

**Sept. 26: Statement for Attribution to NYSDEC:**

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 in both fresh- and saltwater systems. The State has also directed hundreds of millions in federal and State funds to remove HAB-inducing pollutants that degrade the storm resilience of coastal waters impaired by HABs. While reducing nutrients will reduce the extent and intensity of HABs and other algal blooms, many complex and *non-controllable* factors also contribute to HABs, such as higher temperatures, invasive mussels, more extreme precipitation/droughts, and lake depth, etc. In addition, DEC has dedicated more than \$14 million to research the causes of HABs and methods/technologies to limit their occurrence. Safeguarding New York's water quality continues to be a top State priority and DEC is providing direct assistance to communities.

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 also launched resources such as the [online HABs map and reporting system](#), which is updated daily during HABs season to ensure timely water system and public notification. In cooperation with partners, DEC monitors hundreds of waterbodies and will continue to work with DOH, drinking water suppliers and public beach operators, and other local officials to ensure any and all necessary steps are taken to protect public health when HABs occur and reduce the controllable pollutants that contribute to HABs.

**Alarmed by the rising threat [due to] to HABs in Owasco Lake that threaten local drinking water, officials in Auburn and Owasco are demanding that the state fund a Total Maximum Daily Loan (TMDL) comprehensive Owasco watershed cleanup plan. (See Attachment1). What is the DEC’s position on whether or not that request/demand for an Owasco Lake TMDL should be granted?**

DEC and EPA agree that Owasco Lake is impacted by HABs, but the factors causing the HABs are complex and require further study. For example, Owasco has what are

generally considered to be low levels of nutrient phosphorus. A recently [published and peer-reviewed study](#) indicates Owasco Lake experiences spatially isolated and temporary HABs, even with relatively low phosphorus levels compared to other Finger Lakes.

When a water body is impaired, in all or in part, by a pollutant discharge that can be controlled, DEC develops a science-based “pollution budget” plan to identify sources of the pollutant and methods to reduce pollutant discharges. These plans go by various names (e.g., Total Maximum Daily Load, Nine-Element Plan, Advance Restoration Plan).

Also, in identifying which "pollution budget" would be best suited to the watershed, the agency looks at what the source of the pollution is. If it is a nonpoint source, this includes excess fertilizer nutrients from un-regulated agricultural lands and residential areas, sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks, sediment from physical alterations of stream banks and channels, or nutrients from livestock, pet wastes and faulty septic systems. Nonpoint source pollution often consists of stormwater runoff, the draining away of water and pollutants from the surface of an area of the land to a waterbody. In these situations, it is the combination of many sources, instead of a single point. Point sources are discernible, confined and discrete conveyances from which pollutants are or may be discharged and are normally sources under regulatory authority such as wastewater treatment plants, which can install systems to treat the pollutants and have permit limitations on discharges.

In Owasco Lake, DEC determined a Nine-Element Plan is the preferred, and fully equivalent, planning mechanism as the majority of the controllable pollutant (nutrient phosphorus) comes from diffuse sources, meaning mostly nonpoint sources on the landscape. The identified point sources are two wastewater treatment plants in this watershed and DEC has already required them to install systems to achieve total phosphorus limits at the best available treatment technology. In these circumstances a Nine-Element Plan is more expeditious to achieve water quality targets because such plans are community driven and therefore the implementation plan incorporates more specific management actions to reduce nonpoint sources of pollution identified through public engagement. The Owasco Lake Nine-Element Plan includes a detailed list of watershed wide and sub-basin specific projects indicating the goal, nutrient reductions, estimated costs, potential funding programs and lead organizations.

