

New York State Department of Environmental Conservation**Division of Water, 4th Floor**

625 Broadway, Albany, New York 12233-3500

Phone: (518) 402-8233 • FAX: (518) 402-8230

Website: www.dec.state.ny.usDenise M. Sheehan
Commissioner

MAY 31 2006

Mr. Walter E. Mugdan
Director
Division of Environmental Planning and Protection
United States Environmental Protection Agency
Region 2
290 Broadway - Room 2524
New York, New York 10007-1866

Dear Mr. Mugdan:

Enclosed is an amendment to the Long Island Sound Total Maximum Daily Loading (TMDL). After consultation with and without objection from the Connecticut Department of Environmental Protection, the New York State Department of Environmental Conservation (NYSDEC) is submitting the amendment to the United States Environmental Protection Agency (USEPA) for review and approval under Section 303(d) of the Clean Water Act.

The NYSDEC public noticed for comment our intent to amend the TMDL in the State Environmental Notice Bulletin for 30 days from March 8, 2006 to April 7, 2006. NYSDEC did not receive any comments on the notice during or subsequent to the review period. The Public notice is also enclosed. The public notice includes our rationale for the proposed amendment.

The amendment allows for the reallocation of nitrogen loads between the upper and lower East River using exchange ratios that were developed using the Systemwide Eutrophication Model in advance of a more comprehensive revision of the TMDL. The amendment will allow the New York City Department of Environmental Protection (NYCDEP) to develop a long-term nitrogen control program to attain its wasteload allocations, without compromising the water quality of the Sound. The amendment will also make the TMDL consistent with the recent State Court Order governing the upgrade of NYCDEP's water pollution control plants (WPCPs). Additionally, the amendment is needed for NYSDEC to issue modified State Pollutant Discharge Elimination System (SPDES) permits for the six WPCPs that discharge to the East River.

2.

I look forward to a prompt approval by USEPA. Upon approval by USEPA, the TMDL will be considered to be part of the New York State Water Quality Management Plan.

Sincerely,



Sandra Allen
Director
Division of Water

Enclosure (2)
- Amendment
- Public Notice

May 2006 Technical Amendment to
A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for
Dissolved Oxygen in Long Island Sound
December 2000

The New York Department of Environmental Conservation may reallocate the wasteload allocations (WLAs) between management zone 8 (the upper East River) and management zone 9 (the lower East River) using the following exchange ratios in lieu of the exchange ratios defined by the equivalency factors presented in (Table 7).

Reallocations to management zone 9 from management zone 8 will be made with an exchange ratio of 4:1 and reallocations to management zone 8 from management zone 9 will be made using an exchange ratio of 1:4.

These exchange ratios are consistent with the calculations of the Combined Equivalency Factors based on the Systemwide Eutrophication Model (SWEM) simulations. The SWEM was under development when the TMDL was originally prepared. Subsequent to the establishment of the TMDL, the Long Island Sound Study has accepted the SWEM as the tool to support ongoing evaluations of hypoxia and its management in Long Sound and adjacent estuaries. This amendment only applies to reallocations between zone 8 and zone 9 and places no additional burden on discharges from other zones to achieve water quality standards. According to the SWEM simulations, reallocations using the above exchange ratios will result in water quality improvements that are equal to or greater than the allocations specified in Appendix C.

The purpose of this amendment is to allow the New York City Department of Environmental Protection to develop a long-term nitrogen control program to attain its WLAs for management zone 8 and management zone 9 discharges, without compromising water quality. The amendment formalizes the use of SWEM ratios in meeting the allocations to these zones in advance of a more comprehensive revision of the LIS TMDL that will use SWEM derived exchange ratios and equivalency factors.

Public Notice: Statewide and Regions 1, 2 and 3
for placement in ENB the week of March 8, 2006 for 30 days (5 consecutive weeks)

Proposed Technical Amendment to the LIS TMDL

In January 2001, the New York State Department of Environmental Conservation ("Department") submitted *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (hereafter the "LIS TMDL") to the U.S. Environmental Protection Agency. <<http://www.dec.state.ny.us/website/dow/tmdllis.pdf>>. The LIS TMDL was developed jointly with the Connecticut Department of Environmental Protection ("Connecticut DEP"). In April 2001, the U.S. Environmental Protection Agency ("EPA") determined that the LIS TMDL met the requirements of section 303(d) of the Clean Water Act, and EPA's implementing regulations (40 CFR Part 130) and thereby approved the LIS TMDL. EPA's Approval Letter for the LIS TMDL, (April 3, 2001), <<http://www.epa.gov/NE/eco/lis/assets/pdfs/Tmdl.approval.pdf>>.

