Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
New York

Multifaceted Program Restores Shellfish Harvesting in Northern Hempstead Harbor

Waterbody Improved

Elevated fecal coliform (FC) bacteria levels from runoff and other sources caused New York's northern Hempstead Harbor to exceed the FC water quality standard for shellfish harvesting. As a result, the New York State Department of Environmental Conservation (DEC) added the northern segment of Hempstead Harbor to the state's 1998 Clean Water Act (CWA) section 303(d) list of impaired waters because of pathogens. A multifaceted effort by the DEC, Nassau County and municipalities adjacent to the harbor reduced FC pollutant sources and led to the restoration of northern Hempstead Harbor. In June 2011, after having been closed for more than 40 years, the northern segment of Hempstead Harbor was reopened for shellfishing. DEC proposes to remove this segment of the harbor from the state's list of impaired waters in 2012.

Problem

Hempstead Harbor is an estuarine embayment off the Long Island Sound in Nassau County, New York (Figure 1). A shellfish harvest restriction was placed on the harbor in 1966 because of water quality concerns. Data collected in the mid-1990s showed elevated pathogen levels that prevented the harbor from meeting its shellfishing, primary contact recreation and fish consumption uses. As a result, DEC added the northern segment of the harbor (covering 2,520 acres) to the state's 1998 impaired waters list. Nonpoint sources of pollution including stormwater runoff, boater waste, waterfowl, and failing on-site disposal systems were suspected of being the primary problem, with wastewater discharges also contributing.

In 2007 DEC developed an FC total maximum daily load (TMDL) for Hempstead Harbor. The TMDL called for a 95 percent load reduction from nonpoint sources of pollution. The goal was an FC geometric mean that did not exceed 14 colonies (col) per 100 milliliters (mL), with no more than 10 percent of all samples exceeding 49 col/100 mL.

Project Highlights

The multi-jurisdictional setting around northern Hempstead Harbor created a challenge in coordinating stakeholders and developing partnerships to address the FC impairment in the harbor. The

Photo by Carol DiPaolo, Coalition to Save Hempstead Harbor

Figure 1. New York's Hempstead Harbor is an estuarine embayment off the Long Island Sound.

Hempstead Harbor restoration effort is an excellent example of an integrated, collaborative effort to control both nonpoint and point sources of pollutants. The Hempstead Harbor Protection Committee (HHPC), a partnership between state and federal agencies, Nassau County, local municipalities and citizen groups, led the development of the Water Quality Improvement Plan in 1998, as well as the Harbor Management Plan in 2004.

Since 1995 the HHPC has coordinated implementation of efforts to address the nonpoint sources of pollution that were the primary contributors to water

Photo by Carol DiPaolo, Coalition to Save Hempstead Harbor

Figure 2. After being closed for 40 years, the Hempstead Harbor shellfishery yielded a bountiful clam harvest on opening day.

quality impairments, such as managing stormwater and boater waste. Significant efforts to control and manage runoff were initiated prior to the permitting of municipal separate storm sewer system (MS4) entities in the surrounding watershed. Stormwater management practices carried out prior to MS4 permitting included extensive education and outreach efforts, implementing municipal stormwater management program plans, and controlling waterfowl. These nonpoint source control efforts, together with securing the designation of the Harbor as a Vessel Waste No Discharge Zone, installing sewers in previously unsewered areas where onsite disposal systems were an issue, and adding point source controls, had a significant impact on improving the harbor's condition.

Results

Management efforts have improved water quality in the northern segment of Hempstead Harbor. Over the past five years, water sampling has shown that FC levels in northern Hempstead Harbor meet the stringent standards for a certified (open) shellfishing area. In addition, the results of testing of hard clam samples for the presence of various metals, chemicals (PCBs, dioxins, furans, pesticide residues), and radionuclides has supported lifting the shellfishing restriction in the area.

DEC reopened shellfish harvesting areas in the northern segment of Hempstead Harbor in June 2011 (Figure 2). Continuing monitoring activities in the northern segment of Hempstead Harbor include sanitary surveys, water quality monitoring and shellfish tissue testing. DEC will continue to monitor the water quality of these reclassified areas as part of its participation in the National Shellfish Sanitation Program.

Because water quality monitoring conducted by the New York State Department of Health and DEC concluded that the northern segment of Hempstead Harbor fully supports shellfish harvesting for human consumption, DEC will propose to remove this segment from the state's impaired waters list in 2012.

Partners and Funding

Hempstead Harbor has been a focus of federal and interstate partnerships (such as the Long Island Sound Study), as well as inter-municipal (particularly the HHPC), interagency and community partnerships of environmental and business groups.

The HHPC supported planning studies, capital improvement projects, educational outreach, water quality monitoring, information and technology sharing, development of model ordinances, coordination of enforcement, and working with other governmental agencies as well as environmental, educational, community and business groups. The HHPC oversaw the preparation of a Water Quality Improvement Plan (1998) and the Harbor Management Plan (2004) for Hempstead Harbor. The DEC Bureau of Marine Resources has also worked cooperatively with Hempstead Harbor communities to collect and examine additional water samples.

The New York Water Quality Improvement Project program was the principal source of funding for projects, contributing approximately $8 million in total funding. This funding supported sanitary sewer installation, stormwater runoff management, and other projects to address nonpoint pollution sources around the harbor. Other Nassau County and municipal funds were also directed to these efforts.

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For additional information contact:

Don Tuxill
New York State Department of Environmental Conservation
518-402-8168 • detuxill@gw.dec.state.ny.us