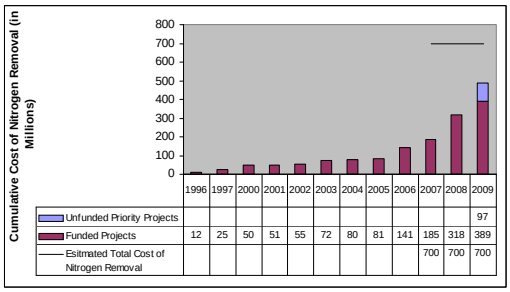
Program/Agency/System: Department of Environmental Protection Clean Water Fund

Quality of Life Result: A healthy and productive Long Island Sound for Connecticut residents.

Program/Agency/System Purpose: To eliminate the detrimental effects of hypoxia in Long Island Sound by improving municipal sewage treatment infrastructure as a key component of a comprehensive management strategy.

Performance Measure 1:

Comparison of Sewage Treatment Need and Actual Funding

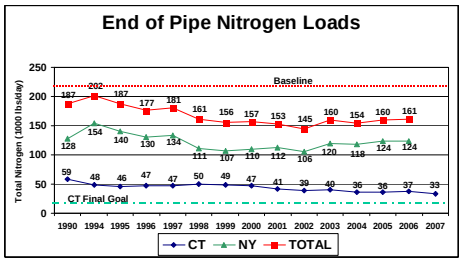


Story Behind Measure 1

This indicator is a comparison of the estimated funding required for nitrogen removal and the actual funding that has been provided for sewage treatment upgrades. As can be seen, the gap between needed and actual funding is closing, but substantially more funding is needed to actually close the gap. The 2008-2009 bond award was increased substantially, and will cover all denitrification requests on the priority list for the two years, if allocated by the Bond Commission. Since 1993, the CWF has implemented more than $180 million in sewage treatment plant upgrades specific to nitrogen removal. The 43 projects completed, many through low-cost retrofit activities as temporary fixes, are now achieving significant nitrogen reductions.

Performance Measure 2:

Point Source Nitrogen Load



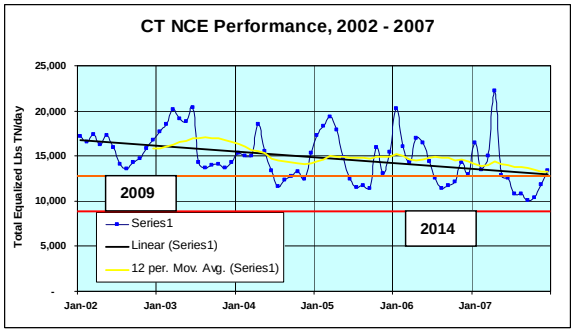
The 1990 estimates include 98 municipal, 4 state, and 4 industrial discharges = 109

CTDEP adjusted its data in 2001 to include reports from plants not previously submitted and changed estimates to actual reported numbers.

New York numbers are based on numbers reported as of December 2006.

Story Behind Measure 2

This indicator shows the actual point source nitrogen load reduction from 1994 to 2007. The trend has been steadily improving in CT. Through formal agreement with EPA and NYSDEC, DEP adopted a 64% nitrogen reduction target for sewage treatment plants to be attained by 2014. Sewage treatment plant upgrades have resulted in a steady decline in nitrogen loads. This level of progress at municipal facilities has been achieved in keeping with 1) the level of capitalization of the CWF; 2) a strong state-local partnership to provide technical and financial means to attain the required reduction; and 3) an innovative *Nitrogen Credit Exchange Program* that has allowed a cost-reducing mechanism for nitrogen trading that uses market forces to put the most cost effective projects first.



Turning The Curves: What do you propose to do over the next two years and why?

