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YEAR IN REVIEW FOR CHAUTAUQUA LAKE

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Chautauqua Lake & Watershed Management Alliance

Alliance Members carried out a coordinated workplan over the past 12 months to address a number of different challenges including excess plant growth, shoreline conditions, nutrient loading, harmful algal blooms, and invasive species. The Chautauqua Lake Association began its year with an early-season debris cleanup program in May, removing eight truckloads of floating logs and navigational hazards left over from the winter thaw and spring storms. In addition to debris removal and lake safety, a primary focus during the early season is the growth of invasive curly-leaf pondweed. Once again a two-pronged approach of mechanical harvesting and targeted herbicide treatment was pursued in 2022. CLA harvesters collected around 710 tons of early-season plants between May and June, while the Chautauqua Lake Partnership collaborated with three municipalities and the New York State Department of Environmental Conservation on chemical management. On May 24 SOLitude Lake Management applied the herbicide Aquathol-K to around 101 acres in the Town of Ellery, Village of Bemus Point, and Village of Celoron with the goal of reducing curly-leaf pondweed growth.

These early programs set the table for the main recreation season informally kicked off on Memorial Day. The mechanical work was once again led by the CLA's harvesting and shoreline cleanup

program and the Town of Chautauqua's Mobitrac near-shore cleanup program. This highly choreographed dance around the lake is done by multiple crews working in roughly circular patterns throughout the summer. It coordinated the movements of harvesters, transport barges, skimmers, shoreline cleanup crews, trucks, operators, conveyors, and once again Mobitracs. For the third consecutive year the CLA provided support to Chautauqua's Mobitrac units, which have been a welcome addition to the lake's near-shore lake maintenance fleet. All told the lake-wide mechanical program collected and removed around 4,400 tons of plants and debris, including approximately 1,750 tons by the collaborative efforts of the Mobitrac program. Detailed reports of that work can be found at https://chautauqualakeassociation.org/management/.

Supplementing the early-season herbicide treatment for curly-leaf pondweed was a second treatment performed by SOLitude in coordination with the CLP and several towns and villages. On June 13-14 around 369 acres in Ellery, Bemus Point, Celoron, the Town of Ellicott, Town of Busti, and Village of Lakewood were treated with ProcellaCOR EC to reduce the invasive plant Eurasian watermilfoil. In addition to working with regulators from the DEC, CLP also contracted with researchers from North Carolina State University to perform plant surveys.

Adaptability to evolving lake conditions and service needs remains a core goal of the Alliance and its Members. As the prime recreation season wound down after Labor Day, additional service needs were identified, particularly in the lower South Basin. The Alliance worked with Members to develop and fund a late-season workplan that resulted in the removal of an additional 230 tons of plants and debris by CLA and Mobitrac crews. The final cleanup nicely complemented the outstanding efforts of our Members to maintain the lake throughout the spring and summer and aided in the enjoyment of the lake well into the fall.

The Chautauqua Watershed Conservancy (CWC) continued its longstanding mission of improving water quality in addition to combating invasive species. CWC staff engaged in public outreach and education via the Watershed Technical Assistance and Stormwater Management Program in 2022, which seeks to implement best management practices to reduce nutrient and sediment runoff in the watershed. CWC Conservationist Carol Markham conducted over 150 consultations with landowners throughout the year via the LakeScapes Program.

In order to battle the ever-present threat of new and existing invasive species, CWC led the Chautauqua Lake Aquatic Invasive Species Early Detection Volunteer Task Force program. This year's program resulted in the manual removal of several small populations of invasive water chestnut from the Chadakoin Outlet and surveys for other aquatic invasive species that threaten the lake. Water chestnut has remained well-contained in the outlet thanks to the yearly hand removal done on these volunteer paddles. The CLA also stationed watercraft stewards at seven public boat launches in 2022. These stewards record boat traffic data, inspect watercraft for aquatic invasive species, and encourage boaters to clean, drain, and dry their watercraft in order to stop the spread of problem species like hydrilla and water chestnut.

There was a new development on the invasive species front this past year, thanks to survey work done by CWC Director of Conservation Twan Leenders. This fall Leenders identified two large fields of the invasive algae starry stonewort near Ashville Bay and Prendergast Point, covering a combined area of around seven acres. While it has been detected in lake-wide plant surveys dating back to at least 2009, these new infestations appear to be significantly larger, pose a threat to native plants, and could

impair boat traffic at two high-use locations. In response to this new challenge, representatives from CWC, CLA, the Alliance, Chautauqua County Soil and Water Conservation District, the Chautauqua-Conewango Consortium, and Audubon Community Nature Center came together for a pilot removal project on September 30. More information on that work can be found at http://www.chautauquaalliance.org/news/press-release-starry-stonewort/.

All of this work was made possible by the generosity of funders who contribute to the Alliance, including the Ralph C. Sheldon Foundation, The Lenna Foundation, the Chautauqua Region Community Foundation, the Holmberg Foundation, the Hultquist Foundation, and Chautauqua County. In addition to this annual coordinated workplan, the Alliance continued to pursue long-term funding opportunities on behalf of its Members via the New York State Consolidated Funding Application. Nearly $670,000 worth of new NYSCFA projects are currently underway with Alliance Members in 2022, including the North Chautauqua Lake Inflow and Infiltration Study, Chautauqua Roadside Swales Stabilization Project, Grandview Stormwater Management Project, and Ball Creek Stabilization Project.

A number of leading research groups continued their work in and around the lake in 2022. Many of these scientists and engineers presented their findings at the Chautauqua Lake Water Quality Conference on June 18 at Chautauqua Golf Club, updating the public on a range of topics including HABs, water quality, nutrient cycling, and environmental modeling. The conference can be viewed in its entirety on Chautauqua Institution's Virtual Porch at https://porch.chq.org/re/event/635/.

Taking a look back at all of the work that was done in 2022 in order to improve the health and usability of Chautauqua Lake, I feel a sense of gratitude. There are many other lakes around New York State and beyond that are striving to fund and implement just one or two of the many different programs that are in place here at Chautauqua. We have not arrived at the end of the road, ready to pat ourselves on the back and kick up our feet, but we have come a long way on the journey towards a healthier lake. It is thanks to the work of all those involved that we have a pleasant view behind us, as well as ahead.