



Chautauqua Lake Partnership



## Questions/Answers for “Celebrate the Lake Breakfast” Panel Discussion

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### **Dr. Tom Erlandson**

PhD Zoology, University of Wisconsin  
Retired College Professor  
CC Department of Health Board  
CC Parks Commissioner & Allegany Park Commissioner  
CC Water Quality Task Force  
South & Center Chautauqua Sewer District Board  
Chautauqua Lake & Watershed Mgt Alliance Science Committee

### **Dr. Doug Neckers**

PhD Organic Chemistry, University of Kansas  
McMaster Distinguished Research Professor, Emeritus  
Retired University Professor  
Spectra Group, Chief Executive Officer  
Robert H. Jackson Center Board, Chairman  
PhD Advisor (37 Students, Peer-Reviewed Author (>10 Books and >400 Papers) and Inventor (>70 Patents)

### **Mr. Glenn Sullivan**

BS Environmental Studies, Rutgers University  
Environmental Scientist, SOLitude Lake Management  
NALMS Certified Lake Manager  
Aquatic Pesticide Applicator (NJ, NY, PA, VT, DE)  
Northeast Aquatic Plant Management Society Board & past President  
New York State Aquatic Managers Association Cofounder & President

### **1 Q: Please tell us about the Chautauqua Lake Partnership, the CLP, its origins, mission and program (Tom Erlandson).**

1 A: I was not a member of the CLP when it was founded back in 2001, but was interested in its purpose and actions because I respected a group of lakefront homeowners taking steps to solve their own problems, which is still the case now, 16 years later. On the day in 2002 when herbicides were applied in Burtis Bay, I did watch the process and was impressed by how well it was done and that DEC personnel monitored the entire process.

The CLP went dormant after 2004 when costly requirements prevented additional herbicide treatments. However, the CLP was resurrected in 2017 when the Bemus Bay Property Owner's Group, formed in late 2016, merged into it. The CLP now has over 200 members with a 2017 budget of \$155,000. Its mission is to improve Chautauqua Lake water quality and enjoyment.

### **2 Q: The Chautauqua County Macrophyte Management Strategy includes herbicides as an acceptable weed management method in over half of Chautauqua Lake. However, it's clear that several Strategy Technical Review Committee members are opposed to the use of herbicides. **Are herbicides bad? How can anyone use chemicals on nature with a clear conscience?** (Doug Neckers)**

2 A: Research in chemistry, biology, medicine and related natural sciences has resulted in the development of chemical compounds which have greatly improved the quality of life. Each of us uses many of these compounds every day of our lives. In 1940, life expectancy was a little over 40 years. Now it's almost 80 years, 2 times that. Why is this? This increase in life expectancy is attributed mostly to antibiotics. Human-ingested bactericides would be a better name for them. Sulfa drugs, pure

chemicals with almost of the same structure as 2, 4 – D, the active ingredient in one of the herbicides used in Bemus Bay, and penicillin, also a pure chemical, were the first to come on the scene. If chemicals are so bad, why do all rush to the doctor when you have bacterial infections to get treated with them?

3 Q: The NYS DEC's respect for capabilities of your company, SOLitude Lake Management, was obvious as you developed permit applications, gained permit approval and safely and successfully managed the herbicide application in Bemus Bay. **What scientific, technical, operational and management skills and experience do lake management companies like SOLitude bring to Lake Chautauqua to solve its problems in the near term? (Glenn Sullivan)**

3 A: Lake management companies like SOLitude make recommendations to governing groups and implement proper methods to positively affect the water quality and use of ponds, lakes, reservoirs and other water bodies. They develop, analyze and plan with the critical environmental, technical, socioeconomic and other data required to make these recommendations. These firms often include biologists, environmental scientists and experienced water body management experts. In SOLitude's case, we have more than a dozen biologists, dedicated Fisheries, Biology and Mechanical divisions, and we have 3 current Northeast Aquatic Plant Management Society (NEAPMS) Board Members, and 4 NEAPMS Past Presidents. We remain up-to-date on all aspects of lake management science and industry, and apply state-of-the art science-based proved technology to water quality challenges within the often challenging regulatory framework of Northeast states.

4 Q: Nuisance weeds have been a problem for Chautauqua Lake for over 50 years. Weed management efforts began with herbicides and weed cutting and harvesting in the 1950's. **What has been your involvement with Chautauqua Lake and how have your views on weed management evolved over the last 20 years? (Tom Erlandson)**

4 A: My involvement with the lake goes back to 1960, when I first had a summer job with the NYS Health Department inspecting temporary residences in Chautauqua County. That job, which I had for 3 summers, entailed inspecting hotels, motels, summer camps, etc. around Chautauqua Lake. In 1964 and again in 1982 I did a house-to-house sewer and water survey around portions of the lake. Also, I was a part of the 5-year Benchmark Study conducted from 1972-76 by faculty and students from SUNY Fredonia and JCC. I was responsible for invertebrate studies. In the late 90s I served on the Technical Advisory Committee for the 2000 State of the Lake Report.

My views on weed management have not changed in the past 20 years – It is my long-held view that, while the use of chemicals should be a last resort in controlling various pests, e.g. insects, weeds and fungi, there are times when last-resort actions are warranted. And, based on my experience with the lake, that time is now and, actually, we're overdue.

5 Q: Although included in the Macrophyte Management Strategy as an acceptable weed management method, some local science teachers have warned the public that herbicide treatments will contaminate Chautauqua Lake water and may cause cancer. **Do you agree that herbicide use for Chautauqua Lake weed management will result in people getting cancer? (Doug Neckers)**

5 A: The operative concept is such a discussion is common sense. Most pure chemicals have negative side effects if ingested in large doses. Some years ago some were worried about a chemical, red dye, in maraschino cherries. Maraschino cherries are mostly used in mixed drinks and the most common is the

Manhattan. It was estimated that one would have to eat 10,000 cherries a day for 10 years for the red dye to cause cancer. I'd guess one who drank 10,000 Manhattans a day for 10 years would probably die of other complications before cancer first. Common sense, including consideration of concentration and frequency, are critical to any such discussion.