Table 6 of the LIS TMDL identifies the sum of the New York and Connecticut Waste Load Allocations ("WLAs") from each of 11 management zones. Table 7 of the LIS TMDL contains equivalency factors that identify the relative impact of nitrogen from each zone on dissolved oxygen ("DO") conditions in Long Island Sound. Compliance with the LIS TMDL can be achieved through meeting the WLAs or through new allocations resulting in equal or greater water quality improvements, as defined by the Table 7 equivalency factors. The equivalency factors comprise river delivery factors (the amount of nitrogen discharged to a river segment that makes it the mouth of the river) and Long Island Sound transport efficiencies (the relative impact of nitrogen discharged from a management zone on the hypoxic hotspots). In other words, allocations among facility-specific WLAs can be modified without resubmitting a revised LIS TMDL as long as the new allocations resulted in equal or greater water quality improvements, as determined by the use of the exchange ratios identified in Table 7 of the LIS TMDL document.

The Table 7 transport efficiencies were established from predictions of the "LIS 3.0" water quality model developed in the 1990s. A new model, called the Systemwide Eutrophication Model ("SWEM") has subsequently been developed. The Department recognized early on that SWEM had certain advantages over LIS 3.0 and that the SWEM should be used in the future, once accepted. See *Department Response to Public Comments on the LIS TMDL*, Modeling Tools on pg 10-11 and Recent/Future Monitoring on pg 24 (January 2001), <<http://www.dec.state.ny.us/website/dow/response/liss.pdf>>. In fact, the LIS TMDL cites the application of SWEM as one of the elements to a planned revision of the LIS TMDL. See LIS TMDL, Reassessment on pg 48 and Table 14. SWEM contains a number of technical improvements over LIS 3.0 and has since been reviewed and approved by the Long Island Sound Study for application to Long Island Sound planning and management.

In light of its subsequent approval by the Long Island Sound Study and after consultation with and without objection from Connecticut DEP, the Department hereby proposes a limited amendment to the LIS TMDL to incorporate the insights from SWEM predictions of the relationship between the DO response to nitrogen discharges from zone 8 (the upper East River

Management Zone) and zone 9 (the lower East River Management Zone). This limited technical amendment would support the New York City Department of Environmental Protection's ("New York City DEP") development of a long-term nitrogen control program to attain its WLAs for zone 8 and zone 9 discharges, without compromising water quality. The technical amendment would formalize the use of SWEM ratios in meeting the allocations to those zones in advance of a more comprehensive revision of the LIS TMDL. The Department is soliciting public comment on the proposed amendment before submitting it to the EPA for review and approval.

SWEM predicts a greater overall DO response from achieving the zone 8 and zone 9 WLAs than LIS 3.0. SWEM also predicts that the ratio of the transport efficiencies (the relative impact of nitrogen discharged from a management zone on the hypoxic hotspots) between zone 8 and zone 9 is 4:1, compared to the LIS 3.0 transport ratio of 2:1. Therefore, the Department proposes to modify the LIS TMDL Table 7 transport efficiencies for zone 8 and zone 9 to a 4:1 ratio from a 2:1 ratio. New York City DEP would comply with the LIS TMDL through meeting the WLAs or through new allocations using the updates to the Table 7 equivalency factors. This revision to the equivalency factors would only apply to reallocations between zone 8 and zone 9. Because SWEM predicts a greater overall DO response from achieving the zone 8 and zone 9 WLAs than LIS 3.0, this change places no additional burden on discharges from other zones to achieve water quality standards. The timeframe for using this amendment based on a combination of SWEM and LIS 3.0 ratios would be until the anticipated full SWEM technical update (and other technical updates) are incorporated into a complete LIS TMDL revision.

Public comment on the proposed amendment will be accepted for 30 days, through April 7, 2006. Comments should be submitted in writing to Philip O'Brien of Division of Water, 625 Broadway, Albany, NY 12233-3502, or by email at pxobrien@gw.dec.state.ny.us.

P. O'Brien/dw

bc: SA Day File
J. DeZolt
S. Rickard
J. Myers
P. O'Brien
BWAM File