



ONTARIO COUNTY PLANNING DEPARTMENT

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HONEOYE LAKE AQUATIC VEGETATION MANAGEMENT PROGRAM 2014 ACTIVITY REPORT

Background

Honeoye Lake is a shallow (16 feet mean depth), nutrient-enriched lake with abundant rooted aquatic plants (macrophytes) that impair recreational uses like swimming and boating during the summer months. This plant community includes both native (e.g., eelgrass) and non-native invasive species (e.g., Eurasian water milfoil and curly leaf pondweed). For more than 25 years, Ontario County has operated a mechanical harvesting program during the summer months in cooperation with the Towns of Richmond and Canadice with cost-sharing from New York State through the Finger Lakes – Lake Ontario Watershed Protection Alliance (FLOWPA). This program has two primary goals:

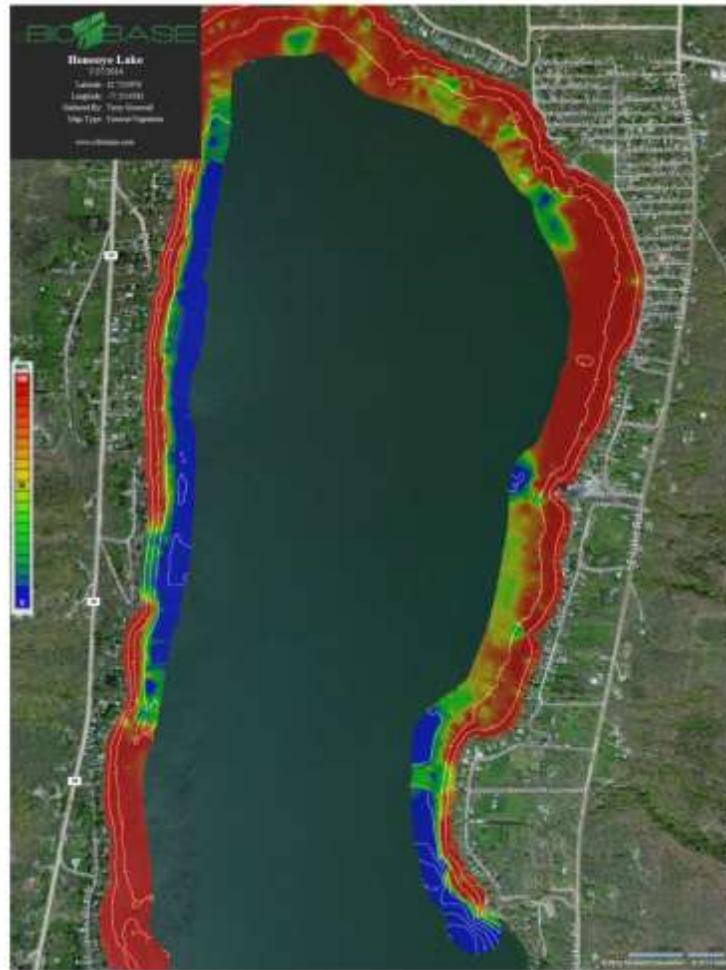
- To enhance recreational access and opportunities during the peak season.
- To remove plant biomass and associated nutrients from the lake ecosystem.

In addition, the Honeoye Lake warm water sport fishery may be enhanced by creating more edge habitat in the dense plant community, allowing predator fish to more successfully forage for smaller prey species. Mechanical harvesting is a management practice consistent with the Honeoye Lake Macrophyte Management Plan (Final, April 30, 2008) available at: <http://www.co.ontario.ny.us/DocumentCenter/View/1308>.

2014 Operations Summary

The harvesting season ran Monday through Thursday from July 7 through September 23, 2014. Randy DePew and Bob Corey returned as our operations team. Staging and off-loading areas were the New York State Boat Launch on East Lake Road and California Ranch Point, mid-lake on the west shore. California Ranch neighbors once again generously accommodated the harvesting equipment during the season.

Volunteers from the Honeoye Lake Watershed Task Force provided a motor boat, driver and fuel for monthly perimeter lake inspections to monitor lake conditions and provide feedback to the operations team. New this year, our volunteers employed a mapping technology called *ciBioBase* by Contour Innovations to track the abundance of rooted aquatic plants and locations of dense beds near the surface. Using a depth finder to collect data from the boat, digital files were uploaded to Contour Innovations and maps were produced showing plant abundance zones. Following the 2013 season when water clarity was reduced significantly due to persistent algae blooms, the mapping program was implemented to help guide harvesting operations. The mapping software and service was 100% grant funded through the Ontario County Water Resources Council with the depth finder provided in-kind by the volunteers.



Northern basin vegetation density map (7/27/2014)

Mechanical and Weather Related Down Time

On July 28, a severe storm resulted in flooding in the Honeoye Lake area, raising the lake level dramatically. A tremendous quantity of debris flushed into the lake from watershed gullies and hillsides, creating hazards and resulting in a boating restriction ordered by the Ontario County Sheriff. Harvesting operations were suspended for a week. During this time, the harvesting crew assisted with the removal of debris at the sewage treatment plant in Honeoye and the docks at the New York State Boat Launch. The crew also assisted the Town of Richmond Highway Department by hauling gravel and with roadside repairs. A total of 44 hours were lost over the season due to weather conditions and two hours were lost due to mechanical issues.

