NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Resource Management
625 Broadway, Albany, New York 12233-3508
P: (518) 402-8086 | F: (518) 402-9029
www.dec.ny.gov

March 1, 2024

Toxics Targeting, Inc.
215 N. Cayuga St.
Ithaca, NY 14850

Dear Walter Hang:

Thank you for your letter to Governor Hochul expressing your concerns regarding water quality and harmful algal blooms, Cayuga and Owasco lakes, and New York State Department of Environmental Conservation's Total Maximum Daily Load (TMDL) and 303(d) program. Safeguarding New York's water quality continues to be a top State priority and DEC is providing direct assistance to communities as detailed below.

Combatting Harmful Algal Blooms

DEC leads the most comprehensive Harmful Algal Bloom (HABs) monitoring and reporting program in the nation, including extensive and cooperative efforts to develop science-based "pollution budget" plans for specific waters to limit phosphorus and nitrogen nutrients – contributors to the formation of HABs. New York State has invested more than $371 million to support projects specifically targeting the reduction of HABs.

While reducing nutrients will lessen the extent and intensity of HABs and other algal blooms, more research is needed to understand the many complex and non-controllable factors that also contribute to HABs, such as higher temperatures, invasive mussels, more extreme precipitation, droughts, and lake depth, etc. In response, DEC has dedicated more than $14 million to research the causes of HABs and methods/technologies to limit their occurrence.

DEC and DOH scientists and other experts are working closely with local partners to increase public awareness, investigate the causes of HABs across New York, and pioneer cutting-edge solutions to respond to these blooms and the threats they pose to public health and the environment. DEC provides resources such as the online HABs map and reporting system, which is updated daily during HABs season to ensure timely public notification. Hundreds of waterbodies are monitored annually by DEC and in cooperation with partners; these efforts, along with continued collaboration with DOH, drinking water suppliers and public beach operators, and others ensures necessary steps are taken to protect public health when HABs occur and reduce the controllable pollutants that contribute to HABs.

NY's efforts to address HABs include a holistic approach to reduce the drivers of HABs both from the landscape and within waterbodies, mitigation where possible, and extensive

collaboration on research to understand and lessen the impact of HABs. This approach ensures that long-term strategies such as nutrient reduction through clean water planning are coordinated with shorter-term HAB mitigation strategies and research to implement effective solutions to HAB reduction. DEC's general approach includes:

- Watershed Management - Develop watershed plans and fund pollutant reduction strategies to address nutrients as the general cause of HABs. Examples include, nonpoint nutrient best management practices, water and sewer infrastructure improvements and erosion controls such as shoreline stabilization. DEC also works closely with communities to advance these planning efforts to restore and protect the water quality of entire watersheds impacted by HABs, for example, the Nine Element Plans completed for Owasco, Seneca- Keuka and Canandaigua Lakes and their watersheds.

- In-Waterbody Mitigation – Partner in the development, implementation, and evaluation of strategies to help control bloom formation and size. For example, algaecides, aeration, and various other new technologies. Harmful Algal Blooms (HABs) - NYS Dept. of Environmental Conservation

- Research HABs and their causes – Through partnerships with academia, private industry, and other government agencies, conduct research that focuses on prevention, mitigation, monitoring, and modeling of HABs to help understand their causes, such as nutrient pollution, specifically phosphorus. HABs Research Guide – NYS Dept. of Environmental Conservation.

- Funding projects that may help reduce the occurrence of HABs remains a high priority for DEC. Funding is provided through the Water Quality Improvement Project (WQIP) and Non-Agricultural Nonpoint Source Planning Grants (NPG) programs. In Round 19 of DEC's WQIP grants, a new priority wastewater project category was established – "Watershed Plan Implementation of Phosphorus Reduction" to fund projects which upgrade municipal systems to meet phosphorus requirements of DEC-approved watershed implementation plans (i.e., TMDLs, 9-Element Plans, Action Agendas, and HAB Action Plans). Priority is given in the non-agricultural nonpoint source abatement, and control, wastewater treatment improvement and land acquisition for source water protection categories of WQIP to projects in the watershed of waterbodies that have a DEC- approved watershed plan.

