

**REPORT OF THE NITROGEN CREDIT ADVISORY  
BOARD TO THE JOINT STANDING ENVIRONMENT  
COMMITTEE OF THE GENERAL ASSEMBLY**

**PUBLIC ACT 01-180**

**AN ACT CONCERNING NITROGEN REDUCTION IN  
LONG ISLAND SOUND**

**NOVEMBER 27, 2002**

**An Act Concerning Nitrogen Reduction In Long Island Sound  
Report to the Joint Standing Environment Committee of the General Assembly  
Public Act No. 01-180**

This report has been prepared by the Nitrogen Credit Advisory Board and is respectfully submitted to the Joint Standing Environment Committee of the General Assembly pursuant to the requirements of Public Act No. 01-180, An Act Concerning Nitrogen Reduction in Long Island Sound. Section 3(c) of the Act requires that the Nitrogen Credit Advisory Board submit to the Joint Standing Environment Committee of the General Assembly a report that addresses issues associated with the implementation of the Nitrogen Credit Exchange Program authorized by the Act.

## **Executive Summary**

The Nitrogen Credit Advisory Board has accomplished a number of important milestones in the first full year of the program subsequent to the passage of Public Act 01-180. Specifically the Board and the Department of Environmental Protection have issued, (effective January, 2002) a General Permit for Nitrogen Discharges (General Permit) that regulates the discharge of total nitrogen at 79 municipal wastewater treatment plants in Connecticut. The Board also initiated nitrogen trading for the 2002 calendar year. This first in the nation comprehensive nitrogen trading program will achieve the reduction in nitrogen discharged by Connecticut municipalities required to meet the Total Maximum Daily Load (TMDL) for Long Island Sound. The program has received national attention through presentations on the Nitrogen Trading Program and General Permit that were recently given at the Water Environment Federation Conference in Chicago.

The 2002 discharge monitoring data from the 79 municipal wastewater treatment plants regulated under the General Permit documents significantly greater nitrogen removal for the first eight months of the year than necessary to comply with the General Permit (see attachment C). This rate of reduction, if maintained, will result in more rapid improvement in water quality in Long Island Sound, ahead of the schedule agreed to by the States of Connecticut and New York that was established in the TMDL. Treatment plant improvements that have been completed by a number of municipalities played a significant role in achieving the nitrogen discharge reductions. The weather was also warmer and dryer in the spring and early summer of 2002 than is typical for Connecticut allowing treatment facilities to operate at maximum efficiency.

The high removal efficiency and treatment plant upgrades have resulted in a surplus of nitrogen credits that the Nitrogen Credit Advisory Board is required by Public Act 01-180 to purchase from municipalities through the Clean Water Fund. It is estimated that the Board will be required to purchase approximately 1.0-1.4 million dollars of surplus equivalent nitrogen credits for the year 2002.

**Public Act 01 -180 requires that the Nitrogen Credit Advisory Board report to the General Assembly on the following section of the Act annually:**

Section 3(c)(1): *A summary of the nitrogen credit exchange program's progress in achieving the total maximum daily load.*

Appointment of Board Members: The General Assembly and Governor have appointed a total of ten members. Two remaining Board appointments currently remain unfilled. The Board has chosen the length of service terms for the members of the Board as required by the Act. A list of appointees identifying the appointing authority and length of term is provided in Attachment A.

The General Permit for Nitrogen Discharges: A General Permit was issued by the Department of Environmental Protection effective January 1, 2002. The permit regulates the discharge of total nitrogen from each of 79 publicly owned treatment works in Connecticut. The General Permit includes requirements that will insure compliance with the Total Maximum Daily Load (TMDL) approved by the U.S. Environmental Protection Agency for nitrogen discharged into Long Island Sound. The General Permit establishes annual nitrogen limits, sets monitoring and reporting protocols and will insure proper accounting of nitrogen credits and debits among publicly owned treatment works. All 79 municipal wastewater treatment facilities regulated under the general permit have been providing the necessary discharge monitoring data required by the permit. The Department has received full cooperation from all municipalities regulated under the permit. A copy of the General Permit is attached (Attachment B).

Progress in achieving the required level of nitrogen removal for Long Island Sound through August of this year has been far better than expected. The overall progress is ahead of schedule in achieving the Total Maximum Daily Load (TMDL) requirements for total nitrogen discharged to Long Island Sound as required by the US EPA. This progress has resulted in a net credit deficit or surplus of nitrogen credits that the State is required to purchase by Public Act 01-180. The nitrogen credit balances for each municipality based on estimates through September 2002 is provided in Attachment C.