For years prior to EPA's proposed listing of Owasco Lake as impaired, DEC and the Department of State (DOS) were advancing a comprehensive HAB-abatement plan. In September 2022, DEC and DOS finalized a multi-year process by approving a Nine-Element Plan for Owasco Lake, a scientifically derived roadmap for reducing nutrient loading in the watershed. DEC and DOS advanced the Nine-Element Plan as the preferred approach to address the sources of nutrients impacting Owasco Lake, which are multiple, diffuse sources of pollution, rather than a few point sources. A Nine-Element Plan is the preferred tool to reduce pollution from diffuse sources. Development of the Nine-Element Plan was undertaken in collaboration with Cayuga County Department of Planning and Economic Development (CCDP&ED) and Ecologic, LLC, and stakeholder engagement kept residents and other stakeholders apprised of the plan's progress and involved the agricultural community.

The Owasco Lake Nine-Element Plan includes a commitment to adaptive management, including setting targets, implementing recommendations, monitoring, and evaluating and adjusting to new conditions through incorporating new data and refining the model over time. The Owasco Lake Nine-Element Plan will help this community to continue to leverage additional State funds (including Clean Water Infrastructure Act, Environmental Protection Fund, and potential Bond Act monies) to further implement best management practices to reduce phosphorus loading to the lake. Projects consistent with such plans often receive added points on competitive grant applications.

In addition to the Nine-Element Plan to advance efforts to reduce HABs in Owasco Lake, in 2017, New York State committed \$2 million to support major upgrades of advanced treatment technologies to ensure clean drinking water for the city of Auburn and town of Owasco. This comprehensive project included installation of carbon treatment systems, and more than \$2.7 million in subsequent state funding to support water system improvements. These and other investments in wastewater infrastructure, watershed protection, and habitat restoration initiatives totaling more than \$9.7 million continue to make the closely monitored water supplies for the city of Auburn and village of Owasco safe.

The occurrence of HAB reports and the presence of cyanobacteria toxins in Owasco Lake and other Finger Lakes is complicated; causation of HABs is influenced by climate trends, warming lake temperatures, more intense storms, invasive mussels, and other factors as outlined in the HABs action plans developed by the state. There are many factors that contribute to restoration and protection of water quality. Waterbody (residence time, morphology, depth) and watershed (soils, slopes, surrounding land use and size) characteristics complicated by variations in climate influence a waterbody's response to nutrient reduction efforts, which may take years to have a perceived impact

or may setback progress. Therefore, it is critical to have an adaptive management strategy that recommends best management practices and projects, a monitoring plan to track implementation and evaluate water quality over time, and a mechanism to update the strategy.

**The DEC provided a draft TMDL for Cayuga Lake in April 2021 and accepted public comments on it until July 2021. What is the status of that Cayuga Lake TMDL process? If that TMDL report has not been finally approved by the DEC, what is the reason for the delay? When is it expected to be finalized?**

Cayuga Lake's Southern End segment was listed as impaired due to phosphorus. 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. Water quality monitoring and subsequent Cayuga Lake model was completed. The draft Cayuga Lake TMDL was released for a 90-day public comment period in April 2021, during which time the DEC received more than 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 harmful algal blooms (HABs) or other water quality concerns: (1) the Cayuga Lake HABs Action Plan ([https://www.dec.ny.gov/docs/water\\_pdf/cayugahabplan.pdf](https://www.dec.ny.gov/docs/water_pdf/cayugahabplan.pdf)), and (2) the Cayuga Lake Watershed Restoration and Protection Plan (<https://www.cayugalake.org/the-watershed/restoration-protection-plan/>).

The HABs Action Plan for Cayuga Lake, published in 2018, identified the contributing factors that can fuel algal blooms, implementation recommendations, and new monitoring and treatment technologies. Grant applications that propose eligible projects that support the recommendations from HABs Action Plans receive priority points in several current State grant programs, including the Water Quality Improvement Project (WQIP) Program (<https://www.dec.ny.gov/pubs/4774.html>).

The Cayuga Lake HABs Action Plan implementation has been utilized to secure funding from various grants since its publication. Additionally, many of the phosphorus reduction recommendations in the draft TMDL echo the recommendations identified in the HAB Action Plan.

Substantial watershed implementation progress has been made in the Cayuga Lake watershed since the completion of the Cayuga Lake Model. Since 2013, numerous best management practice (BMP) and mitigation projects, totaling more than \$25 million 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 New York State 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 (FOLLOWPA) for the six counties within the Cayuga Lake watershed, or the successful DEC-AGM eastern cover crops program.

