

Progress Report: Cayuga Lake Modeling Project, May 2015 Update

The Cayuga Lake Modeling Project (CLMP) is moving ahead on schedule. The monitoring phase has been completed, and the technical team is now working on model development. The CLMP, which began in 2012, is a detailed investigation of the sources and fate of phosphorus in Cayuga Lake. The goal is to build a water quality model of Cayuga Lake and its watershed to identify where phosphorus comes from and how it affects the growth of phytoplankton (algal cells suspended in the lake water that contribute to cloudy, green-tinged water). The modeling project is a condition of the regulatory approval for Cornell to continue operation of their Lake Source Cooling facility. Cornell is funding this initiative, and consulted with NYSDEC to develop a team of scientific and engineering experts to conduct the work. The permit requires Cornell to submit regular progress reports to NYSDEC; all have been submitted on schedule and approved by NYSDEC staff.

The CLMP represents a unique application of an emerging approach to water resources management, focused on science-based decision making and sustainable resource use. Insights from the Cayuga Lake project will help NYSDEC as they manage other lakes in the state. Once completed in December 2016, the water quality model will be turned over to NYSDEC for their use in preparing a Total Maximum Daily Load (TMDL) allocation for phosphorus, or specifying other beneficial actions to improve water quality conditions in southern Cayuga Lake.

Substantial progress has been made with modeling Cayuga Lake and its watershed. Dr. Todd Walter of Cornell's Soil and Water Lab is leading development of the watershed model, which tracks how phosphorus and sediment move from the landscape into the lake. The Upstate Freshwater Institute is leading the development of the lake model, which focuses on the fate and transport of phosphorus once it reaches the lake. Both EPA and NYSDEC have convened expert panels to oversee the work and provide detailed technical review throughout the multi-year effort. The project team is also preparing peer-reviewed publications on many aspects of the work to ensure that the assumptions and findings of the model are technically sound.

The next community meeting will be scheduled in early fall 2015, once the team is farther along with model development and testing. To date, NYSDEC has led four public meetings on the CLMP in addition to participating in dozens of meetings and conference calls with technical stakeholders. The Tompkins County Water Resources Council (WRC) has been instrumental in hosting the public meetings as well as coordinating technical stakeholder participation through the WRC's Monitoring Partnership.

Both NYSDEC and Cornell welcome active community participation and are maintaining cross-linked web sites to announce meetings, summarize progress, and provide access to data and reports. Go to <http://cayugalakemodelingproject.cornell.edu> and <http://www.dec.ny.gov/lands/88250.html>. The NYSDEC also maintains a list serve to notify interested parties when new information is released. To join this mailing list, follow the link at <https://public.govdelivery.com/accounts/NYSDEC/subscriber/new>.