

Update to the Integrated Sewage Management Plan for Chautauqua Lake

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Project Issues

Water quality issues in Chautauqua Lake

Increased nutrient loading (Phosphorus) in recent decades has led to presence of algal blooms and nuisance weed growth

- Algal blooms include toxic blue-green algae

Septic systems

- 1,200+ adjacent lakeside systems
- Many failing or antiquated

Publically owned treatment works (POTWs)

- Effluent discharges to Lake
- Require additional Phosphorus removal

O'Brien & Gere developed a **comprehensive wastewater management plan** to prioritize improvements providing the most benefit to the Lake



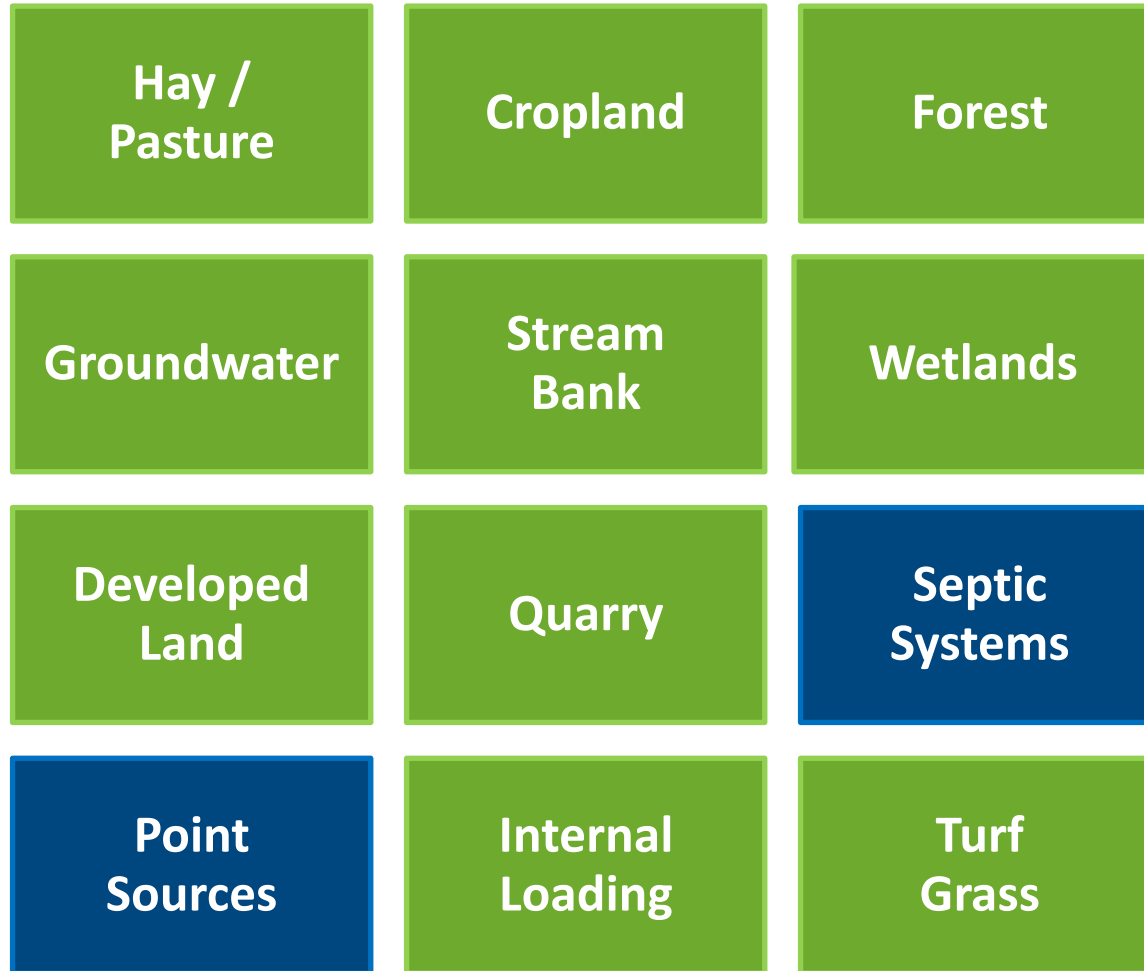
Total Maximum Daily Load (TMDL)

- States develop TMDL and submit to U.S. Environmental Protection Agency (EPA) for approval
- Calculation of maximum amount of pollutant a waterbody can receive and still meet water quality standards
- Chautauqua Lake TMDL developed in February 2012
- Developed to determine mean annual Phosphorus loading to Lake
- Defines extent to which load must be reduced to meet water quality target
- Provides a reduction goal for future