6 Q: Weed cutting and harvesting has been used almost exclusively for weed management in Chautauqua Lake for the last 25 years. The Chautauqua County Macrophyte Management Strategy includes herbicides as an acceptable weed management method in over half the 278 zones identified in Chautauqua Lake. **Do you agree that herbicides can be used safely and effectively to manage nuisance weeds in Chautauqua Lake and is a combination of herbicides and weed cutting and harvesting likely to be the best approach for Chautauqua Lake? (Glenn Sullivan)**

6 A: An integrated approach to management is almost always the best strategy, and would certainly be recommended in a lake the size of Chautauqua. No one methodology could successfully achieve the best ecological and recreational conditions in such a large and diverse water body. Management needs to rely on all applicable tools, and these tools should certainly include effective herbicide use. In particular, no long-term program for management of the invasive plant Eurasian Water Milfoil should rely solely on harvesting, as its well-known this plant spreads primarily by fragmentation. Herbicides can be used to effectively target such invasive plants and reduce competition with native species, and the associated water use restrictions are usually easily accommodated.

7 Q: You were a member of the Technical Review Committee which guided the development of Chautauqua County's Macrophyte Management Strategy. The Strategy was completed after 7 years and hundreds of thousands of dollars in early 2017. **What was the original objective of the Strategy, did the result satisfy the original objective and what is its value in addressing Chautauqua Lake's weed management challenges? (Tom Erlandson)**

7 A: As stated in the Executive Summary of the document itself, the objective was to assess challenges facing the lake, especially those challenges relating to excessive macrophyte growth, and to identify a range of management techniques that can serve various human needs while supporting a healthy ecosystem for the benefit of all life within the watershed. More specifically, the MMS was "to facilitate the permitting of methods which require a permit". However, the herbicide-based Environmental Impact Assessment and State Environmental Quality Review, to which the Chautauqua Lake Partnership contributed \$50,000, were never completed. With those exceptions, I think the results came as close as is humanly possible to satisfy the original objective. Its value is three-fold: providing information on the range of weed management methods available for control of macrophytes, mapping the various zones of the lake to be considered and identifying a set of acceptable methods in each zone. It is important to remember that all weed management options are "on the table".

8 Q: Some stress that Chautauqua Lake is a Class A water body, suitable for drinking, that cannot be, in their terms, "poisoned" with chemicals. **What's your perspective on the view that herbicides are "poisons"? (Doug Neckers)**

8 A: Let's think about cleanliness in the context of Chautauqua Lake. A few in the far north basin draw water from the Lake and treat it with chemical and other processes to remove, kill, organisms which can make people sick. Year after year, the rest of us deal with floating and landed weeds and the foul odor their decomposition creates. Beaches are closed and we must keep our children and pets out of the water for fear of the often-prevalent blue green algae, cyanobacteria and its nerve, liver and skin

toxins. College kids and adults with pitch forks gather the decomposing weeds and algae, often in the form of sludge, from the shoreline and load it on barges to carry it from the Lake. Fletcher Ward has told us of the days when ice was cut from the Lake. Refrigeration has replaced that primitive method. Chautauqua Lake is no longer a clean water resource. It's time to add modern day science-based proven technology, including herbicides, to the more primitive methods used almost exclusively for the last 25 years.

9 Q: Your career has spanned over 24 years and included herbicide-based weed management throughout the eastern United States. **Please provide a summary of your experience, the geographical extent of that experience and your views on the success of those efforts. (Glenn Sullivan)**

9 A: My career in lake management started as a water quality biologist, assessing water quality and phytoplankton trends at some of our NJ and NY clients, including several reservoirs. I moved on to focus on plant management, with an emphasis on herbicide use since that is the most common tool used in NJ. When I took over at Allied Biological, I invested in mechanical equipment and developed our aeration system experience to provide our clients a more integrated approach. I have conducted or directed work primarily throughout NJ, NY and PA, but have also introduced wetland plant control techniques in Michigan and Connecticut, and organized the first known aquatic herbicide program in Ontario by a US firm. My experience attests to the fact that herbicide use provides a very reliable and cost effective method of aquatic plant control in most cases.

10 Q: One of the objectives of the Macrophyte Management Strategy was to facilitate the permitting of weed management methods requiring permits, specifically herbicides, **How was the Macrophyte Management Strategy used in the development and DEC approval of the 2017 herbicide treatment in Bemus Bay? (Tom Erlandson).**

10 A: The MMS was used, first, by accepting the premise that herbicide use, when permitted by the DEC, was acceptable as a means of macrophyte control. That premise, of course, was challenged before the application permit was granted. Second, when the DEC permit was granted and DEC personnel established the locations of the zones to be treated, the control zones, and the herbicide combinations used, the various zones described in the MMS document were considered.

11 Q: The Chautauqua Lake and Watershed Management Alliance was formed in 2014 to implement the Chautauqua Lake Watershed and Macrophyte Management Plans. You are a member of the Alliance's Science Advisory Committee. However, the Alliance has yet to implement any in-lake initiatives. **What impediments exist to Alliance implementation of the MMS, what is the Science Advisory Committee's role in implementation and how could these impediments be overcome? (Tom Erlandson).**

11 A: The impediments include a new organization trying to find its way; a diverse group of members, some with long histories and biases; and the dominance by individuals opposed to using herbicides, one of the tools in the management toolbox.

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