



2021 Chautauqua Lake Herbicide Treatment Objection Letter to NYS DEC

We received notification on February 6, 2021 that the Town of Ellery and additional jurisdictions intend to apply to the New York State Department of Environmental Conservation for permits to use ProcettaCOR EC and Aquathol-K in Chautauqua Lake. This letter serves as an official objection to the permits requesting to use these herbicides. As the Waterkeeper Affiliate for the Conewango Creek watershed, which contains Chautauqua Lake, we are required by the national Waterkeeper Alliance to act as the voice for this watershed by advocating for the enforcement of environmental laws within our jurisdiction. We oppose the aforementioned, requested permits for the following reasons, which include human and ecosystem protection.

Regarding the proposed herbicides:

1. **ProcettaCOR EC produced no significant decrease in the target species, Eurasian watermilfoil** was reported as a main conclusion in a Princeton Hydro Third-Party evaluation of the 2020 Chautauqua Lake applications. Applications that are "non-significant" in reducing the target species but cause collateral harm to non-targeted species should not be permitted.
2. The species, Coontail is identified on the NYS label for ProcettaCOR EC as a targeted plant. Because **harm occurred to Coontail in 2020**, **year's concentrations, this year's permits reflecting a 50% increase in concentration would likely result in further decreases in Coontail must be denied.**
3. The legally-binding NYS label of ProcettaCOR EC clearly states: "...for management of freshwater aquatic vegetation in slow moving/quiescent waters with little or no continuous outflow..." **Chautauqua Lake does not meet the slow moving or quiescent requirement. The 85-year median discharge rate of the lake's outflow, the Chadakoin River, between April 19 and June 18 (per treatment dates) ranges between 100 and 800 cubic feet per second (USGS 03014500).** Additionally, while the N-S drainage is very small, wind driven currents dominate when the wind blows more than 5 mph (Shulman and Bryson, 1961). Because documentation that the herbicide's dispersion will not reach the drinking water intakes in the North Basin has not been provided, we object to the issuance of these permits.
4. The acres of requested treatment of Eurasian watermilfoil with ProcettaCOR EC seem excessive when past spring surveys report low densities. The Spring 2019 survey had "Medium" density for milfoil at 6/366 sampling sites. The Spring 2020 survey had "Medium" density for milfoil at 7/366 sampling sites (Racine-Johnson Aquatic Ecologists). We object to the issuance of these permits since nuisance densities do not exist.
5. The ProcettaCOR EC label only identifies effects on the eastern oyster and water flea. Multiple species of mussels, macroinvertebrates, and zooplankton are found in Chautauqua Lake. We object to these herbicide permits because protection for these significant species has not been provided.
6. Extensive NYS in-lake research on ProcettaCOR EC has not occurred. The ProcettaCOR EC label declares that the "*Material is presumed non-toxic to birds.*" To our knowledge, no long-term evidence has been collected to prove that waterfowl populations are not harmed by these treatments. Loons and pied-billed grebes are present. Because Chautauqua Lake is an established Audubon Important Bird Area and a significant food source for migrating waterfowl, we object to these permits because the protection for these species has not been provided.

7. The legally-binding NYS label of Aquathol-K clearly states: "This pesticide is toxic to mammals." Protection of all mammals, including who might drink from the lake's edge, must be protected by public notification. Multiple years of failure (refer to letters of objection with DEC, 2018-2020) by these permit applicants to notify all lake users of **actual** treatment locations and exact days creates the harm to people swimming in these waters and their pets.
8. The NYS label for Aquathol-K provides specific concentrations for slow moving/quiescent waters. **Chautauqua Lake does not slow moving or quiescent requirement.** (See Item #3)
9. For flowing water, the Aquathol-K label states: "Adequate concentration (rate) and exposure time (length of treatment) will impact Aquathol-K efficacy on the target plant species." The manufacturer recognizes dilution due to dispersion will occur in flowing water. Minimal exposure time must be 6 hours with the highest allowable concentration. Past applications proved the applicator is not in control of the dispersion on this large lake (Racine-Johnson Aquatic Ecologist, 2019 Chautauqua Lake Fall Survey; Princeton Hydro 2019). Because methods for the herbicide to remain at the application site for six hours cannot be provided, we object to the issuance of these permits.
10. Both requested herbicides cause collateral damage to multiple native plant species, including the valuable pondweeds, including threatened Hill's pondweed, as well as the over-performing Coontail. To our knowledge, no scientific documentation exists which justifies the use of these two herbicides in the same areas in the same year. Your denial of these permits is the available protection for the remaining valuable native species.

