



Chautauqua Current No. 27

Chautauqua Lake & Watershed Management Alliance, Inc.

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Gateway To Research

Harmful Algal Blooms Headline Institution Event



Figure 1. Pictured above, Dr. Allison Hrycik deploys an algae monitoring device to Chautauqua Lake. Hrycik and other researchers shared updates with the public at Chautauqua Institution on June 17. Photo by Vince Horrigan.

By Jay Young

Chautauqua Lake & Watershed Management Alliance

Chautauqua Institution provided another great opportunity last month for the public to learn more about the array of research and management efforts taking place on and around Chautauqua Lake. On June 17 scientists, engineers, and others working to understand and manage these complex types of environments gathered for the 2023 Chautauqua Lake Water Quality Conference at the historic Athenaeum Hotel. The conference followed a similar format to the Institution's 2022 Water Quality Conference, in which members of the public were able to submit questions and have open dialogue with presenters from a wide range of organizations.

After Institution President Dr. Michael Hill delivered welcoming remarks, Dr. Courtney Wigdahl-Perry of the State University of New York at Fredonia offered the first presentation of the morning. Active on the lake since 2014, Wigdahl-Perry is continuing to work with Fredonia students and a number of different partner organizations to develop new tools that can help monitor harmful algal blooms using specialized drones and cameras. Other work includes lake sampling and high-frequency monitoring to collect data such as temperature and oxygen, as well as biological research related to plankton and algae. Wigdahl-Perry shared examples of these data with the audience, and indicated that there is also growing interest in the relationships between road salt and the lake organisms that feed on algae.

The second talk of the day outlined the research program of The Jefferson Project, and included presentations by Dr. Kevin Rose and Dr. Allison Hrycik of Rensselaer Polytechnic Institute, and Dr. Harry Kolar of IBM Research. The Jefferson Project has deployed vertical profilers (floating data computers) to the North and South basins of the lake since 2020, and has continued to expand its HAB-focused work in a multistage approach that includes monitoring, data analysis, and computer modeling. The recently upgraded profilers are expected to enter the lake this week, and 2023 is also expected to include expansions with new tributary monitoring stations. The Jefferson Project and the Institution will be building stations to monitor stream conditions thanks to a grant from the Ralph C. Sheldon Foundation that was awarded through the Alliance in June. A recent addition to the lake's research team, Hrycik is a specialist in algae who is conducting a sampling program at 11 dock sites around the lake this year. This program, along with other water sampling, aims to better understand the many different species of algae in our lake and their relationship to toxic blooms. Chautauqua County and the Institution have worked together over the past four years to help fund The Jefferson Project's work on the lake.

Alliance Executive Director Randall Perry was the morning's third presenter, steering the discussion towards related topics including partnerships, management, and funding. Perry outlined the history of the Alliance, and how the framework of our members, funders and programs fits together to address the many different needs of the lake and watershed. An important question for stakeholders and the public continues to be: how can research and data be brought to bear in the decision-making process for lake and watershed management? Perry highlighted some of the details of that particular question, and explained that geographical information systems (GIS) mapping is a valuable tool that is now being used to unify and share key lake data sets. GIS can be used to quickly create and share visual representations of complex data to strengthen understanding and aid decision making.

Dr. Lisa Cleckner made her way to the podium next. Cleckner is the Executive Director of the Finger Lakes Institute at Hobart and William Smith Colleges, and engaged the audience with a familiar set of topics viewed through a new geographic perspective. The Finger Lakes are a unique region with some similarities to Chautauqua Lake, and as such organizations have unique objectives and approaches

to research and management in these environments. Cleckner outlined the main objectives of the Finger Lakes Institute and how it partners with researchers and organizations to achieve them.

While it can be common to focus on just one or two roles of the New York State Department of Environmental Conservation, the next presenter did an excellent job of painting the bigger picture of this state agency for the audience. Region 9 Director Julie Barrett O’Neill summarized the many roles that DEC plays in managing and protecting our natural resources, including Chautauqua Lake. She outlined her past experiences working to improve water resources and aquatic habitats in the Buffalo area, and the blueprint that DEC is utilizing to bring similar solutions to our lake.

Fittingly, the item at the top of so many priority lists —harmful algal blooms —was the focus of the day’s final presentation. Dr. Jeanette Schnars is the Executive Director of the Regional Science Consortium at Presque Isle in Erie, Pa. The Consortium is charting an exciting path forward when it comes to HAB monitoring and public health. Schnars explained that the Consortium operates an online dashboard at <https://wqdatalive.com/public/55> which displays real-time data from buoys and shore stations related to water quality and HAB conditions. Schnars briefed the audience on the toxin testing program used near Presque Isle, and the data that the Consortium has recently collected on Lake Erie HABs.

Sincere thanks to everyone who helped make the 2023 Conference a success, including the Institution’s Dr. Michael Hill, Toby Shepherd, Mark Wenzler, and Dick Gunnell. The Institution plans to release a summary of the conference soon, and more information on data and research programs can be found at www.chautauquaalliance.org/data-and-research/.