Managing Plant Fragments

One common complaint about mechanical harvesting of aquatic vegetation is that it creates floating plant fragments that may wash up on shore and create a nuisance for property owners. Some areas of shoreline receive proportionately more fragments, based on prevailing wind

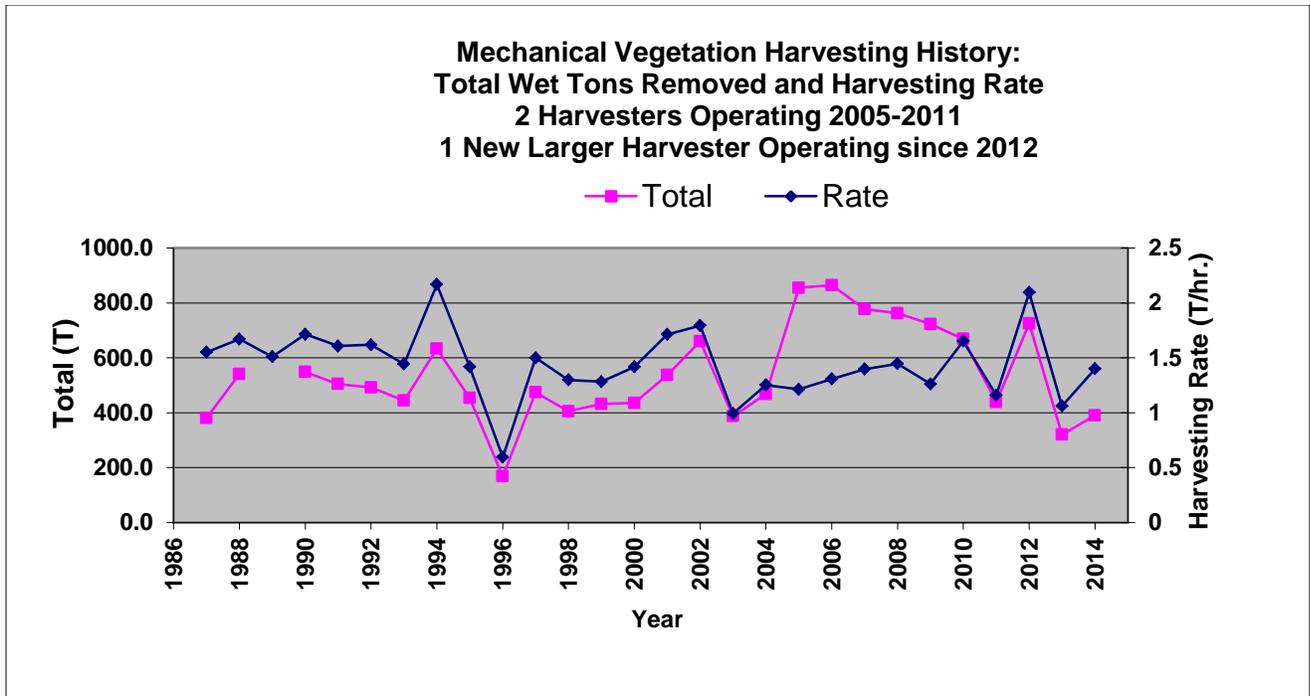
direction. Harvesters are not 100 percent efficient in capturing cut vegetation. Other sources of fragments include boat propeller chop and other recreational activities (water skiing, wake boarding, angling and pulling anchors); breakage from wave action or natural plant die-off; and even hand-pulling of plants left in the lake or at lake's edge.

In 2013, the Honeoye Lake operations team worked with staff from Cayuga County's aquatic vegetation harvesting program to compare strategies for reducing fragments and improving harvesting efficiency. Building upon the knowledge gained from the Cayuga County exchange, program staff and volunteers traveled to Chautauqua Lake in 2014 to observe the Chautauqua Lake Association's extensive aquatic vegetation harvesting program and meet with program staff. This experience was deemed beneficial by all who participated. While the Chautauqua Lake program operates at a much larger scale with generous funding, the Honeoye Lake representatives brought home ideas for equipment and operations modifications that can enhance our program. Of primary interest is the acquisition of a small work barge that can float up to shore to pick up fragments raked up with the assistance of property owners. Program staff are in the process of researching funding, used barges and the logistics of adding a vessel to operations (e.g., docking during the season). During the 2014 season, Honeoye Lake operations staff provided shoreline cleanup assistance to property owners who contacted us either through the Ontario County Planning Department office or at the lake. Shoreline cleanup using the harvester is not possible in tight spaces between docks or where water lines cross in front of a shoreline area, and so services are necessarily limited with our current equipment. The numbers of complaints and/or requests were limited compared to previous years.

