

NYSDEC's Finger Lakes Water Hub

by Aimee Clinkhammer

Background

The Finger Lakes are a series of 11 freshwater lakes located in central and western New York. These beautiful and unique, glacially-formed lakes are: Otisco, Skaneateles, Owasco, Cayuga, Seneca, Keuka, Canandaigua, Honeoye, Canadice, Hemlock, and Conesus lakes. They range in size from Canadice Lake at 642 acres to Seneca Lake at 43,342 acres. The lakes also vary greatly in maximum depth, from 30 feet in Honeoye Lake to 650 feet in Seneca Lake.



Hemlock Lake

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The Finger Lakes include three of the 10 largest lakes in New York state, and represent a significant asset to the Finger Lakes region as well as to the state of New York. Except for Honeoye Lake, the Finger Lakes are all used as public drinking water supplies. The Finger Lakes region is also a well-known tourist destination, generating an estimated \$2.9 billion annually and supporting almost 60,000 jobs. The lakes and surrounding landscape of the region are a primary focus for tourism activity.

Like the rest of New York's waterbodies, the Finger Lakes are affected by nutrients, sediments, priority organics, microorganisms and salts. These pollutants have the potential to impact the desired uses of these waterbodies: drinking water supply; swimming and recreation; and fish consumption. Although water quality conditions within the Finger Lakes are generally good, several Finger Lakes are on the New York State Section 303(d) List of Impaired/TMDL Waters. This list identifies waterbodies that are not fully supporting the appropriate uses and may require development of a Total Maximum Daily Load (TMDL) or a Nine Element (9E) Watershed Plan. These plans identify and quantify sources of pollutants, determine the water quality goal(s) or target(s) and the pollutant reductions needed to meet the goal, and describe the actions (best management practices) needed to achieve the reductions that will improve water quality. The New York State Department of Environmental Conservation (NYSDEC) is actively engaged in developing TMDLs for Conesus Lake, Honeoye Lake and Cayuga Lake, and a Nine Element Watershed plan for Owasco Lake. Furthermore, the state and NYSDEC have prioritized fund-

ing through the Clean Water Infrastructure Act to protect drinking water sources that may be threatened.

Creation of the Finger Lakes Water Hub

Microcystin, a Harmful Algal Bloom (HAB) toxin, was found in the City of Auburn's finished drinking water in September of 2016. The detection was below the U.S. Environmental Protection Agency (USEPA) guidance values but its presence still underscored the need for a team to focus on HABs and other water quality threats in the Finger Lakes region. Recognizing this need, Governor Andrew Cuomo announced the establishment of the Finger Lakes Water Hub in the fall of 2016.

The creation of the Finger Lakes Water Hub furthers the efforts of the governor's Water Quality Rapid Response Team to swiftly address water quality issues and develop new policies, programs and technologies to ensure clean water for all New Yorkers. This action also enhances state efforts to implement the state-funded Great Lakes Action Agenda and the federally-funded Great Lakes Restoration Initiative Action Plan, both of which geographically encompass Central New York's Lake Ontario/Finger Lakes region. Additionally, the Finger Lakes Water Hub will integrate technical knowledge and program resources with the adjacent Susquehanna River/Chesapeake Bay Watershed Implementation Plan and Mohawk River Action Plan. The Finger Lakes Water Hub will not only develop the watershed management plans, but will also help identify and prioritize funding for Finger Lakes projects to safeguard drinking water resources.



Harmful algal bloom on Canadice Lake in August 2017

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Staffing

The Finger Lakes Water Hub's staff of four is based in NYSDEC's Region 7 office in Syracuse, but works throughout the Finger Lakes in NYSDEC Regions 7 and 8. Each staff member brings unique expertise to the team.

Scott Cook is a research scientist, and as supervisor oversees the activities in the Finger Lakes Water Hub. Scott has over 33 years working with NYSDEC. His past roles included direct oversight and administration of the regional Nonpoint Source Programs, which include the Stormwater Construction and MS4 Permit programs; the Ambient Water Quality Monitoring Programs; Concentrated Animal Feeding Operation (CAFO) permit compliance program; the Water Quality Improvement Grants Program for Non-Agricultural Nonpoint Source Abatement and Stormwater projects; Lake Management programs and Watershed Management initiatives and programs in Region 7.

