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Preserving and enhancing the water quality, scenic beauty and ecological health of the lakes, streams, wetlands and watersheds of the Chautauqua region.

Mr. Robert Freese  
[Dep.r9@dec.ny.gov](mailto:Dep.r9@dec.ny.gov)  
NYSDEC Region 9 Bureau of Pest Management  
270 Michigan Avenue  
Buffalo, NY 14203

February 23, 2021

Dear Mr. Freese,

In response to the Letter of Notification dated February 5, 2021, received by the Chautauqua Watershed Conservancy (CWC) from the Town of Busti; Town of Ellery; Village of Bemus Point; Town of Ellicott; Village of Celeron; Village of Lakewood, and Town of North Harmony regarding 2021 herbicide permit requests, **please accept this letter formally documenting our concerns and objections to the proposed herbicide treatments as described in the notice:**

- The application of Aquathol K (Endothall) between April 19 and May 19, 2021 to control up to 345.5 acres of curlyleaf pondweed; and
- The application of ProcellaCOR EC (florpyrauxifen-benzyl) between May 17 and June 18, 2021 to control up to 529.4 acres of Eurasian watermilfoil

The Chautauqua Watershed Conservancy is one of the largest riparian landowners in membership, acreage, and lake frontage. We are very concerned that our shoreland and adjacent littoral zone habitats, and the complex ecological communities they sustain, may be negatively impacted by the proposed 2021 herbicide treatments. The Chautauqua Watershed Conservancy owns and stewards more than 1.3 miles of shoreline totaling 122.8 acres in both basins of Chautauqua Lake and its Outlet, including one mile of shoreline (86 acres) in the Town of Ellicott at the terminus of Chautauqua Lake. Both state and federal funds were used to package and protect CWC's Chautauqua Lake Outlet Greenway, an "ecological oasis" as recognized by the New York State Open Space Conservation Plan, and the majority of which are NYS Regulated Wetlands. The CWC also owns shoreland properties in the Town of North Harmony and Busti (Loomis Goose Creek Wetland Preserve, with 500 feet of shoreline), and 3.5 acres at Wells Bay in North Harmony. These state- and federally-recognized wetlands and adjacent waters provide high quality habitat for a variety of fish, amphibians, mollusks, turtles, waterfowl, songbirds, and water-dependent mammals, for which the NYS DEC and NYS Office of Parks, Recreation, and Historic Preservation provided key funding.

**While we greatly appreciated the reasoned and science-based limits imposed by the DEC for the 2020 herbicide application on Chautauqua Lake, we must again express our concerns regarding the 2021 requests to utilize both the systemic herbicide florpyrauxifen-benzyl (ProcellaCOR™ EC) and the contact herbicide Aquathol K (endothall), and request that any issued permits address the concerns and objections described herein:**