NYS DEC's 303d/TMDL Program

NYS DEC's 303d/TMDL program complies with the Clean Water Act (CWA). CWA requires states to assess and report on the quality of their waters, every two years. Assessment refers to evaluating the water quality of the state's waterbodies by determining whether they meet the state's water quality standards and support their best

use(s). When there is valid water quality data that demonstrates a violation of an applicable water quality standard, waterbodies are considered to not be supporting their best use(s). These waterbodies, along with the pollutant(s) not meeting water quality standards, are reported on the 303(d) List of Impaired Waters Requiring a TMDL or advanced restoration strategy. DEC's consolidated assessment and listing methodology (CALM) outlines this process and can be found here: https://extapps.dec.ny.gov/docs/water_pdf/calm.pdf.

For the purpose of assessment and listing, DEC evaluates the narrative water quality standard for nutrients, which looks at the growth of algae, weeds, and/or slimes which is translated through our numeric guidance value for phosphorus. While DEC recognizes the threat HABs create to the quality of NY's surface waters, without an identified pollutant that can be reduced by implementing a TMDL, waterbodies experiencing HABs do not belong on the 303(d) List.

In 2013, EPA announced a new "vision" to assist states to implement CWA Section 303d. EPA's vision was developed in close collaboration with states and is based on decades of experience implementing the 303d programs, with the fundamental recognition that there is not a "one size fits all" approach to restoring and protecting water resources. Based on EPA's vision, DEC has been implementing tools beyond TMDLs to include other clean water plans (9E Plans, HAB Action Plans and advanced restoration plans) and has prioritized the development of clean water plans, which is delegated to the states by EPA, to focus attention on priority waters. For more information about the 303(d) program and Vision, see https://www.epa.gov/tmdl and https://www.epa.gov/tmdl/Vision. DEC implements its TMDL/303d program in close consultation with EPA. A summary of DEC's Vision Approach can be found here: https://www.dec.ny.gov/docs/water_pdf/dowvision.pdf. Additionally, eligible projects consistent with DEC approved clean water plans receive priority points for several state funding programs.

Cayuga Lake

In 2002, Cayuga Lake's Southern End segment was listed as impaired due to phosphorus on the NYSDEC Clean Water Act (CWA) Section 303(d) list of impaired waterbodies. Consequently, a TMDL for phosphorus was drafted for Cayuga Lake in its entirety, to address this impairment on the Southern End and protect the remaining lake areas. TMDLs identify sources of the pollutant of concern and include appropriate loading reductions of the identified pollutant so that the waterbody/segment will meet water quality standards, defined as the targets in the TMDL.

The draft Cayuga Lake TMDL requires a 30% reduction in total phosphorus to achieve the water quality targets for the entire lake through required waste load allocations (WLAs) and load allocations for loading from the landscape (LAs). Development of the draft Cayuga Lake TMDL included numerous modeling scenarios to evaluate the sources of phosphorus loading to the lake, including Cornell's Lake Source Cooling facility. The

draft TMDL's modeling results indicated that this facility contributes less than 1% of the annual total phosphorus load to Cayuga Lake. These scenarios are described in detail in Section 5 and in Appendix D of the draft TMDL.

The draft Cayuga Lake TMDL was released for a 90-day public comment period in April 2021 (https://www.dec.ny.gov/docs/water_pdf/draftcayugatmdl(1).pdf), during which time the DEC received over 500 public comments and suggestions. DEC's review and response to these public comments, and possible modifications to the TMDL, are far along in the process.

Currently, Cayuga Lake has two additional planning and research documents available to address HABs or other water quality concerns: (1) the Cayuga Lake HABs Action Plan (https://www.dec.ny.gov/docs/water_pdf/cayugahabplan.pdf) – developed by DEC, other state agencies, and a steering committee with local collaborators, and (2) the Cayuga Lake Watershed Restoration and Protection Plan (https://www.cayugalake.org/the-watershed/restoration-protection-plan/) – developed by local Cayuga Lake groups.

Substantial watershed implementation progress has been made in the Cayuga Lake watershed since 2013. Numerous best management practice (BMP) and mitigation projects, totaling more than $25 million dollars have been implemented throughout the Cayuga Lake watershed to improve or protect water quality. Projects include agricultural nutrient BMPs, land acquisition for the protection of source water, streambank stabilization, culvert replacements, ditch hydroseeding, septic pump outs, and sediment and erosion control practices. Detailed project summaries can be found in annual Regional Economic Development Council Awards booklets (2022 example: https://regionalcouncils.ny.gov/2022-awards).