However, to achieve the 64% nitrogen reduction required by the waste load allocation in the binding LIS management analysis, the minimum funding identified above will be required. The management agreement also requires that the projects be completed by 2014, so it is equally essential that the funding be adequate on an annual basis to meet that schedule (see also below). Please note that the cost to remove nitrogen is a relatively small percentage of overall CWF needs. This does not include funding needed for combined sewer overflow projects.

Key Budget Information*	
Total Current Program Funding*	$24,616,610
Funding Distribution	
Total Program Funding As Percent of Total Agency Budget	8.48%
Total Federal Funds	1,620,420
Total State Funds	22,996,190
Capital Projects Subtotal	22,600,000
Other Funding	

* See budget detail for more information

Part II, Program Accountability

DEP Clean Water Fund

Program: Department of Environmental Protection, Clean Water Fund

Quality of Life Result: A healthy and productive Long Island Sound for Connecticut residents.

Program Purpose: To eliminate the detrimental effects of hypoxia in LI Sound by improving municipal sewage treatment infrastructure as a key component of a comprehensive management strategy

Key Program Budget Information:

Key Budget Information*	
Total Current Program Funding*	$24,616,610
Funding Distribution	
Total Program Funding As Percent of Total Agency Budget	8.48%
Total Federal Funds	1,620,420
Total State Funds	22,996,190
Capital Projects Subtotal	22,600,000
Other Funding	

- See budget detail for more information

Contribution to Quality of Life (Population) Result. Municipalities need financial and technical support to improve sewer and sewage treatment infrastructure and reduce nitrogen loads to LI Sound, the primary cause of hypoxia in LI Sound.

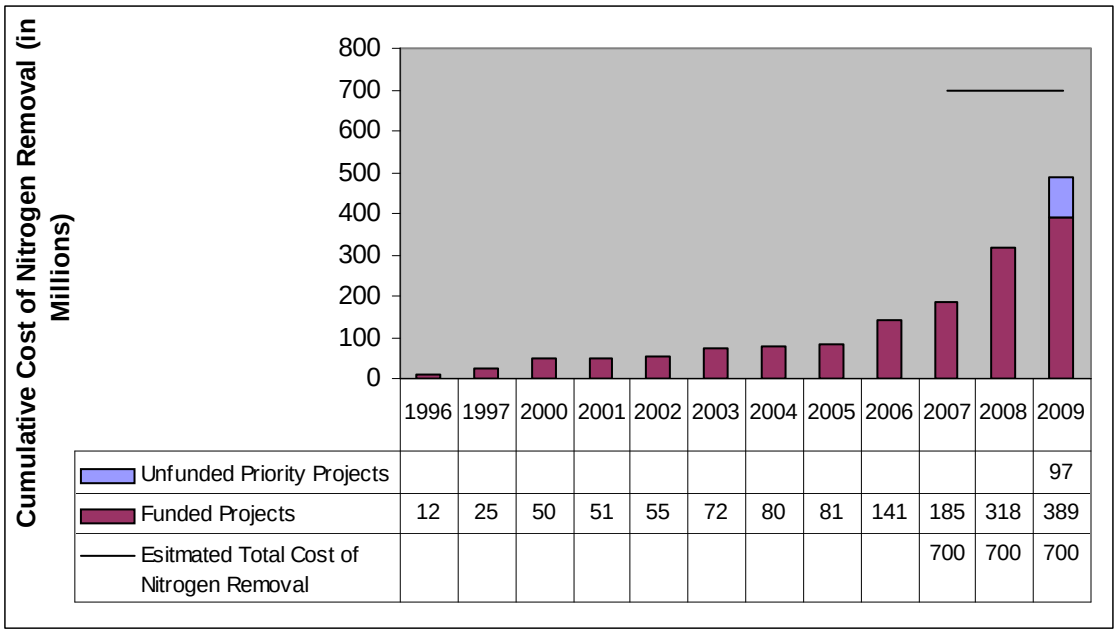
Primary Mechanism**.** The Connecticut Clean Water Fund (CWF) is the state's primary mechansim for providing financial assistance to municipalities for wastewater collection and treatment projects. It combines state and federal sources to provide loans and grants that ensure timely and effective improvements targeted towards both water quality goals and community needs.

