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

Reallocations to management zone 7 from management zone 8 will be made with an exchange ratio of 1:1.82.

The mechanism for such a trade would be through application by Westchester County Department of Environmental Facilities (WCDEF) and New York City Department of Environmental Protection (NYSDEP) for modification of Long Island Sound (LIS) and East River WWTP SPDES permits. NYCDEP would apply for a reduction in the East River nitrogen bubble limit from 44,325 lbs per day 12 month rolling average to 43,961 lbs per day 12 month rolling average (a decrease of 364 lbs per day 12 month rolling average). WCDEF would apply for an increase 200 lbs per day in their LIS bubble.

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. Additionally, in 2006 the EPA approved the use of SWEM trading ratios for trading between Managed Zones 8 & 9. This amendment only applies to reallocations between zone 8 and zone 7 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 WCDEF to trade with NYCDEP in order to gain some insurance that they will be able to meet the 1,781 lb/day Zone 7 bubble limit in the event of very high stormwater related flows to the Westchester County Wastewater Resource Recovery Facilities (WRRFs) pending completion of improvements to the Port Chester WRRF. The purchasing of credits would only be an interim solution until the County completes the construction of the nitrogen removal facilities at Port Chester.
PROPOSED

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

Proposed Technical Amendment to the LIS TMDL


Table 6 of 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),

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 System Wide 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 l 0-11 and Recent/Future Monitoring on pg 24 (January 2001), http://www.dec.ny.gov/docs/water_pdf/responseliss.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, specifically as the modeling to be used in the Enhanced Long Island Sound Nitrogen Reduction Strategy http://longislandsoundstudy.net/issues-actions/water-quality/nitrogen-strategy/
• For the 2006 amendment to the TMDL to allow for using the SWEM trading ratios for trading between Management Zones 8 & 9

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 7 (the western Long Island Sound Management Zone). This limited technical amendment would allow Westchester County Department of Environmental Facilities (WCDEF) to trade with New York City Department of Environmental Protection (NYCDEP) in order to gain some insurance that they will be able to meet the 1,781 lb/day Zone 7 bubble limit in the event of very high stormwater related flows to the Westchester County Wastewater Resource Recovery Facilities (WRRFs) pending completion of improvements to the Port Chester WRRF. The purchasing of credits would only be an interim solution until the County completes the construction of the nitrogen removal facilities at Port Chester, 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 7 and zone 8 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 7 and zone 8 is 1:1.82, compared to the LIS 3.0 transport ratio of 0.83:0.21. Therefore, the Department proposes to modify the LIS TMDL Table 7 transport efficiencies for zone 7 and zone 8 to a 1:1.82 ratio from a 0.83:21 ratio. WCDEF would comply with the US 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 7 and zone 8. Because SWEM predicts a greater overall DO response from achieving the zone 7 and zone 8 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 County completes the construction of the nitrogen removal facilities at Port Chester.

The mechanism for such a trade would be through application by WCDEF and NYCDEP for modification of Long Island Sound (LIS) and East River WWTP SPDES permits. NYCDEP would apply for a reduction in the East River nitrogen bubble limit from 44,325 lbs per day 12 month rolling average to 43,961 lbs per day 12 month rolling average (a decrease of 364 lbs per day 12 month rolling average). WCDEF would apply for an increase 200 lbs per day in their LIS bubble.

Public comment on the proposed amendment will be accepted for 30 days, through April 7, 2017. Comments should be submitted in writing to Kenneth Kosinski of Division of Water, 625 Broadway, Albany, NY 12233-3502, or by email at kenneth.kosinski@dec.ny.gov.