

USEPA's Commitment to Clean Up Onondaga Lake

by *Mario Del Vicario*

The mission of the U.S. Environmental Protection Agency (USEPA) is to protect human health and the environment. USEPA established a commitment to the restoration of Onondaga Lake in the 1970s when the lake was regarded as one of the most polluted in the United States. The degradation was caused by a century of industrial and residential pollution. USEPA, utilizing its various environmental authorities, in particular the Clean Water Act and CERCLA (Superfund), worked with various partners to address the problems.

In 1990, an interagency effort was formalized by the creation of the Onondaga Lake Management Conference (OLMC), which was composed of the USEPA, U.S. Army Corps of Engineers (USACE), New York Department of Environmental Conservation (NYSDEC), New York State Attorney General (NYSAG), Onondaga County, and the City of Syracuse. The OLMC developed the Onondaga Lake Management Plan (OLMP), which laid out a strategy to address the environmental problems in the lake and its surroundings.

On January 20, 1998, a consent judgment, amending an existing judgment (dated 1989) was filed between Onondaga County and the NYSDEC and Atlantic States Legal Foundation. The Amended Consent Judgment (ACJ) represented an enforceable cleanup and restoration program with milestones, goals for restoration, and assessments of Onondaga Lake and its tributaries. Water quality targets were established as a means to address the major sources of pollution coming from wastewater collection and treatment, industrial operations and uses, excessive contained sedimentation accumulation, and various nonpoint origins.

Under section 303(d) of the Clean Water Act, New York State is required to assess the quality of its waters utilizing water quality standards developed jointly by USEPA and New York State. If any waters exceed the established water quality standards, New York State must identify the impaired segments and the pollutants that exceed those standards and officially place them on the state's 303(d) list.

Onondaga Lake was identified as a high-priority water on New York State's 1996 and 1998 section 303(d) lists. The water body was listed as impaired for bathing, with the

pollutant listed as nutrients. Onondaga Lake is highly eutrophic. Excessive phosphorus loadings were responsible for anoxia in the hypolimnion during the summer and violations of the dissolved oxygen standard in the epilimnion during the fall turnover. In addition, the lake had high concentrations of ammonia and nitrite. Onondaga Lake is also on the 303(d) list for PCB, dioxin, and mercury because a fish consumption advisory exists for past industrial discharges. USEPA and NYSDEC are addressing these concerns under the federal and state Superfund programs.

NYSDEC was required to develop a total maximum daily load (TMDL) or an alternative strategy to meet water quality standards for each pollutant identified on its Clean Water Act, section 303(d) list. A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and it allocates pollutant loading to specific points (such as sewage treatment plants) and nonpoint pollutant sources (such as land runoff, sedimentation, and atmospheric deposition).

USEPA completed its review of New York State's phosphorus and ammonia TMDLs for the lake, determined they were consistent with the requirements of the Clean Water Act, and approved them in August 1998. NYSDEC is using a phased approach for developing TMDLs in Onondaga Lake. The phased approach, which is addressed in the ACJ, employs existing data and models to establish TMDLs that trigger pollution reductions while further data are collected and models are refined to revise TMDLs as necessary by 2009. NYSDEC will also evaluate the current guidance value for phosphorus and may develop a site-specific phosphorus endpoint, which may serve as a basis for phase 2 of TMDLs.

The TMDL includes aggressive load reductions from the Onondaga County Metro Sewage Treatment Plant (STP), combined sewer overflows, and tributaries. A three-stage implementation plan, which will result in attainment of water quality standards for phosphorus and ammonia by 2012, was included as part of the TMDL submittal. The implementation plan includes an ongoing assessment to ensure that TMDL-based limits can be achieved and an evaluation of alternatives, such as diversion

of the Metro discharge to the Seneca River if the required discharge limits cannot be achieved. The ACJ also requires Onondaga County to conduct an in-lake oxygenation demonstration project and pilot studies to evaluate advanced technologies for the Metro STP. The artificial oxygenation of these waters could help speed up the attainment of water quality standards while the lake responds to the reductions in phosphorus and nitrogen.

USEPA will assist NYSDEC in completing the necessary tasks to ensure that state water quality standards are achieved in Onondaga Lake. Our goal is to restore fishable and swimmable uses to Onondaga Lake, as required under the Clean Water Act. We are confident that important progress will continue, as a variety of clean-up efforts are under way today that have already resulted in water quality improvements and a reinstatement of catch and release fishing in 1986.

USEPA will continue to uphold its commitment to cleaning up the lake and overseeing restoration projects in the future through participation in the Onondaga Lake Partnership (OLP) and leadership of the OLP Outreach Committee. The OLP was established in 2000 to replace the previous Onondaga Lake Management Conference. The OLP is represented by federal, state, local, and nonprofit partners and takes a comprehensive approach to the management of Onondaga Lake. OLP continues to make significant progress on projects that strive towards a healthy lake and watershed. To date, 35 lake improvement projects have been completed using funds from USEPA and the USACE.

For the ACJ, Onondaga County has several projects to implement so that they can meet the water quality targets in the ACJ. The county has used several sources of funding to implement these projects. To date, the USEPA, through the OLP, has provided over \$95 million for upgrades at Metro, the ammonia/phosphorus removal facilities, and combined sewer overflow projects.

USEPA also supports projects for Superfund work, mud boil remediation, groundwater modeling, and habitat restoration. USEPA will strive for future progress through coordination with the OLP to restore Onondaga Lake and its watershed.

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