Benefit to Municipalities. The combination of CWF grants and loans is defined by federal and state guidance, and managed by DEP using a priority rating system to ensure equitable distribution of funds to municipalities that undertake water pollution control projects. For standard upgrade projects, municipalities receive a 20% grant and 80% low-interest loan. Combined sewer overflow (CSO) projects, because of their high cost and environmental effect, receive grants of 50% and loans for the remainder of the cost. To promote nitrogen removal projects, the CGA in 1999 passed a provision for 30% grants for the components of a municipal upgrade related to nitrogen treatment. The loans are repaid over 20 years at 2% interest.

CWF Project Needs. Total funding needs over the next 20 years are estimated at $5 billion. Of this, $1.544 billion is associated with combined sewer overflow projects and more than $600 million is associated with removing nitrogen to restore Long Island Sound. Other needs include secondary treatment ($1.203 billion), and general POTW infrastructure needs ($1.35 billion). New requirements for phosphorus treatment are likely to cost in the hundreds of millions over the next 20 years.

Other Potential CWF Needs. A Long Island Sound Account of the CWF once included grants for special purposes including: research to improve science and management of the Sound; ambient monitoring to track improvement and effectiveness of management actions; restoration and preservation of tidal coves and embayments; and nonpoint source pollution (NPS) control projects. These critical activities are largely inactive with respect to CWF resources because of limited funding. The cost of both stormwater and nonpoint source management are enormous, approaching an estimated $1 billion, while federal programs only provide about $2 million/year. Municipalities need a large influx of financial resources to meet the demands of both stormwater permits and NPS management for nitrogen control, which could be managed through the CWF structure.

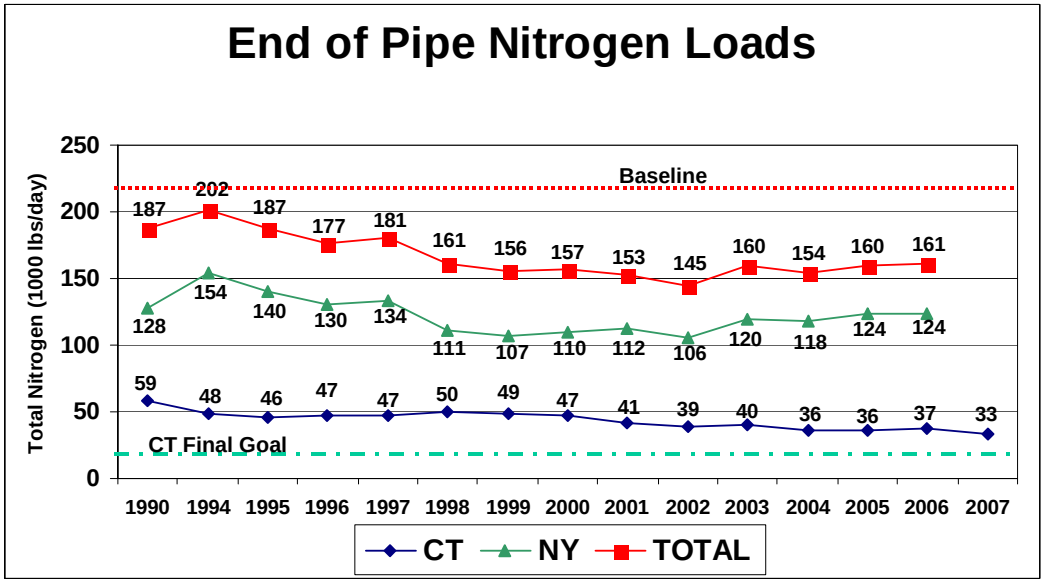
Program Performance Measure 1. Cumulative Cost of Nitrogen Removal



Progress toward Infrastructure Change.