Please note, the above summary of implementation progress does not include substantial NYS Department of Agriculture and Markets (AGM) funding to the Soil & Water Conservation Districts for implementation of the Agricultural Environmental Management (AEM) program, the implementation of numerous agricultural BMPs on local farms through other state or federal grant programs, the funds distributed through the Finger Lakes - Lake Ontario Watershed Protection Alliance (FLLOWPA) for the six counties within the Cayuga Lake watershed, or the successful DEC-Agriculture and Markets Finger Lakes Cover Crops program (https://agriculture.ny.gov/news/new-york-state-announces-funding-protect-water-quality-and-soil-health-around-cayuga-owasco-0).

Since 2017, the DEC's volunteer citizen lake-science program, Citizens Statewide Lake Assessment Program (CSLAP), has been active in multiple locations in Cayuga Lake. The most current Cayuga Lake water quality data can be found here: https://experience.arcgis.com/experience/c32878596a0a47deb5f97ea5e07ec9c5. The Southern End of Cayuga Lake has been monitored through CSLAP since 2018. Recent total phosphorus data (2018-2022) for the Southern End was less than the total phosphorus guidance value (20 µg/L) in 4 out of 5 years. Other indicators like algae levels,

clarity, and nitrogen have remained relatively stable over time in the Southern End. Data from other areas of Cayuga Lake are being compiled and investigated.

Owasco Lake

Since 2017, the DEC's volunteer citizen lake-science program, CSLAP, has been active in Owasco Lake. The most current Owasco Lake water quality data can be found here: https://experience.arcgis.com/experience/c32878596a0a47deb5f97ea5e07ec9c5. Recent data (collected over the 2017-2022 period) for Owasco confirms that total phosphorus concentrations are generally low (< 10 ug/L) and have decreased slightly from the late 1990s (Callinan 2001). Algae levels (chlorophyll-a) are also generally low in the lake, ranging from 3-5 ug/L over the same period.

Despite the overall low levels of phosphorus, local partners with technical assistance from DEC and NYS Department of State have developed a 9 Element Watershed Management Plan (9E Plan) for Owasco Lake (Owasco Lake 9E Plan), which was approved by DEC in 2022 (please see: https://www.dec.ny.gov/docs/water_pdf/owasco9e22.pdf). Additionally, the primary sources of phosphorus in this watershed comes from diffuse sources, meaning mostly nonpoint sources on the landscape.

The Owasco Lake 9E Plan defines water quality goals, identifies and quantifies sources of nutrients to the lake, determines the pollutant reductions needed to meet goals, and describes the actions needed to achieve reductions and protect and further improve water quality. Importantly, 9E Plans are developed by people who live and work within the watershed with support from local and state agencies. The Owasco Lake 9E Plan outlines specific actions that may be implemented to reduce the amount of phosphorus reaching the lake by 30%. The 9E Plan also recommended maintaining lake algae (chlorophyll-a) levels less than 4 ug/L – a goal which has been met in Owasco in 5 of the last 7 years.

Since 2017, more than $17 million in NYS funding has been directed toward water quality improvement projects in the Owasco Lake watershed, including: enhanced water quality studies and pollution mitigation measures, land acquisition for source water protection $2 million to implement upgrades to drinking water systems, and $3.7 million for wastewater treatment upgrades. Please note, this partial funding estimate does not include the substantial NYS Department of Agriculture and Markets (AGM) funding to the Cayuga County Soil & Water Conservation District for implementation of the Agricultural Environmental Management (AEM) program. The AEM program is a voluntary program that provides a consistent and science-based approach for conservation professionals to partner with farmers on the combined goals of environmental conservation and farm viability. It leads to farmers choosing (i.e., wanting) to implement and, most importantly, adopt conservation practices that work for their farm for the long term, thereby delivering a sustained environmental benefit. This is a technical and behavioral process that's critical for long-term practice adoption and often leads to follow-up projects that build on those successes over time (https://agriculture.ny.gov/soil-and-water/agricultural-environmental-management). Over the last 20 plus years, the AEM framework has

successfully served as the central mechanism for major watershed initiatives in all parts of the State (e.g., Chesapeake Bay Watershed, the Finger Lakes watersheds, Lake Champlain Watershed, Lake Erie and Ontario Watersheds, NYC Watershed, Mohawk and Hudson Watersheds, Long Island) and has contributed to reducing phosphorus loading. The Owasco Lake HABs Action Plan and 9E Plan and continued best management practice implementation are critical parts of the limiting future phosphorus inputs to Owasco Lake.

