

US EPA ARCHIVE DOCUMENT

FY 2010 National Water Program End of Year Performance by Subobjective

The following chapters provide a summary of the progress made toward accomplishing environmental and program goals for each subobjective described in the FY 2010 *National Water Program Guidance*. Each subobjective chapter includes the following information:

- A brief summary of overall performance in 2010 and the previous four years for measures under each subobjective.
- A description of performance highlights, including what commitments were met and what factors contributed to success.
- A description of management challenges, if appropriate, identifying key factors that led to measures not being met and next steps to improve performance for the future.

Each subobjective section focuses primarily on measures with FY 2010 commitments. Indicator measures are discussed where trends significantly differ from previous year's results. Annual Commitment System (ACS) measure codes are provided in the text in parentheses.

Key for Reading Performance Measure Charts and Tables

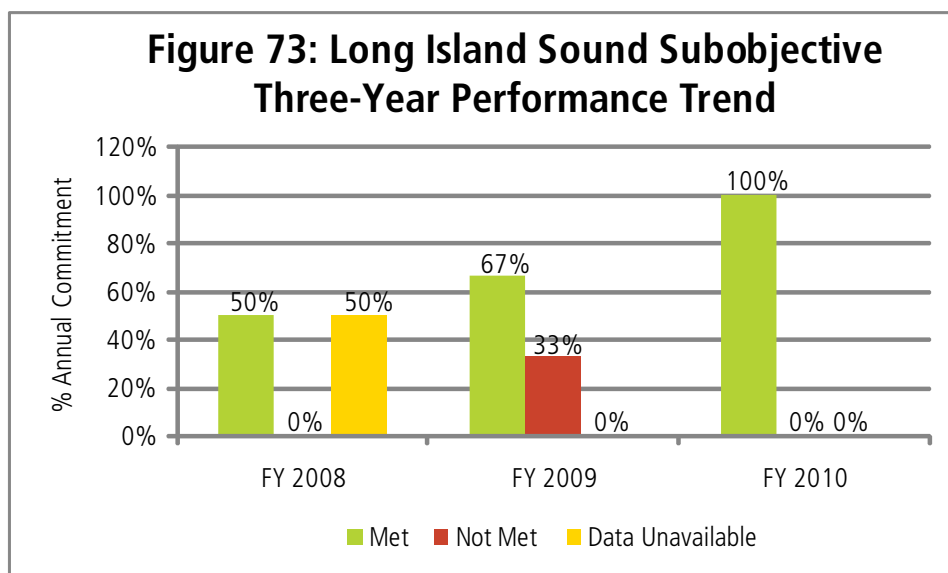
For all charts with national trend results, commitments are reflected by trend lines and results by vertical bars. For charts with regional FY 2010 results, a dotted line indicates the national FY 2010 commitment for that particular measure. Although regions use the national commitment as a point of reference in setting their annual commitments, regional commitments may vary based on different conditions. Green bars in both national and regional charts identify commitments met, and red bars identify measures not met.

For the measure summary tables in each subobjective chapter, a green "up" arrow means that a measure met its FY 2010 commitment, and a red "down" arrow indicates that the annual commitment was not met. The letter "I" means that the measure is an indicator measure and did not have an annual commitment for FY 2010. Measures without data or not reporting in FY 2010 are indicated by "Data Unavailable." An "LT" symbol notes that the measure has a long-term goal and does not have an annual commitment. A gold star (★) in the past trends column highlights that the measure has met its annual commitment 100% of the time over the past four or five years. And finally, the appendix number represents the page in Appendix D (D-00) on the website where additional details about the measure can be found, and the figure number is the number of the chart in the chapter.



Subobjective: Long Island Sound

EPA partners maintained pace from the previous year by meeting two of three commitments for the Long Island Sound Program in FY 2010. (Figure 73)



FY 2010 ACS Code	Measure Description	Met/Not Met (I = Indicator) (Data Unavailable = No Data/Not Reporting) (LT = Long-Term Target)	Past Trends/ # of Years Met	Appendix Page Number (D-0)/ Figure Number
Subobjective 4.3.6 Long Island Sound				
SP-41	Reduce Long Island Sound nitrogen	▲	1/3	D-56
SP-42	Reduce Long Island Sound hypoxic zone	LT		D-57
SP-43	Restore Long Island Sound coastal habitat	▲	3/3	D-58
SP-44	Re-open river and streams for fish passage	▲	3/3	D-58

More than 20 million people live within 50 miles of the Long Island Sound's shores, and more than 1 billion gallons per day of treated effluent enter the Long Island Sound from 106 treatment plants. A study conducted in 1990 estimated that the Long Island Sound contributes more than \$5.5 billion annually to the regional economy from clean water-related activities alone—recreational and commercial fishing and shellfishing, beach-going, and swimming. In 2010 dollars, that equates to \$9.2 billion. The Long Island Sound is a breeding ground, nursery, feeding ground, and habitat to more than 170 species of fish and 1,200 species of invertebrates that are under increasing stress from development and competing human uses.