Since 1993, the CWF has financed $180 million in sewage treatment plant upgrades specific to nitrogen removal. The 43 implementation projects to date, many through low-cost retrofit activities as temporary fixes, are now achieving significant nitrogen reductions. However, to achieve the 64% nitrogen reduction required by the waste load allocation in the binding LIS management analysis, the minimum funding identified above will be required. The management agreement also requires that the projects be completed by 2014, so it is equally essential that the funding be adequate on an annual basis to meet that schedule (see also below). The 2008 and 2009 data are based on CWF priority lists for the two years, for which funding is still pending. Please note that the cost to remove nitrogen is a relatively small percentage of overall CWF needs.

Program Performance Measure 2. Point Source Nitrogen Load

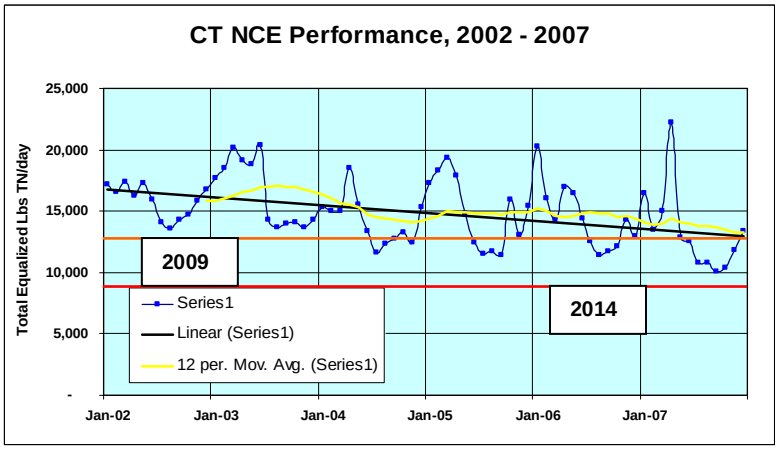


The 1990 estimates include 98 municipal, 4 state, and 4 industrial discharges = 109

CTDEP adjusted its data in 2001 to include reports from plants not previously submitted and changed estimates to actual reported numbers.

New York numbers are based on numbers reported as of December 2006.

Progress toward Point Source Nitrogen Load Goal: Through formal agreement with EPA and NYSDEC, DEP adopted 64% nitrogen reduction target for sewage treatment plants (and a few industries) to be attained by 2014. Sewage treatment plant upgrades through the CWF and regulation of industry have resulted in a steady decline in nitrogen loads, well ahead of schedule (see chart). This level of progress at municipal facilities has been possible because of 1) adequate capitalization of the CWF; 2) a strong state-local partnership to provide technical and financial means to attain the required reduction; and 3) an innovative *Nitrogen Credit Exchange Program* that has allowed a cost-reducing mechanism for nitrogen trading that uses market forces to put the most cost effective projects first. Progress in terms of nitrogen credits produced and needed to achieve the 2004, 2009 and 2014 targets is displayed below. Performance in 2007 is close to the 2009 target.



Future Performance Considerations.

Steady and consistent progress in nitrogen removal from municipal sewage treatment plants will require attention in the three areas listed above: 1) Adequate capitalization of the CWF from both federal and state sources to meet the nitrogen reduction challenge within the established timeframe; 2) Continuing the state-local partnership to ensure understanding of goals and direction; and 3) administering the Nitrogen Credit Exchange Program to expedite progress at a lower cost. All three needs must operate hand-in-hand if the final nitrogen reduction targets are to be met by 2014.

