page 7. The report states that Goolsby et al. (1999) was unable to provide accurate estimates of nutrients in urban runoff. Suggest that the authors refer to Polls, I. and R. Lanyon, 1980. "Pollutant Concentrations from Homogenous Land Uses." Journal of the Environmental Engineering Division, ASCE, Volume 106, No. EE1, pages 69-80.
2. Results, page 35. The two constructed wetland case studies received inflows with nitrate concentrations averaging 2-4 mg/L. The effect which constructed wetlands would have on reducing nutrients if the nitrate inflows were greater than 4 mg/L should be included.

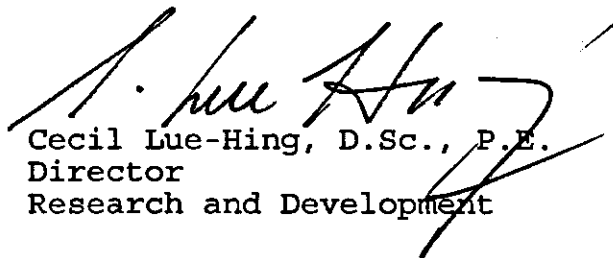
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3. Recommendation 4, page 102. Based on the fact that the annual nitrogen input to the Mississippi River Basin from municipal point sources is one percent, and that few new wastewater plants will be constructed in the future, it makes no sense in terms of economics to recommend that new wastewater plants control nitrogen through tertiary treatment. This is not a cost-effective approach for reducing nutrient loadings to the Gulf of Mexico.

If there are any questions regarding the above comments, please contact Mr. Irwin Polls, Biologist III, at (708) 588-4219.

Very truly yours,



Cecil Lue-Hing, D.Sc., P.E.
Director
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