

February 23, 2021

To: Jim Cirbus, President, Chautauqua Lake Partnership (CLP)
Pierre Chagnon, President, Chautauqua Lake and Watershed Mgmt. Alliance
PJ Wendell, Chautauqua County Executive
Dr. Rudy Mueller, President, Chautauqua Lake Association (CLA)
David Denk, Regional Permit Administrator, NYSDEC

Re: CLA Statements in response to the aquatic pesticide permit submissions

The Chautauqua Lake Association recently published a list of statements regarding the proposed use of herbicides in Chautauqua Lake in 2021, and the associated permit application details. Each of these statements is copied below, with a corresponding response from SOLitude Lake Management.

- 874 acres of the lake's ~4,000 acres of plant growing littoral zone are proposed for treatment. This equates to ~22% of the aquatic community's habitat. Given impacts experienced in 2019 when a large-scale treatment of less acreage was treated, the unintended consequences upon the aquatic life community resulted in serious ecological harm to the lake's south basin from which the basin is still trying to recover. **Actually, 345.5 acres are being proposed for treatment of curlyleaf pondweed (388 acres treated in 2019), and 529.4 acres are proposed for treatment of Eurasian watermilfoil (377.5 treated in 2019). Reductions in the acreage approved are expected following NYSDEC's review process, and the proposed acreage total of 874.9 acres (much of this overlapping) is 29% less than the proposed 1229 acres of 2019. As for the impact of the 2019 herbicide treatments, they were not cause of "serious ecological harm" as suggested by CLA. Third party reporting indicated the continued presence of native plants post-treatment, and Mike Clancy, NYSDEC Senior Fisheries Biologist acknowledged that NYSDEC agreed the herbicide applications were not the cause of the widespread algae bloom in the lake later that season, but that algae blooms had been occurring for years.**

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- Treatment is being proposed to be expanded into the north basin. The north basin hosts drinking water intakes and superior fishery habitat such that heretofore herbicide use in the north basin has been discontinued and no longer recommended. **The herbicide proposed for use in the North Basin is ProcellaCOR EC, which has no label restriction on potable water use. In addition, the proposed application rate of ProcellaCOR EC is at least 80% lower than the 50ppb NYSDEC potable water threshold for unspecified contaminants. In terms of habitat protection, ProcellaCOR EC has proven to be extremely selective in controlling Eurasian watermilfoil and not most other plants, as evidenced by recent use in Chautauqua Lake, Lamoka Lake, Waneta Lake, Minerva Lake and Snyders Lake, as well as its demonstrated selectivity on public lakes throughout all of the New England states, all of which have been documented by pre and post treatment plant surveys.**
- Plant surveys as recent as 2020 have evidenced that the density of the target plant *Eurasian watermilfoil* species is inadequate to justify herbicide treatment and that such treatment will result in collateral damage to desired native plant species. **As an invasive species, control of Eurasian watermilfoil is encouraged and supported at all density levels, as it is well known to negatively impact the growth of native species. The density categories of individual plant species identified by the Racine-Johnson survey are mischaracterized, and actually represent a formulated “% of rake toss” figure after applying a range of constants developed over a decade ago. The individual species “density” ratings do not correspond to SÖLitude Lake Management’s perception or experience of actual plant growth.**
- The herbicide ProcellaCOR EC is being proposed for treatment of *Eurasian watermilfoil*. A third-party evaluation of the product’s 2020 utilization in the south basin evidenced the impact upon all species to be non-significant. However, ProcellaCOR EC is known to have a detrimental impact on *Coontail* which is an important native plant that uptakes nutrients and provides fishery habitat. **ProcellaCOR EC can impact Coontail. Eurasian water milfoil is more susceptible and can be effectively treated at rates lower than those required for Coontail control, as is proposed for the 2021 applications.**



- ProcellaCOR EC's product label specifies that it should be used in "slow-moving quiescent waters with little or no continuous outflow." Chautauqua Lake does not meet this limitation. The application itself displays that water use restrictions need to apply throughout the Chadakoin River and into the Cassadaga River and into the Conewango River extending as far as the state line. **In fact, Chautauqua Lake does meet the requirement of "slow-moving quiescent waters with little or no outflow", as evidenced by the prior permits granted by NYSDEC. The downstream water use restrictions are a result of a regulatory interpretation of NYSDEC's Division of Water, and have been found to be extremely conservative after several years of use throughout the state.**
- Chautauqua Lake experiences serious Harmful Algal Blooms (HABs). A defining cause of HABs is an over-abundance of nutrients (phosphorus and nitrogen) in the lake. New York State's HAB Action Plan identifies recommended mitigation actions. The use of herbicide was deliberately excluded from the actions. Herbicide removes plants that absorb nutrients along with baring the lake bottom. Wave action and currents disturb the lake bottom making the lake turbid and releasing sediment-laden nutrients into the water column thereby supplying nutrient-laden food to the algae that produce HABs. **It's likely that herbicides were excluded from HAB actions since they do not control algae, but rather plants. The proposed herbicides and rates are meant to selectively control the invasive plants, so that native plants can thrive in the same areas.**
- *Eurasian watermilfoil* has been found to emit a substance that retards HABs. ***"If EWM does secrete allelopathic chemicals into the water column they may be degraded quickly by microbes (Gross 1999) or quickly diluted (Morris et al. 2009), thus providing no competitive advantage over other organisms (Glomski et al. 2002). The production of these compounds in EWM could be for defense against herbivory, rather than for allelopathy (Ervin and Wetzel 2003)."*** (Biology of Eurasian Watermilfoil, *Myriophyllum Spicatum*, Michigan Tech Research Institute). From 27+ years of personal observations, the growth of Eurasian watermilfoil increases suitable habitat for cyanobacteria, as its surface growth decreases water movement and increases water temperature, creating more favorable conditions for cyanobacteria.



