# 2023 Chautauqua Lake Conference Summary



INSTITUTION

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### We Had Fantastic Presentation From the Following Organizations:

- A. Courtney Wigdahl-Perry, Ph.D., SUNY Fredonia
- B. Harry Kolar, Ph.D., Allison Hrycik, Ph.D., Kevin Rose, Ph.D., The Jefferson Project
- C. Randall Perry, Chautauqua Lake and Watershed Management Alliance
- D. Lisa Cleckner, Ph.D., Finger Lakes Institute
- E. Julie Barrett-O'Neill, New York State Department of Environmental Conservation
- F. Jeanette Schnars, Ph.D., Regional Science Consortium

We are posting the full individual presentations; what follows in this document is a brief overview of what was presented.

#### **SUNY Fredonia**



SUNY currently researching a number of student led projects:

- a. Understanding Algal Blooms in Chq Lake across space and time
- b. How do Blooms originate, move and disperse in lakes (using drone hyperspectral imagery)
- c. Temperature patterns across Chq Lake
  - a. Stratification of lake occurs in north and south basins, as well as Bemus Bay. Stratification not stable in Bemus or south basin
- d. Road salt impacts on Chq Lake
  - a. Studies indicate conductivity rising in lake
- e. SUNY students continuing to support Bowling Green State University stream sampling research



Jefferson Project (JP) Research interests:

- a. Data
  - a. JP will be deploying updated Vertical Profilers, phosphorus sensors, building tributary monitoring stations and continuing a biweekly lake sampling program in 2023; as well as initiating an attached algae study at 11 docks around the lake
  - b. Each phase of research contributes to the overall data picture being used to understand the increasing problem of harmful algal blooms (HABs)
  - c. These data will be used to create solutions to mitigate that problem
- b. The Lake is a complex system of systems, so we need to understand the different systems to truly understand the factors that are driving the increase in HABs
- c. Genomics may help to unlock the challenge of why some HABs are toxic and others aren't; the JP genomics study on Chautauqua Lake will continue through 2023.

Chautauqua Lake and Watershed Management Alliance (Alliance)



Alliance Structure and Activities:

- a. History and Structure of the Alliance
- **b.** Challenges and Opportunities for Chq Lake
  - a. HABs
  - b. Climate
- c. Member's Activities
- d. GIS mapping facilitating management decision making
- e. Collaborative research initiatives



Finger Lakes Institute (FLI) Initiatives and Research

- a. FLI provides: actionable scientific analysis, research and professional development and community education
- b. FLI focus areas: Nutrients that feed HABs, Invasive Species, Contaminants, Watershed Management Practices
- c. Seneca Lake Watershed Intermunicipal Organization (IO): FLI provides staff and resource support to execute projects, such as:
  - i. Keuka Outlet Wetland creation
  - ii. Road drainage assessment
  - iii. Odessa green infrastructure
- d. Cayuga Lake IO
  - a. FLI supports local governments in instituting Cayuga Lake Restoration Plan
- e. Baker Lab
  - a. FLI has a NYS certified lab for water quality analysis
  - b. Support clients and generate revenue



#### **NYS DEC Initiatives**

- a. Wide variety of work across Region 9
  - a. Including drinking water protection, HAB response, sewer permitting, pesticide applications, and fisheries management
- b. Focus on cross-functional work in each watershed
  - a. This approach can yield great results IE Buffalo River
- c. Region 9 wants to hear from us on issues they can contribute to!
  - a. Regular communications that build trust
  - b. Coordinated water quality efforts
  - c. Update important documents like TMDL
  - d. Understand how climate change will impact lake and identify ways to increase resilience.

#### Regional Science Consortium (RSC)



**RSC's focus areas** 

- a. HAB monitoring program
  - a. Multiple sampling sites and weekly analysis in season
- b. Signage and HAB advisories
- c. Long term monitoring with bouys
- d. HAB education
  - a. HAB Lab!