**In a March 10, 2022 letter to the DEC, the EPA said the DEC had failed to show that a pollutant was not the cause of Canandaigua Lake being an impaired waterbody and had incorrectly left it off a list that calls for TMDL treatment. (See attachment 2, page 21-22). Does the DEC plan to undertake a TMDL for Canandaigua Lake? If not, why not? What response, if any, has the DEC made to the EPA's conclusion that DEC improperly omitted Canandaigua from the TMDL list?**

In recent years, Canandaigua Lake has experienced water quality challenges, including HABs that are contributed to by nutrient phosphorus as well as other complex factors discussed above. Land use, climate change, and natural processes across the watershed can impact phosphorus levels within the lake.

DEC and EPA regularly meet to discuss clean water management planning. Pursuant to Clean Water Act (CWA) Section 303(d), New York submitted its 2018 list of waterbodies not meeting water quality standards, not supporting best uses, and requiring the development of a Total Maximum Daily Load (TMDL) to EPA in 2020. On March 10,

2022, EPA responded to DEC, noting alignment and lack of alignment with DEC's 2018 List, noting specifically for Canandaigua Lake that data and/or information indicate that an applicable water quality standard is not met and that a pollution budget was needed. DEC acknowledges that Canandaigua Lake experiences temporary impacts to uses when HABs are present.

DEC and New York State Department of State continue to work collaboratively with the Canandaigua Lake Watershed Council on the development of the Canandaigua Lake Watershed Plan and are nearing completion of the Canandaigua Lake Watershed Nine-Element Plan for Enhanced Phosphorus Management to advance efforts to restore and protect the water quality of Canandaigua Lake and its watershed. As discussed above, a Nine-Element Plan is effectively an equivalent pollution budget to a TMDL for this water body. Development of the plan was funded by the State's Environmental Protection Fund in cooperation with DOS and DEC.

## **ON BACKGROUND**

Nonpoint sources are defined as any source of water pollution or pollutants which is not a discrete conveyance or point source (ECL Article 17-1403). Nonpoint source pollution comes from many sources and is caused by rainfall or snowmelt moving over and through the ground that picks up and carries away natural and human-made pollutants, depositing them into lakes, rivers, wetlands, coastal waters, and ground waters (<https://www.dec.ny.gov/chemical/94150.html>). Examples of NPS pollution include excess fertilizer nutrients from un-regulated agricultural lands and residential areas, sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks, sediment from physical alterations of stream banks and channels, for example, straightening streams, constructing/ removing dams or levees, or nutrients from livestock, pet wastes and faulty septic systems. Nonpoint source pollution often consists of stormwater runoff, the draining away of water and pollutants from the surface of an area of the land to a waterbody.

A point source means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants are or may be discharged (See ECL section 17-0105(16) and 6 NYCRR 750-1.2(a)(67)). This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

TMDLs and 9E plans are both watershed-based plans that require: quality assurance project plans, data analyzed at an Environmental Laboratory Approval Program (ELAP), modeling, identification and quantification of pollution sources, determination of the water quality target to reduce or protect water quality, specify the pollution reductions needed to meet the water quality target, recommended management actions in an implementation plan, and public engagement. DEC's regulatory authority for nonpoint sources is identical for both a TMDL and 9E plan —implementation of nonpoint source management actions/controls are voluntary and incentivized through state and federal funding programs.

If the pollution sources within the watershed are largely nonpoint, then a 9E plan process will be more expeditious to achieve water quality targets because 9E plans are community driven and therefore the implementation plan incorporates more specific management actions to reduce nonpoint sources of pollution identified through public engagement. The TMDL implementation sections typically include general nonpoint source management actions and recommendations.

For example, in the Owasco Lake 9E plan includes a table of watershed wide and sub-basin (HUC12) specific projects indicating the goal, nutrient reductions, estimated costs, potential funding programs and lead organizations. Whereas, for example, the draft Cayuga Lake TMDL implementation section provides resources and recommendations to assist stakeholders to select appropriate and effective management actions that will achieve the total phosphorus reduction goals.