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- We are very concerned about potential consequences from unintended dispersion/drift/diffusion of herbicide as a plume or otherwise carried by wind, wave, and currents to fragile wetlands and other shoreland vegetation, including those in the Outlet and along our preserve shorelines. Wisconsin Department of Natural Resources (<https://dnr.wi.gov/lakes/plants/factsheets/>) notes that a number of ecologically-valuable native emergent species may be negatively impacted by ProcettaCOR EC, including pickerelweed (*Pondetaria cordata*) and arrowhead (*Sagittaria* spp.), as well as waterlily species (*Nymphaea* spp. and *Nuphar* spp.). We are particularly concerned about impacts on the Outlet Greenway wetlands and shorelands, where the applied herbicides may flow or drift from the application areas to the Outlet and down the Chadakoin River. It has not been demonstrated that the regulated 100-foot setback from the terrestrial edge of our wetland preserves will be sufficiently protective of the submerged and emergent vegetation integral to the shore and littoral zones of those wetland communities. We are in full support of the NYS DEC's recommendation that "vegetation removal not occur closer than 500 feet to state regulated wetlands" (*NYSDEC Guidance on Submerged Aquatic Vegetation Removal in Chautauqua Lake, undated*) but would prefer even greater separation distances to protect the submergent and emergent vegetation on or in the lake adjacent to CWC preserves. Third-party (Princeton-Hydro) post-treatment reports following both 2019 and 2020 herbicide applications provide data that dispersion and drift of herbicides into non-target areas was not controlled and caused harm to non-target native species.
- If the NYSDEC chooses to permit herbicide treatments, permission should be strictly limited to specifically-targeted areas with **dense** growth of Eurasian watermilfoil meeting conditions, density, and abundance thresholds as follows:
  - Treatment must stay outside of important fish spawning and nursery areas and other environmentally sensitive areas identified in the Chautauqua Lake MMS and where treatment will not impact sensitive habitats;
  - Treatment must not impact plants growing in less than 3 feet of water or within 50 feet of shore, in order to maintain shallow vegetation nursery habitat for young of the year fish and other aquatic animals such as reptiles and amphibians;
  - Areas with beneficial vegetation such as pond lilies, pickerelweed, water willow, etc. along the shoreline, or sensitive or RTE (rare, threatened, or endangered) aquatic species must have adequate buffering from treatment areas to protect habitats from damage;
  - Treatment shall not take place more than 150 feet from shore or in more than a maximum of six feet in depth, whichever comes first, to conserve fisheries habitat;
  - Herbicide application should be permitted only in areas documented by the NYSDEC and third-party scientists (not associated with the applicator or applicant) to have 50% or more dense rooted Eurasian watermilfoil species coverage, as determined by the Cornell

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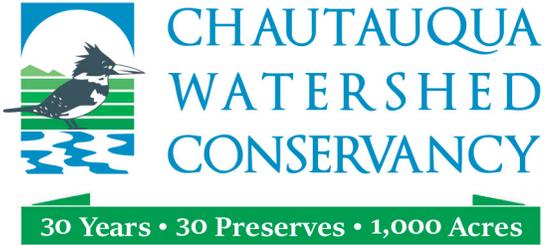
- modified Army Corps rake toss technique for measuring density of invasive species plants during the week immediately preceding the application of herbicides;
- Herbicides shall not be used annually in the same treatment areas to allow for native species to recover, except in very limited locations such as in high public use areas.
- While ProcellaCOR EC is still rather new and preliminary studies indicate it more selectively targets Eurasian watermilfoil (*Myriophyllum spicatum*), the specimen label indicates that coontail (*Ceratophyllum demersum*), an important and valuable native macrophyte, is also susceptible to damage. Aquathol K can also target watermilfoil and kill coontail, an important foundation to the aquatic food web. Coontail hosts a multitude of insects and microcrustaceans, provides significant shelter and foraging areas for fish, and its foliage and fruit are grazed by waterfowl of many kinds. Coontail also plays a significant role in absorbing nutrients from the water column and aids in reducing algal growth and the potential to HABs. Neither ProcellaCOR nor Aquathol K should be applied where abundant coontail is documented.
- While the intended purpose of Aquathol K (Endothall) liquid is to target the non-native but long-established and naturalized *Potamogeton crispus* (curly-leaf pondweed), the proposed dosages, according to the label, will also harm valuable native pondweeds such as *P. natans*, *P. pusillus*, *P. diversifolius*, *Stuckenia pectinata*, and others which, along with curlyleaf, provide early cover and essential fisheries spawning and rearing habitat during the spring season. Because pondweeds, particularly curly-leaf pondweed, naturally die back by early July, the ecological damage caused by herbicide-induced loss of native and non-native pondweeds alike **is not justified, nor economically cost-effective**.
- ProcellaCOR's impacts have NOT been sufficiently studied for a myriad of other native macrophytes known to provide important fisheries and macroinvertebrate habitat and ecosystem services in Chautauqua Lake. Most macrophyte testing to date has been done only in laboratory growth chambers and mesocosm studies. Real-time, in-lake ecological consequences and risks are unknown. Additionally, ProcellaCOR's active ingredient and its metabolites have not been tested on amphibians or reptiles, only certain fish, birds, mammals, and select invertebrates.
- Synergistic outcomes of applying both ProcellaCOR and Aquathol K within the same or overlapping areas across a short period of time are not known. While the permit applications propose ProcellaCOR to be applied sometime between May 17 and June 18, 2021, to follow Aquathol K applications at some sites between April 19 and May 19, 2021, we have grave concerns about combining these two pesticides across a few weeks' time, particularly in



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overlapping sensitive areas such as those immediately across from and upstream from our Chautauqua Lake Greenway outlet preserves. Again, drift and dispersion issues continue to confound targeted “control.”