Harvesting Results

We measure harvesting performance by the amount of biomass we remove the lake and the amount of time it takes to perform the work. **Seventy-eight loads** of vegetation were removed from Honeoye Lake during the 2014 season, an estimated **390 wet tons**. This is a significant increase over 2013 when 64 loads and an estimated 320 wet tons were removed, but remains below the long term annual harvest average of 536.5 wet tons (1986-2014).

Plant growth in the lake was light in the first part of the season relative to other years. The most abundant vegetation during July was observed from Deyo Drive to Times Union Park and the area along Francis Shores. When operations began again following the late July flooding, operators observed increased plant growth in certain locations. During the second part of the season, the densest growth was observed north of Trident Marina to the beach at Times Union tract and from Lake's End Lane to Bartholomew Drive. The dominant plant species lake wide was eelgrass with concentrations of large leaf pondweed and coontail. Eurasian watermilfoil was observed further out from the shoreline. Water clarity in 2014 was notably better than 2013 and recent years, which may help to explain the increase in biomass harvested despite modest growth early in the season. Operations are easier when water clarity is high. Harvesting rate is calculated as the estimated wet tons of vegetation harvested per hour of operations. The 2014 rate was 1.40 compared to 1.06 in 2013. The chart below shows the year-to-year comparison for harvesting results, including both total wet tons removed (pink line) and rate (blue line).



Weir Maintenance

During the month of July when aquatic vegetation growth was light, the operations team also worked under the direction of the Town of Richmond to remove overgrown vegetation across the top of the weir at the lake outlet at the north end. Additional time was contributed to this work at the end of the harvesting season. The weir was installed in the 1990s to help moderate lake levels. Previous fluctuations in water level caused shoreline erosion and property damage while boats were grounded at docks during extremely low lake levels. Decades of sedimentation along the rock-covered weir spurred plant growth which had become dense with sedges, shrubs and small trees and was deemed to be impeding the flow of water over the weir. The crew used hand tools to cut and remove the vegetation using approximately 100 man hours.

Coordination with Honeoye Lake Watershed Management Planning Efforts

Communication among various Honeoye Lake initiatives, including the Aquatic Vegetation Management Program, occurs under the umbrella of the Honeoye Lake Watershed Task Force. The Task Force brings together stakeholders and staff from local municipalities, agencies, non-profit organizations, academic institutions and property owner associations. Communication helps to clarify needs and identify common goals. It also helps to build synergy as partners work together to secure funding and implement projects. Volunteers can be an essential part of many projects.

Several recent projects coordinated under the Task Force address needs such as water quality assessment, blue green algae testing, property owner and boater education, and nutrient reduction from watershed sources. Collectively and individually, these projects help to implement the Honeoye Lake Watershed Management Plan. They also help build local capacity as parties gain

knowledge and skills that can help the community determine appropriate goals and practices to attain measurable and lasting results.



Weir cleared of vegetation, September 2014.

DEC's Clean Water Blueprint for Honeoye Lake (per Clean Water Act)

In December 2014, New York State Department of Environmental Conservation (DEC) Division of Water hosted a public meeting to inform residents about a state-led initiative to document pollutants to Honeoye and Conesus Lakes and develop watershed strategies that communities may use to meet defined pollution targets, in this case, nutrients. DEC calls this approach a "Clean Water Blueprint". Under the federal Clean Water Act, states are required to identify waterbodies not meeting water quality standards. For these "impaired waters," the Act also requires states to develop a calculation of the pollutant reduction needed to meet standards, known as the Total Maximum Daily Load or TMDL. In the case of Honeoye Lake, a watershed plan approach will be used by the State to capture multiple sources of pollutants which contribute to Honeoye Lake's impaired listing for excess nutrients. DEC announced the Cadmus Group of Massachusetts is developing the Honeoye Lake Clean Water Blueprint with community

input. Indeed, local monitoring data and scientific studies have been provided to DEC for this purpose.

Adaptive Management

As water quality assessment and management planning continues to evolve for the Honeoye Lake watershed, we anticipate that the Aquatic Vegetation Management Program will continue to play a role in water quality management. Yet we also recognize the need for a flexible program that can adapt to changing environmental conditions and community needs. We remain committed to partnering with Honeoye Lake watershed stakeholders toward the goal of an optimal and adaptive Honeoye Lake watershed management program.

For more information, see the following web links below.

Honeoye Lake Watershed Task Force's Summer 2014 newsletter:

<http://www.hvaweb.org/News%20Items/HLWTF%20Newsletter%20%2011%20October%202013.pdf>.

Honeoye Lake Watershed Management Plan: <http://www.co.ontario.ny.us/DocumentCenter/View/1276>

Ontario County Honeoye Lake Aquatic Vegetation Management Program:

<http://www.co.ontario.ny.us/index.aspx?nid=452>

NYS Department of Environmental Conservation blue green algae bloom notices:

<http://www.dec.ny.gov/chemical/83310.html>

NYS Department of Environmental Conservation Clean Water Blueprints, TMDLs, a Nine Key Element Watershed Plans:

<http://www.dec.ny.gov/chemical/23835.html>

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