Briefly, under this complete program, coordinated through the Nitrogen Credit Advisory Board and DEP's CWF, municipalities can decide if they want to upgrade to remove nitrogen, or defer upgrading if purchase of credits is less expensive. Plants that remove more nitrogen than required by permit are able to sell earned credits to the credit exchange, thus receiving a financial benefit for superior performance. The credits are purchased by plants that discharge nitrogen in excess of their permit limit to comply. Market forces determine whether it is less expensive to purchase credits, or upgrade. In some cases, permanent purchase of credits may be the economically sensible choice for facilities located far from the Sound's edge, while those closer to western LIS, where hypoxia is most severe, find it advantageous to upgrade and sell credits from performance below their permit limits.

Appendix A, Data Development Agenda: Priorities for new or better data on performance.

No identified additional data needs for STP performance and costs at this time.

Appendix B, Link to Budget: Provide detail on proposed improvement efforts that are included in the current or proposed budget.

- With funding contributed by the EPA and the Nitrogen Credit Advisory Board, DEP has a contract with the New England Interstate Water Pollution Control Commission to provide winter operational training to sewage treatment plant operators in a number of municipalities where winter denitrification operations have been a problem.

Summary Table - Based on 2007 Actual Expenditures	
Key Funding Information - Program - Healthy Long Island Sound - Nitrogen Program	
Total Current Program Funding (represents total agency program funding)	24,616,610
Total Program Funding as Percent of Agency Total Budget	8.4795%
Program Budget Distribution	
- Federal Funds	1,620,420
- State Funds	
- General Funds	150,760
- Capital Project Funds	22,600,000
- Other State Funding (Special Revenue Funds)	245,430
- Other Funds (Not Federal or State)*	unknown
Projected Changes in Federal and Non-Governmental Funds for Next Fiscal Year:	
- Federal Clean Water Grants have decreased each year; FY07 award was $13M, FY08 award is $8M.	
*Notes: Total funding from all sources is currently not available to the department.	
Examples - funding from federal agencies that benefit Long Island Sound Nitrogen Program may include -	
- federal funds supplied to other states (example - New York)	
- federal funds to municipalities	
- federal funds to private industry	
- federal funds spent directly by federal agencies (EPA, Commerce, Interior) related to Long Island Sound	
Other sources of funding that may benefit Long Island Sound include -	
- direct municipal funding - DEP has an estimate of $4.5M annually spent on facility Operations & Maint	
- direct industrial funding to reduce Nitrogen discharges that impact the Sound	
- various private and academic research projects related to Nitrogen removal	
Notes: Funds represent only those funds managed by DEP	

FY '06 Actuals	
Key Funding Information - Program - Healthy Long Island Sound - Nitrogen Program	
Total Current Program Funding (represents total agency program funding)	7,555,040
Total Program Funding as Percent of Agency Total Budget	3.1658%
Program Budget Distribution	
- Federal Funds	1,608,240
- State Funds	
- General Funds	217,000
- Capital Project Funds	5,528,400
- Other State Funding (Special Revenue Funds)	201,400
- Other Funds (Not Federal or State)*	unknown
Projected Changes in Federal and Non-Governmental Funds for Next Fiscal Year:	
- Federal Clean Water Funds to support wastewater construction are being reduced	
significantly; estimated EPA CWF reduction for FY'07 = 25% reduction; CT reduction est @ $4.0M	
*Notes: Total funding from all sources is currently not available to the department.	
Examples - funding from federal agencies that benefit Long Island Sound Nitrogen Program may include -	
- federal funds supplied to other states (example - New York)	
- federal funds to municipalities	
- federal funds to private industry	
- federal funds spent directly by federal agencies (EPA, Commerce, Interior) related to Long Island Sound	
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- various private and academic research projects related to Nitrogen removal	
Notes: Funds represent only those funds managed by DEP	