Waterbodies are listed on the HABs Notifications page and NYHABS by DEC HABs Program staff when DEC is notified, and when there is credible evidence of a current HAB. Bloom reports come from DEC staff, trained monitors, DOH, beach operators, or the public. DEC coordinates with DOH on bloom reports in waters used as a source of public drinking water; DOH then consults closely with local health departments when HABs are identified and provides technical guidance to water operators on treatment optimization and any additional response actions (such as public notification) as needed.

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 combat 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. For example, nutrient best management practices, water and sewer infrastructure improvements, erosion controls, and shoreline stabilization. <https://www.dec.ny.gov/chemical/113733.html> 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 Plan adopted for Owasco Lake](#) and its watershed last year.
- 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. [https://www.dec.ny.gov/docs/water\\_pdf/researchguide.pdf](https://www.dec.ny.gov/docs/water_pdf/researchguide.pdf) For example, for the first time this year in DEC's WQIP grants a new priority 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).

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](#). Priority is given, in-part, to those projects which directly impact waterbodies known to have HABs or are in the watershed of waterbodies that have a DEC HABs Action Plan.

To date, New York has awarded more than \$371 million in grants designed to reduce the frequency of algal blooms across the state by targeting phosphorus and nitrogen pollution, controllable factors that can contribute to the occurrence of HABs, and more than \$14 million to research and development, pilot projects, and advanced monitoring. In the latest round of DEC funding, at least \$128 million was available for two grant programs that may support projects to help reduce the occurrence of HABs – at least \$125 million in funding through the [Water Quality Improvement Project \(WQIP\) program](#) and up to \$3 million in funding through the [Non-Agricultural Nonpoint Source](#)



Planning and MS4 Mapping Grant (NPG). DEC also continues to evaluate [HAB mitigation technology and strategies](#).

In addition to these ongoing funding streams, the historic Clean Water, Clean Air, and Green Jobs Environmental Bond Act (The Bond Act) passed by voters last year includes hundreds of millions of dollars allocated to help ensure that New Yorkers have safe drinking water and a clean, resilient environment. Thanks to Governor Hochul and the State Legislature, the Bond Act was increased from \$3 billion to a record-setting \$4.2 billion and specifically identifies funding for projects to reduce the frequency of HABs.

An important element to the success of DEC's efforts to combat HABs in New York State is the ability to identify and track HABs over time. This provides understanding and means of evaluating the effectiveness of long- and short-term approaches to addressing HABs. HAB reporting also facilitates effective response measures to reduce risks to drinking water supplies, primary and secondary contact recreation, and as means of rapidly informing the public of where HABs are present. In June 2019, New York State launched an [online HABs map and reporting system](#). The New York Harmful Algal Bloom System or "NYHABS" features an interactive map that is updated daily with reports of HABs, as well as a reporting form. The 2023 HABs season is ongoing, with reports continuing to be filed, and DEC will continue to track and report out on these detections as they occur.

HABs are common at this time of year. DEC encourages New Yorkers to continue to:

**KNOW IT** – Naturally occurring harmful algal blooms, 'HABs,' vary in appearance from scattered green dots in the water, to long, linear green streaks, pea soup or spilled green paint, to blue-green or white coloration.

**AVOID IT** – People, pets and livestock should avoid contact with water that is discolored or has algal scums on the surface.

**REPORT IT** – If members of the public suspect a HAB, report it through the NYHABS online [Suspicious Algal Bloom Report Form](#). If possible, attach digital photos of the suspected HAB in the web form.

Here are two resources to learn to distinguish HABs and other algal blooms. DEC has a photo gallery at <https://www.dec.ny.gov/chemical/81962.html> or view this video: DEC HAB Identification Tips and Tricks: [https://www.youtube.com/watch?v=8nL\\_s77FV-o](https://www.youtube.com/watch?v=8nL_s77FV-o)