- Herbicide's eradication of plants bares the sediment thereby allowing for the aggressive invasive species plants to multiply and expand into the eradicated areas which then causes lake use problems. **The proposed herbicide applications will selectively remove the invasive species, will not "bare the sediment" and will improve conditions for native plant growth.**
- The WNY Program for Regional Invasive Species Management (WNY PRISM) lists the target *Eurasian watermilfoil* and *Curly leaf pondweed* as Tier 4 Invasive Species. The Tier 4 designation recognizes that the eradication of such long-established species is not feasible along with not being economically viable. **The eradication of established Eurasian watermilfoil may, in fact, not be feasible, but successful management of Eurasian watermilfoil, as well as curlyleaf pondweed to encourage better native plant growth is both achievable and recommended. The economic viability of invasive species management depends on local, regional and statewide budgets. Control of established Eurasian water milfoil and curlyleaf pondweed throughout NY, the Northeast and the Midwest strongly suggests that not only is this control economically viable, but that control is often more economically desirable as compared to the loss of water resources to invasive plant growth.**
- *Eurasian watermilfoil* and *Curly leaf pondweed's* long-established presence in Chautauqua Lake has resulted in their becoming valuable members of the lake's aquatic plant community. *Curly leaf pondweed's* short growing season (dies-off by early July) shades the lake bottom which discourages the growth of invasives while allowing time for the natives to naturally grow. This in turn provides for less growing space for the nuisance invasives to inhabit. **Since curlyleaf pondweed is one of Chautauqua Lake's most problematic invasive aquatic plants, the statement above lacks clarity. It should be noted that the early summer die-off of curlyleaf pondweed biomass and subsequent release of nutrients may be adding to the lake's algae bloom development.**
- Aquatic plants support water clarity. Eradicating the presence of plants, which herbicide does, has been found to result in poorer water clarity. **The proposed herbicide applications are designed to encourage growth of native plants, and only remove the targeted invasive plants.**



- The requested permits are to provide for massive, wide-spread treatments by local governments with the support of one lake organization. All other lake organizations are recommending only limited spot herbicide treatments for new invasive species should such species arrive. **The areas of application proposed by all of the Towns and Villages bordering Chautauqua Lake's south basin are neither massive nor widespread. In fact, they are specifically focused on areas of increased invasive plant presence, as documented by scientific surveys in 2020.**
- Given plant control options available, harvesting remains as the generally preferred and least environmentally intrusive plant control method. Taking cost into consideration, harvesting is believed to be able to control more territory per operating dollar than can utilizing herbicide. **Aquatic plant harvesting is non-selective to plant species, and each harvest load can include an unintended harvest of small fish and other aquatic organisms. The most negative byproduct of harvesting eurasian watermilfoil is the fragmentation that occurs, as new fragments are the greatest source of Eurasian watermilfoil reproduction. A highly selective herbicide such as ProcellaCOR EC, which poses no recreational or potable water use restrictions is arguably less environmentally intrusive than mechanical harvesting. Harvesting operations require the purchase, operation and maintenance of at least three and often four components - the harvester, a transport, a conveyor and a truck. A typical harvester cuts 2-3 acres per day, and the cut lasts 4-6 weeks before plants return to their original height. Over the course of two seasons, the cost of harvesting an acre of Eurasian watermilfoil far exceeds the cost of controlling that acre with a systemic herbicide such as ProcellaCOR EC, given that the herbicide will provide at least two, if not three years of control.**
- Treatment is proposed for late spring / early summer during fish spawning time. Fisheries personnel and avid fishermen have expressed serious concern about treating plant beds during this time period and are recommending against such. **NYSDEC Fisheries considers the timing and the locations of proposed herbicide applications and conditions approved permits accordingly.**



- Especially given the 2019 experience, concern exists about dispersion of the herbicide into unintended locations which raises further concern about unnecessary habitat destruction. **Diffusion of the herbicide in water cannot be completely avoided, but both products are known to be reasonably site selective, and at the low application rates proposed, would be diluted below efficacious concentration, or only impact the target invasive species beyond the actual treatment area boundaries.**

Respectfully submitted,

Glenn P. Sullivan, Certified Lake Manager (#98-05M)
SOLitude Lake Management Project Manager - Chautauqua Lake
Board Member 2000-2020, Northeast Aquatic Plant Management Society
President, New York State Aquatic Managers Association

cc:

Marc Bellaud, SOLitude Lake Management
Robert Freese, NYSDEC
Frank Nicotra, CLP
Mike Latone, CLP
Jim Wehrfritz, Town of Ellery
Pat McLaughlin, Town of Ellicott
Brian Dahlberg, Village of Bemus Point
Scott Schrenegost, Village of Celoron
Randall Holcomb, Village of Lakewood
Jesse Robbins, Town of Busti
Rob Yates, Town of North Harmony
Dave McCoy, County of Chautauqua
Jon Gosselin, SePRO Corp.
Justin Nawrocki, UPL



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