

HARVESTING PROGRAM UPDATE – August 7, 2019

The Ontario County Aquatic Vegetation Management Program (AVMP) will relaunch the harvester on Honeoye Lake on August 7, 2019. The harvester has been off the lake since late June just prior to the start of operations following an act of vandalism. The AVMP work barge has been in operation throughout the summer to assist residents with the removal of shoreline plant debris.

The Ontario County Office of the Sheriff worked with NYS Parks and other involved parties to implement a crime deterrence and surveillance plan. **Intentional damage to public property is a crime and subject to prosecution.**

The AVMP staff note better than usual water quality in Honeoye Lake this season. Curly leaf pondweed grew up early and quickly in some locations but, overall, weed growth has been delayed this year. The rooted plants are just recently growing up to the surface of the water in many locations. Algae has also been relatively light, with localized shoreline blooms observed. In addition, Gloeotrichia (glee-oh-trick-ia), the blue green algae species recognized by its characteristic brownish “dots” in the water, arrived later this year. Water clarity has been the best in many years, verified by residents’ observations as well as objective measurements taken by Honeoye Lake Watershed Task Force volunteers Terry and Dorothy Gronwall. .

If the lake is so great, why is the harvester being relaunched? Conditions vary around the lake, and there are locales where weed growth has choked off water circulation and left boats stranded at hoists. These residents are not experiencing the “best water quality in years”. They have requested relief via harvesting.

The AVMP strategy for August 7 until Labor Day will be to use the harvester sparingly and surgically, to provide relief in those areas where access is clearly impeded and residents request harvesting. The first place addressed will be Dana Shores. This will be the only location harvested, weather permitting, August 7-8, and subject to verification that the thermocline remains intact.

What is the thermocline and what does it have to do with harvesting? The thermocline sets up in the lake during the summer and acts as a thermal barrier that keeps the lake from fully mixing. This thermal barrier holds colder (and denser) water at the bottom, while the upper surface waters above the thermocline are warmed by the sun and continuously oxygenated by waves and interaction with air. Separated by this thermal barrier from mixing with the upper waters, the colder, denser bottom waters typically become oxygen depleted as organisms use up the available supply of dissolved oxygen (DO). During weeks of low to no DO in the water, nutrients are released from sediments as chemical bonds break down in the absence of oxygen. Now the deeper, colder, denser waters are **oxygen poor and nutrient rich**. When the thermocline is broken, either by seasonal cooling in the fall or more likely by weather related events, like strong wind or cold rain, the lake “turns over” and the cold bottom waters mix with the warmer, upper layer. The high concentration of nutrients dissolved in the colder, deep water, previously

held near the bottom by the thermocline, now mixes throughout the lake. Research on Honeoye and many other lakes show this finding. If the weather is warm enough after turnover, algae may bloom fueled by the sudden availability of nutrients, also called “internal loading”.

Data from the Honeoye Lake Watershed Task Force shows the 2019 thermocline has been in place in Honeoye Lake since late June. Lab analyses show the nutrient concentrations at the bottom of the lake are very high in recent weeks. Those who study the lake anticipate a weather induced turnover will be followed by rapid algae growth, if other conditions conducive to algae growth prevail (warmth and calm surface waters).

What does this have to do with the harvester? The harvester will not operate for a number of days if the thermocline is disrupted by wind or cold rain in order to isolate it from the impact of lake mixing. Some residents in the community perceive the harvester stimulates or worsens algae blooms so commencing operations in conjunction with the first lake turnover since June may lead to false conclusions. On the other hand, should the thermocline remain intact, harvesting at Dana Shores will provide an opportunity to observe changes in water quality following harvesting independent of large scale internal nutrient loading.

The Ontario County AVMP team is pleased the Honeoye Lake community is enjoying healthier lake conditions this summer. Ontario County is committed to working with the Honeoye Lake Watershed Task Force and its partners to further research and management practices to best support Honeoye Lake water quality improvement.

As always, residents may contact Betsy Landre at (585) 396-4458 or betsy.landre@co.ontario.ny.us with questions or concerns. Neighbors are encouraged to work together to coordinate requests for shoreline pickup or harvesting, helping us to serve groups of people more efficiently. The post Labor Day schedule will be announced. At this time, it is anticipated the work barge will operate into October.