Details - Based on 2007 Actual Exenditures	
Key Funding Information - Program - Healthy Long Island Sound -Nitrogen Program	
Total Federal Funds @ 20% of total program	
- Coastal Management (Commerce/NOAA)	$ 389,440
- Coastal Monitoring (EPA)	$ 23,980
- LIS Study (EPA), includes LIS Restoration grant	$ 479,240
- Lobster Assessment/Monitor/Study (Commerce/Fisheries)	$ 35,300
- LIS Habitat Restoration (EPA)	$ -
- Water 106 Program (EPA @ 20%)	$ 222,640
- Non-Point Source Implementation (EPA)	$ 227,820
- Federal Clean Water Fund (EPA), recent annual grant level	see bond funds
- Marine Fisheries (Interior)	$ 99,600
- Boat Pumpout Stations/Waste Facilities (Interior)	$ 142,400
Total Federal Funds	$ 1,620,420
Total State Funds @20% of total	
- General Fund Personal Services (GF staff coding to LIS)	$ 135,860
- General Fund Other Expenses (coded to LIS)	$ 14,900
Total State Funds	$ 150,760
Special Revenue Funds @ 20% of total	
- EQ Fee Funds (to LIS) @20%	$ 97,360
- EC Fee Funds (to LIS) @20%	$ 81,890
- LIS Plate Account @20%	$ 66,180
Total Special Revenue Funds	$ 245,430
Bond Funds	
- Clean Water Bonds (grants, loans, prog admin) @20%	$ 20,000,000
- Federal Clean Water Fund Grant 2007 @20%	$ 2,600,000
Total Bond Funds	$ 22,600,000
- Total Non-Governmental Funds	unkown
Grand Total of Identified Funding	$ 24,616,610
*Notes: Funds represent funds managed by DEP	

Details - FY'06 Actuals (except portions of bond funds)	
Key Funding Information - Program - Healthy Long Island Sound -Nitrogen Program	
Total Federal Funds @ 20% of total program	
- Coastal Management (Commerce/NOAA)	$ 445,060
- Coastal Monitoring (EPA)	25,000
- Beach Monitoring (EPA)	3,400
- LIS Study (EPA), includes LIS Restoration grant	324,000
- Lobster Assessment/Monitor/Study (Commerce/Fisheries)	27,200
- LIS Habitat Restoration (EPA)	1,400
- Water 106 Program (EPA @ 20%)	316,860
- Non-Point Source Implementation (EPA)	216,640
- Federal Clean Water Fund (EPA), recent annual grant level	see bond funds
- Marine Fisheries (Interior)	77,800
- Boat Pumpout Stations/Waste Facilities (Interior)	170,880
Total Federal Funds	$ 1,608,240
Total State Funds @20% of total	
- General Fund Personal Services (GF staff coding to LIS)	207,000
- General Fund Other Expenses (coded to LIS)	10,000
Total State Funds	$ 217,000
Special Revenue Funds @ 20% of total	
- EQ Fee Funds (to LIS) @20%	44,000
- EC Fee Funds (to LIS) @20%	58,400
- LIS Plate Account @20%	99,000
Total Special Revenue Funds	$ 201,400
Bond Funds	
- Clean Water Bonds (nitrogen cost portion)*	1,500,000
- Clean Water Fund Program Admin/Eng/Inspections @20%	498,400
- Clean Water Bonds (LIS grants/nitro credits)	3,530,000
Total Bond Funds	$ 5,528,400
- Total Non-Governmental Funds	unkown
Grand Total of Identified Funding	$ 7,555,040
*Notes: Clean Water Fund Bonds represents actual FY 2005 costs, annual nitrogen program costs	
as a part of the Clean Water (Bond) Fund program have ranged between $0 to $62.8M.	
*Notes: Funds represent funds managed by DEP	

Appendix C, Information and Research Agenda

DEP and the Nitrogen Credit Advisory board will need to be vigilant, and may need to modify the Nitrogen Credit Exchange procedures to ensure that the number of nitrogen removal upgrades keep pace with the required reductions under the TMDL. There also must be certainty that the 2014 aggregate limit is not exceeded, which may require a lower aggregate permit limit to provide a buffer between the 2014 target and treatment performance, which can be variable depending on weather conditions.

Research into denitrification technologies and plant operations should be enhanced.