Aimee Clinkhammer is the Watershed Coordinator. She coordinates stakeholder involvement for all the Finger Lakes Water Hub's activities. She is also assigned as the point of contact for Skaneateles, Hemlock and Canadice lakes. Aimee brings a diverse background in stakeholder coordination and project management, having worked as the Onondaga Lake watershed coordinator and as a project scientist at the Syracuse Center of Excellence at Syracuse University.

Lewis McCaffery, Ph.D. is a research scientist providing expertise in mapping, monitoring and water chemistry for the Finger Lakes Water Hub. Lew is assigned as the point of contact for Otisco, Seneca, Honeoye and Conesus lakes. He has a background in geology with over 25 years of experience in hydrogeology and water chemistry.

Anthony Prestigiaco is a research scientist providing expertise in monitoring and assessment of the lakes, rivers and streams in watersheds. He is assigned as the point of contact for Owasco, Cayuga, Keuka and Canandaigua lakes. Tony has over 15 years of experience in the analysis of field and water quality data used for the generation of manuscripts, reports and presentations. He also has experience in the development of external nutrient loading estimates.

Ongoing Work

The Finger Lakes Water Hub is bringing people together to share expertise and find the solutions necessary to protect the Finger Lakes and their watersheds. The Hub will use its scientific expertise to promote enhanced collaboration and coordination. Early focus of the Hub's work includes:

- Meeting with citizens' groups, researchers, and academics who live and work in the Finger Lakes watershed to learn more about the specific issues affecting each lake and its watershed.
- Linking NYSDEC's existing water programs, including the HAB program, the Great Lakes Action Agenda and watershed-based monitoring with the work of research institutions, local governments and organizations in the Finger Lakes area.
- Developing a Finger Lakes Action Agenda to combine new priorities with existing environmental, social and economic goals. The action agenda will guide conservation, restoration and protection efforts for the entire Finger Lakes region.
- Identifying funding opportunities to conduct research and implement best management practices in high priority areas.
- Coordinating research through the collection, analysis, and validation of data; identify and fill data gaps; and promote relevant



Citizens Statewide Lake Assessment Program (CSLAP) volunteer collects samples for water quality analysis.

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research to understand challenges facing the Finger Lakes.

- Establishing TMDL Plans for Cayuga, Honeoye and Conesus lakes, and a Nine Element Watershed Plan for Owasco Lake.
- Working with the HABs Enhanced Surveillance Monitoring Program on Owasco, Otisco, Cayuga, Honeoye and Seneca lakes to increase knowledge about HABs.
- Working with stakeholders to develop or update watershed management plans for each lake.
- Coordinating the Citizens Statewide Lake Assessment Program (CSLAP) for all 11 Finger Lakes.

The creation of the Finger Lakes Water Hub will lead to new investment and coordinated action that will help improve and protect water quality throughout the region. We will continue to strengthen partnerships in the region and engage stakeholders to help accomplish our work, which will yield important benefits for the cities and communities throughout the Finger Lakes watershed.

Resources

For more information about the following, please visit the designated NYSDEC web site:

- Clean Water Plans: www.dec.ny.gov/chemical/23835.html.
- Waterbody Inventory Factsheets: <http://www.dec.ny.gov/chemical/36730.html>.
- Harmful Algal Blooms: www.dec.ny.gov/chemical/77118.html.
- Citizen Statewide Lake Assessment Program (CSLAP): www.dec.ny.gov/chemical/81576.html.
- Sign up for DEC Delivers: <http://www.dec.ny.gov/public/65855.html>.

Aimee Clinkhammer is the Watershed Coordinator for the Finger Lakes Water Hub of the New York State Department of Environmental Conservation. She may be reached at aimee.clinkhammer@dec.ny.gov.