- In certain high-use areas where curlyleaf weedbeds are approaching nuisance densities precluding navigation/recreation, targeted mechanical harvesting, not herbicide use, should be the primary means of management. No removal by either means should occur along undeveloped shorelines and environmentally sensitive areas.
- We urge the DEC to permit only limited, carefully-controlled small-scale treatments, and only where justified by underwater spring survey confirmation of **dense** milfoil growth in areas significantly interfering with human use. Third-party, independent pre- and post-monitoring is critical.
- While studies indicate ProcellaCOR poses lower risks to humans and less toxicity threat to certain wildlife than do 2,4-D, endothall, and triclopyr, which we applaud, much is still unknown of its impacts within a large, complex lake such as Chautauqua. ProcellaCOR’s label indicates it is appropriate for “slow-moving, quiescent waters with little or no continuous outflow...” which is hardly the case for this big, dynamic, and biodiverse lake. Chautauqua Lake has significant continuous outflow, extensive, strong bottom-fed artesian springs, and constant wind and wave action, all of which complicate this picture.
- Rooted macrophytes stabilize sediments, reduce erosion and turbidity, and absorb nutrients that may otherwise contribute to excessive algal and other undesirable impacts, including harmful algal/cyanobacteria blooms. The complex ecological relationships between macrophytes, algae, and cyanobacteria, including HABs, must be recognized and addressed, including important allelopathic and other inter-species interactions such as competition for nutrients which may impact algal and cyanobacteria population densities. The concept of “alternative stable states,” in which a lake may be “tipped” from a stable, macrophyte-dominated one to an algae/cyanobacteria-dominated one as a result of large-scale “weed eradication” is concerning.
  - Dying and decaying macrophytes debilitated by herbicides may release nutrients into the water column, including phosphorus and nitrogen. Plant die-back will, in turn, allow deeper light penetration and reduced competition for N, P, and other nutrients, and may enhance algal and cyanobacteria population growth. If large acreages are treated with herbicides, treatments may exacerbate the filamentous green algae and cyanobacteria growth and be counter-productive in addressing the challenges of harmful algae blooms



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(HABs). The 2019 disastrous ecological damage and eradication of nearly all vegetation in the southern South Basin, for example, was followed by unprecedented and very undesirable late summer algal/cyanobacterial blooms. Consequence or coincidence?

- CWC is a signatory to the two-year County *Chautauqua Lake Weed Management Consensus Strategy Memorandum of Understanding*, dated May 1, 2019, which states that “Participants will not support the widespread use of herbicides, and will therefore advocate for the restriction of herbicide use to 25% or less of the littoral zone *South of Long Point only* (italics added) (Tenet 1g). In spite of this, the Town of Ellery (the only municipality that did not sign the MOA) has sought treatment for three sites far north of that, in spite of the intentions of all other signatories and concerns about potential impacts on drinking water supplies. Good-faith participation in the MOA precludes our support of that proposal.

Thank you for your time and attention to this important matter and our many concerns. We look forward to learning more of your critical decisions which will surely impact our Chautauqua Lake and its ecology for many months or years to come.

Sincerely,

Rebecca L. Nystrom, President

CC: David Denk  
Abby Snyder  
Kenneth Baginski  
Justin Brewer  
Connie Adams  
Maureen Brady  
Mike Clancy  
Pierre Chagnon  
Randall Perry  
Paul PJ Wendell  
Andrew Goodell  
George Borrello  
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Yu Chen

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