FY 2010 Performance Highlights and Management Challenges

The Long Island Sound Program significantly exceeded its 2010 commitment (79 acres) by restoring or protecting 1,361 acres of coastal habitat, including tidal wetlands, dunes, riparian buffers, and freshwater wetlands (SP-43). This represents a whopping 740% of the 2014 habitat acres goal (415 acres in FY 2009 and 1,361 acres in FY 2010). The original 2010 target was annualized based on past progress. In the interim, EPA received appropriations that enabled the leveraging of funding by the states for acquisitions of several properties that helped exceed expectations. EPA also reported that since FY 2006, it has reopened 69.9 miles of river and stream corridor to anadromous fish passage through removal of dams and barriers or installation of bypass structures such as fishways (SP-44). This exceeded the 2010 commitment of 17 miles. EPA reported that its success was due to effective coordination among federal, state, and local partners and appropriate landowners on planned projects.

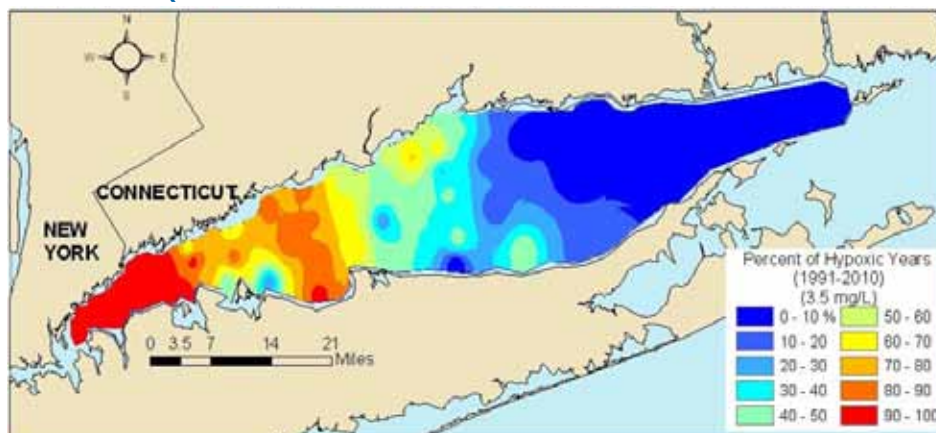
The Long Island Sound Program has made substantial progress in reducing point source nitrogen discharges to Long Island Sound and exceeded the 2010 percentage target of reduction toward its 2014 goal (SP-41). States reported via EPA an average daily discharge of nitrogen of 33,703 Trade Equalized (TE) pounds, which was a reduction from the baseline discharge of 59,146 TE pounds and represents 70% of the final reduction target of 100%. This achievement was due substantially to New York City's Sewage Treatment Plants (STP) coming on line with nitrogen reduction improvements that have been ongoing for several years. The 2009 percent reduction target was 52%.

A key measure for assessing water quality in the Long Island Sound is the size and duration of its hypoxic zone. In 2010, the maximum area and duration of hypoxia in Long Island Sound was 40 days and 101 square miles, both well below average (SP-42) (Figure 74). This was an improvement over end of year hypoxic conditions in 2007, 2008, and 2009. This response appears to be partly the result of continued progress in nitrogen reduction in waters leading to the sound, as well as wind-mixing events in early August that ventilated bottom waters. It should be noted, however, that the environmental response in coastal waters to reductions in anthropogenic nitrogen is generally not linear, and the response time and trajectory of recovery vary by system. This appears to be true for Long Island Sound.

The states of Connecticut and New York have listed Long Island Sound as impaired for dissolved oxygen (DO) under Section 303(d) and have developed a total maximum daily load (TMDL) to control nitrogen deposition to the sound as a means of improving DO. The TMDL calls for a 58.5% reduction in anthropogenic nitrogen deposition from baseline levels over a 15-year period commencing in 2000 and ending in 2014. Nitrogen from STPs has been reduced by over 76,000 pounds per day from baseline loads. Since EPA approval of the nitrogen TMDL in 2000, post-TMDL area and duration of hypoxia averages are 56.9 days and 179 square miles, respectively, versus pre-TMDL averages of 56.2 days and 208 square miles.

Figure 74

THE FREQUENCY OF HYPOXIA IN LONG ISLAND SOUND BOTTOM WATERS



In 2010, the Long Island Sound Program achieved 72% of the Agency's 2014 goal for reopening river and stream miles to diadromous fish passage (22.8 miles in FY 2009, 13.1 miles in FY 2010) (SP-44). This measure is an annualized estimate of a six-year long-term goal to reopen 50 river miles to fish passage by the Long Island Sound Management Conference Partners. Many factors affect the ability to initiate, continue, or complete projects, including coordination among landowners; easement and access issues; construction variables; coordination of equipment, supplies, and personnel; and weather and seasonal factors that may affect timing of onsite work.