



Water
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NEW YORK STATE WATER
RESOURCES INSTITUTE
Cornell University

Image by Finger Lakes Land Trust

Cayuga Lake TMDL Factsheet for Tompkins County

Background

Your town, village, or city has a direct role in the health of Cayuga Lake. The Total Maximum Daily Load (TMDL) sets pollution reduction targets to protect water quality, public health, and local economies. This fact sheet breaks down what it means and how we can succeed together.

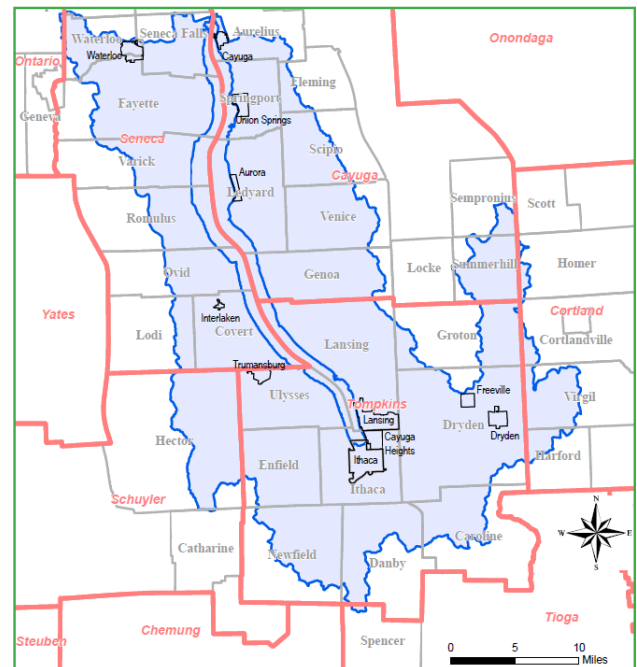
Too much phosphorus in Cayuga Lake contributes to excess plant and algal growth and harmful algal blooms. When a waterbody does not meet the water quality standards for its designated best use (such as drinking water or recreation), New York State Department of Environmental Conservation (DEC) develops a TMDL to establish a target for reducing a pollutant to a level where uses are supported. In September 2024, DEC released the TMDL for Phosphorus for Cayuga Lake, as the phosphorus concentration exceeded the state's guidance value.

Sources of Phosphorus

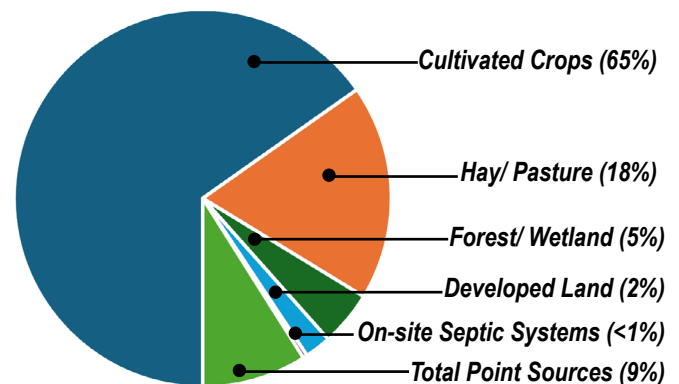
Phosphorous in the Cayuga Lake Watershed (outlined in blue on the map) mostly comes from nonpoint sources at multiple locations across the landscape. The pie chart to the right shows the distribution of phosphorus loading entering the lake from land uses in the watershed. Phosphorus from sources like fertilizer, failing septic systems, pet waste, leaves and degrading plant material, and erosion run off these land uses as stormwater and ultimately enter the lake.

TMDL Requirements

The TMDL assigns phosphorus reduction targets to each land use in the watershed (see table). Point source dischargers that are already under a State Pollutant Discharge Elimination System (SPDES) permit do not have reduction requirements – this includes Concentrated Animal Feeding Operations (CAFOs) and lands they operate on as well as wastewater treatment plants. The exceptions are the Freeville and Interlaken wastewater treatment plants, where they are required to reduce phosphorus by 67%.



Map by Cayuga Lake Watershed Intermunicipal Organization



Phosphorus loading to Cayuga Lake

Land use	Required reductions
Cultivated crops	42%
Hay fields and pastures	40%
Forested lands	15%
Developed lands	10%
Onsite septic systems	5%

How do we meet the goals of the TMDL?

Everyone has a role in improving water quality and meeting the goals of the TMDL. Municipalities may update their local codes to adopt more stringent stormwater treatment requirements as part of development projects. Best management practices (BMPs) are techniques and strategies used to reduce runoff and manage nutrients.

For municipalities	For farmers	For residents
<p>Municipalities can implement and encourage adoption of BMPs such as:</p> <ul style="list-style-type: none">• tree planting• riparian forest buffer• infiltration basin• vegetated swale• stormwater pond• filter strips• bioretention• dry detention pond• hydroseeding road ditches• street sweeping• protecting and enhancing wetlands• porous pavement• reduction of impervious cover	<p>Farmers can work with Tompkins County Soil and Water Conservation District to participate in the Agricultural Environmental Management to evaluate agricultural BMPs such as:</p> <ul style="list-style-type: none">• riparian forest buffer with exclusion fencing• heavy use area protection• constructed wetlands• prescribed grazing• conservation tillage• nutrient management planning• manure injection• waste management systems• cover crops	<p>Residents can minimize runoff and eliminate pollutants by taking actions such as:</p> <ul style="list-style-type: none">• using phosphorus free fertilizer• reducing impermeable surfaces• maintaining their onsite wastewater treatment system• installing a rain barrel• installing a rain garden• picking up pet waste• planting native plants, including trees along streams• participating in the Trees for Tribes program

Image by Finger Lakes Land Trust

Helpful Organizations for Accessing Funding and Technical Support

[Tompkins County Soil and Water Conservation District](#) | 607-254-2340



[Tompkins County Environmental Health Division](#) | 607-274-6688



[Cayuga Lake Watershed Network](#) | Steward@cayugalake.org



[Cayuga Lake Watershed Intermunicipal Organization](#) | cwiochair@gmail.com



[Stormwater Coalition of Tompkins County](#) | ahinickle@tompkins-co.org | 607-257-2340



[USDA Natural Resource Conservation Service](#) | Erin.kurtz@usda.gov | 607-257-2737



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