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WORRYWORT

WORK CONTINUES TO ADDRESS INVASIVE ALGAE



Figure 1. CWC Director of Conservation Twan Leenders leads a pilot removal effort of invasive starry stonewort in Ashville Bay.

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There is no such thing as status quo in a lake. Every moment of every day things are busy changing. Chautauqua Lake made sure to remind us all of this last summer, when starry stonewort made a big appearance on the scene. Two new fields of this invasive algae were found and mapped in 2022, and since then local stakeholders have been hard at work figuring out what some of our best management options may be.

Although it is classified as a type of macroalgae, starry stonewort looks and acts more like our lake's aquatic plants than the algae we normally think about. Since 2009, it has been seen off-and-on during plant surveys, usually in small isolated amounts. We have the invasive species program run by the Chautauqua Watershed Conservancy to thank for identifying this recent starry stonewort issue. Invasive species paddles led by CWC Director of Conservation Twan Leenders uncovered new areas of

dense growth last year. Because of its advantages as an invasive, this species can form thick mats when left unchecked, and is capable of impairing recreation and harming native plant and fish species. At the Alliance's September public meeting, Leenders shared that he had identified two large fields of starry stonewort near Ashville Bay and Prendergast Point, and stressed the need for action. Responding to this concern, the Alliance board directed additional money to the CWC's invasive species program using consolidated lake funds from the County Occupancy Tax Program, and funds from The Lenna Foundation, the Ralph C. Sheldon Foundation, and the Chautauqua Region Community Foundation. Leenders quickly organized a pilot removal project, and in late September a team of stakeholders came together to test starry stonewort removal using hand-pulling and mechanical harvesting in Ashville Bay. An overview of that work, the groups involved, and starry stonewort itself, can be found here <http://www.chautauquaalliance.org/news/press-release-starry-stonewort/>.

As we head into another summer season, identifying management options for the algae is a high priority. When a new infestation is identified relatively early, one of the best paths forward is to seek out advice on what has been done in other areas. A key partner for local organizations on these issues is the Western New York Partnership for Regional Invasive Species Management. On April 27, 2023, PRISM hosted its spring partner meeting, which included a presentation by Lexie Davis of the Cornell Cooperative Extension. Davis' presentation focused on Keuka Lake, where several different methods of starry stonewort management have been tried since around 2017. While each lake's situation is different, the work done at Keuka offers us valuable insight on how we might move forward on Chautauqua.

Fragmentation is a term worth keeping in mind. Natural processes and human activities can break starry stonewort into small pieces. One of the reasons that this algae can spread so quickly and cause problems is that those individual pieces can keep growing on their own. As such, managing starry stonewort often starts with limiting fragmentation. One way to do this is to mark areas off with buoys or signage so that boaters do not unintentionally chop up and spread the algae. Turbidity curtains—basically large tarps that run from the surface of the water to the lake bed—may also be used to cordon off areas and limit spread. Organizations with experience, such as those working on Keuka, tend to favor removal in ways that limit fragmentation.

“Lexie's presentation at the PRISM meeting had a lot of valuable information about Keuka Lake's challenges and recent success managing starry stonewort,” said Alliance Project Manager Taylor West. “There are different tools available to manage this algae, and each technique has its own set of benefits and challenges. Based on their experiences, diver-assisted suction harvesting, or DASH, appears to have a lot of benefits when it comes to reducing populations of starry stonewort. This method also minimizes fragmentation and negative impacts to surrounding plant communities.”

DASH is commonly used to manage new infestations of invasive plants – including starry stonewort. During this process divers suck up plants using what amounts to a giant underwater vacuum cleaner. While hand-pulling can leave fragments of plants floating in the water, DASH tends to do a more complete job of removing all pieces of algae material. This technique fits some situations better than others, often depending on a balance of cost and scale. Trained divers and their equipment are expensive, and the process is usually employed in relatively small areas.

Organizations on Keuka are also looking into the use of bottom barriers, or benthic mats, as a control option. If you have ever laid out a tarp on your lawn for a few days, you might have noticed that

the grass underneath quickly started to suffer and turn brown. Bottom barriers function the same way, covering underwater plants and starving them of the sunlight that they need to grow. As with any management technique, cost, scale, and the environment are important to consider. Our lake's Macrophyte Management Strategy notes that "Large areas, however, are difficult to manage with benthic barriers due to the cost of materials, installation, and maintenance." Chemical controls are also considered by managers dealing with starry stonewort.

Method, cost, and scale of management depend on the density and distribution of an invasive species, and its surrounding environment. Last year, CWC documented around seven acres of this stonewort at two locations. "If we move quickly to manage these two populations before their distribution and density increases, then we stand a chance at limiting its establishment in the lake and the negative impacts it could cause," West said. If you observe a plant species in the lake that you're not used to coming across, take a picture, make a note of the location, and report the occurrence to the CWC or iMap Invasive Species. If you are interested in participating in CWC's Aquatic Invasive Species Early Detection Network please visit www.chautauquawatershed.org/aquatic.