DEC and partner agencies (DOH, AGM) continue to work extensively with the City of Auburn, Town of Owasco, Cayuga County, and Owasco Watershed stakeholders to collaboratively advance water quality protection efforts in the region. NYS has supported and continues to support the Owasco Lake watershed community to develop several clean water planning documents: the completed Nine Element Plan, Harmful Algal Bloom Action Plan, and Soil and Water Conservations District (SWCD) Strategic Plans, as well as in-progress Drinking Water Source Protection Plans (DWSP2) for the City of Auburn and Town of Owasco.

State Funding

To aid in timely implementation of projects, DEC maintains a website of all nonpoint source funding programs (both state and federal, please see: https://dec.ny.gov/environmental-protection/water/water-quality/nps-program/funding-programs). Funding opportunities to highlight include the: Water Quality Improvement Project (WQIP) Program, Great Lakes Basin Small Grants Program, Finger Lakes Small Grants Program, Great Lakes Restoration Initiative, Agricultural Nonpoint Source Abatement and Control Program, FEMA's Hazard Mitigation Grant Program, and Sustain Our Great Lakes Program. These include enhanced water quality studies and nutrient mitigation measures. DEC also recently developed a Funding Finder tool (https://dec.ny.gov/get-involved/grant-applications/funding-finder-tool) in conjunction with the Long Island Sound Study, to simplify the process of finding grant opportunities. Although it was developed for Long Island, all statewide funding opportunities are included, and DEC is working to expand it to include specific watersheds (e.g., Great Lakes or Finger Lakes).

NYS is committed to environmental protection. Created by the state legislature in 1993, the Environmental Protection Fund (EPF) has gradually grown from its original appropriation of $31 million in fiscal year 1994-1995. Over the past 20 years, the EPF has provided more than $2.7 billion for a variety of environmental projects (https://extapps.dec.ny.gov/docs/administration_pdf/epf20report2013.pdf). In 2024, the EPF was allotted $400 million (https://www.governor.ny.gov/news/governor-hochul-announces-fy-2024-budget-investments-energy-affordability-sustainable). Additional NYS environmental protection and improvement investments funded through the EPF and the Clean Water Infrastructure Act in 2023 included at least $75M that was made available for WQIP and up to $3M that was made available for NPG. To date, DEC has awarded over $1.3 billion to more than 1,700 projects through WQIP statewide since

1996; DEC has awarded nearly $4 million to roughly 100 projects through NPG statewide since 2019. Also, NYS passed the Clean Water, Clean Air and Green Jobs Environmental Bond Act, committing to investing $4.2 billion in environmental and community projects (https://www.ny.gov/programs/clean-water-clean-air-and-green-jobs-environmental-bond-act).

DEC works closely with federal, other state, and local agencies to monitor, plan, and implement restoration and protection measures. In NYS, the Department of Health is the agency that regulates public water supplies and establishes maximum contaminant levels (MCLs; see Volume 10, Part 5: https://regs.health.ny.gov/volume-title-10/content/part-5-drinking-water-supplies).

DEC greatly appreciates your continued interest in these environmental issues in New York State. DEC will continue moving forward to address water quality concerns in cooperation with local stakeholders to protect New York's waters. If you have any questions, please do not hesitate to contact Anthony Prestigiacomo at (315) 426-7452 or via email at anthony.prestigiacomo@dec.ny.gov.

Sincerely,

Karen M Stainbrook
Director, Bureau of Water Resource Management
Division of Water

CC:
Carol Lamb-LaFay
Alexander Smith
Stephanie June
Thomas Vigneault
Dereth Glance
Tara Blum
Timothy Walsh