Regarding human and ecosystem protection:

1. Before permits are granted, plant surveys should be performed by the DEC-recommended PIRTRAM (Point Intercept Rake Total Abundance Method). The proof of the "*initial stages of an infestation*" must exist per the Department's own recommendation in order to justify permit issuance. Eurasian watermilfoil (EWM) and Curly-leaf pondweed (CLP) are long past "*initial stages of an infestation*" (Western New York Partnership for Regional Invasive Species Management recognizes both EWM and CLP as long-established and widespread thus labels them Tier 4 invasives).
2. Instead of causing economic or ecological harm to the lake, both EWM and CLP are now performing multiple ecosystem services. Positive contributions include providing fish rearing habitat, holding substrate in place, absorbing nutrients and HAB mitigation (Johnson et al. 1990; Jackson 2003; Scheffer 2001; Johnson 2019B). We object to these permits because they are targeting Tier 4 plants that are performing necessary services for the ecosystem.
3. **All** submerged aquatic vegetation in water depths less than 4 feet must be protected from pesticide application because of fish consumption (NYSDEC Region 9 Comments on Submerged Aquatic Vegetation Removal in Chautauqua Lake). We object to these permits because multiple proposed treatment sites have **average** water depths that are less than 6 feet and are in the ecologically sensitive littoral zone.
4. In order to protect fish rearing and spawning areas, no pesticide should be applied before July 1 (CLP Macrophyte Management Plan, NYSDEC Region 9 Comments on Submerged Aquatic Vegetation Removal in Chautauqua Lake). All properly licensed residents have a right to fishable waters. Since these permits indicate requested application before June 18 during fish spawning and rearing, we object to their issuance.
5. Vast expanses of the shoreline are marked for treatment in the included maps. Low percentages of the entire lake to be treated are misleading because treatment is concentrated in the ~4,000-acre littoral zone which has the highest biodiversity. Shoreline buffer zones experience biological harm which translates to human economic harm. In 2019, hundreds of acres of permitted area became thousands of acres of harm.



6. Producing a map of proposed treatment areas and water use restriction areas is only valuable if public notification occurs. Public notification of actual treatment locations in the three previous years of treatments, has not occurred. Shoreline signage has appeared in public areas and large numbers of users access the lake privately. **Failure to provide adequate notification to all lake users significant risk for harm.**

7. The NYSDEC "Harmful Algal Bloom Action Plan (for) Chautauqua Lake" states:

"Regionally, the data provided in Table 2 indicate that the average Total Phosphorus (TP) concentrations in the North and South basins are greater than the average concentration found in other lakes in western New York. Additionally, average TP concentrations from both basins exceeded the New York State water quality guidance value of 0.02 mg/L. This finding suggests that future management actions to improve water quality should likely focus on reducing TP concentrations."

This statement clearly directs that management for the lake should focus on reducing total phosphorus in the water. Herbicide treatments that kill growing aquatic plant species will increase nutrients in the water column. This nutrient liberation would occur during the time of Harmful Algal Blooms (HABs) have been documented in the lake. The request for these permits must be denied because the management of Chautauqua Lake, which requires its nutrient load to be reduced, not increased. The need to reduce nutrient loading is cited in the Total Maximum Daily Load (TMDL) evaluation for Chautauqua Lake (https://www.dec.ny.gov/docs/water_pdf/tmdlchal)

8. When herbicides are used, all of the dying plant material, along with its phosphorus and nitrogen content remains in the water and sediment. Satellite imagery documents the extent and the lateness of the algal bloom that occurred on Chautauqua in October 2017. We object to the issuance of these permits because herbicide treatments "can increase (the) probability of, and level of, algal blooms." (NYSDEC) Healthy, growing, green macrophytes absorb nutrients, herbicide-treated plants do not. The human and animal health impacts from HABs is well documented. The lake already experiences HABs, nothing should be permitted that could increase their probability.

As a simple summary of our objections, we quote: "*Loss of biodiversity, including loss of aquatic macrophytes, harms the ecosystem.*" (Region 5 PowerPoint Jan 31, 2017) Thus, the denial of these permit requests is justified. We know our objections to be substantive and significant, have hereby submitted them in writing, and have explained the basis of the objections by identifying the specific impact that would significantly adversely affect our members, their children and grandchildren, their pets, and the Lake environment.

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