Nitrogen Trading: The Nitrogen Credit Advisory Board voted to initiate nitrogen trading in calendar year 2002 consistent with the General Permit schedule. The Board has met monthly throughout the year. Major issues that the Board has accomplished include the following:

1. Approved the protocol to establish the capital costs for the 23 nitrogen removal projects completed to date.
2. Approved the protocol to establish the 2002 operation and maintenance costs for the completed nitrogen removal project facilities.

3. Implemented an electronic data management system to monitor the State's progress in reducing nitrogen loading to Long Island Sound and provide estimated credit balances for the 79 facilities covered by the General Permit.
4. Convened a banking/financial subcommittee of the Nitrogen Credit Advisory Board to assist with the fiduciary requirements of the Board.
5. Instituted a quality control/quality assurance program to ensure the accuracy of data submitted by municipalities relative to compliance with the general permit by municipalities.

These efforts have allowed the Board to provide an estimate of the cost of nitrogen credits to each municipality well ahead of the dates required in the Act for trading based on calendar year 2002 nitrogen discharge data. The Board provided an estimated balance sheet to all 79 municipalities covered under the General Permit in October. The balance sheet included a summary of performance data through the first eight months of the year and an estimated balance of the dollar amount each municipality will be required to submit or receive from the program for nitrogen credits generated during 2002. Total annual capital and operation and maintenance costs for nitrogen removal in 2002, determined as specified by the Act, are provided in Attachment D.

*Section 3(c)(2) The adequacy of the Clean Water Fund financing pursuant to section 22a-477 of the general statutes, as amended by this act, to support the nitrogen credit exchange program and the total maximum daily load;*

Nitrogen Removal Projects: - Since 1993, a total of 23 nitrogen removal construction projects at municipal wastewater treatment plants have been completed. Seven projects involved major construction of facilities designed to achieve maximum nitrogen removal to meet the long-term nitrogen reduction goal of 4 mg/l for the facility. The remaining 16 projects involved retrofits of existing facilities that are designed to achieve at least 8 mg/l for total nitrogen discharged. There are six nitrogen removal projects currently under construction. A complete list of nitrogen removal projects that have been completed or currently approved for funding by the Clean Water Fund is provided in Attachment E. The completion of the projects outlined in attachment E has resulted in nitrogen removal at a level greater than the year 2002 limits in the General Permit. This has resulted in water quality improvements to Long Island Sound at a significantly enhanced schedule. The higher nitrogen removal efficiency has resulted in a net surplus of nitrogen that will be required to be purchased through the Clean Water Fund. The cost to purchase surplus nitrogen credits for calendar year 2002 is projected to range between 1.0 to 1.4 million dollars.

*Section 3(c)(3) Recommendations for changes to the program including but not limited to: (A) Exchanging nitrogen credits with entities outside the state; (B) expanding the general permit for nitrogen discharges and the nitrogen credit exchange program to*

*include additional point and non-point sources; and (C) exchange transactions executed outside of the nitrogen credit exchange program.*

At this time the Board believes it is premature to suggest changes to the program.

*Section 3(c)(4) Identification of any other issues that need to be resolved;*

At this time the Board has not identified any issues that require the attention of the General Assembly. However, the Board has resolved that a special report to the General Assembly shall be made at any time when, in the judgement of the majority of Board members, such a report is necessary to enlist the assistance of the General Assembly in resolving a problem associated with implementing the Nitrogen Credit Exchange Program.

*Section 3(c)(5) Recommendations relating to the use of federal funding to assist distressed municipalities in the planning, design and construction of nitrogen removal facilities in implementing the provisions of this act.*

The Long Island Sound Restoration Act of 2000 created an authorization of additional federal funds for upgrading of wastewater treatment facilities to protect Long Island Sound. The Act also permits prioritizing distressed communities for awarding of funds. The 1.8 million dollars Connecticut received will be used for nitrogen removal planning grants. A total of 16 distressed municipalities have expressed interest and/or applied for the use of the funds to conduct nitrogen removal facilities planning. The planning projects will provide an important first step in evaluating wastewater treatment facilities ability to remove nitrogen and provide options to a municipality for complying with the General Permit. The federal funds will be used to augment the existing state Clean Water Fund grant such that 100% of the cost of planning will be funded. Priority will be given to any distressed community, as defined by the Commissioner of Economic and Community Development. The use of the funds from (FY02) and future appropriations has not been determined. The Department of Environmental Protection staff is currently developing recommendations for consideration by the Board to address this issue.

This is a summary of the major actions of the Board. The detailed minutes of the meetings are available to outline all of actions of the Board.

Respectfully submitted,

Robert L. Smith, Chairman Nitrogen Credit Advisory Board

November 27, 2002