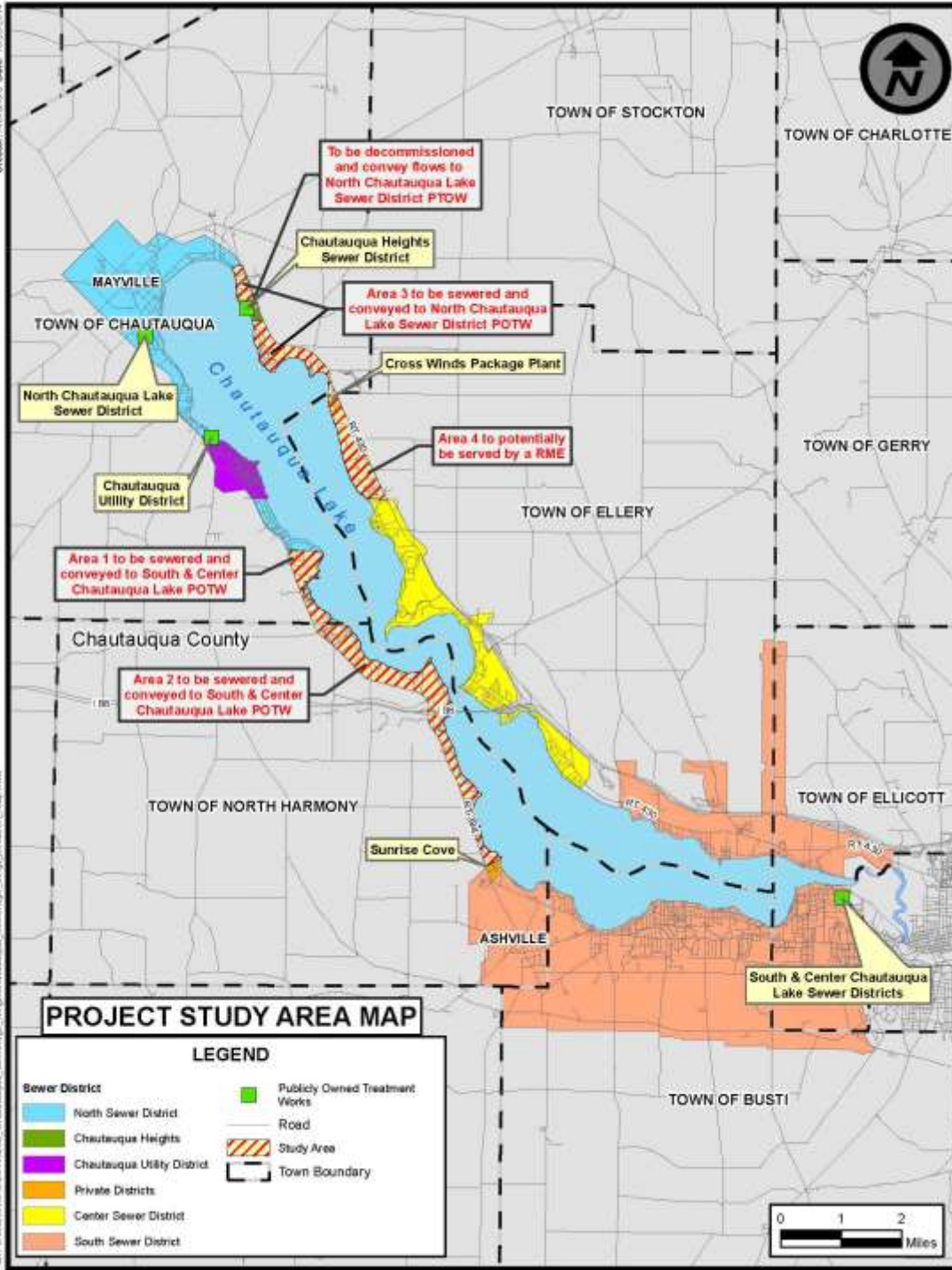
TMDL for Chautauqua Lake

Sources of Phosphorus Loading to Chautauqua Lake



Integrated Sewage Management Plan for Chautauqua Lake

- Completed by O'Brien & Gere – October 2014
- Evaluated 12 alternatives
- Plan recommended:
 - ▶ Public outreach for septic system maintenance
 - ▶ Create a Responsible Management Entity (RME)
 - ▶ Upgrade the 3 POTWs
 - › Decommission the Chautauqua Heights Sewer District
 - ▶ Reduce Inflow and Infiltration in the existing collection systems
 - ▶ Sewer the northeast portion of the Lake and convey flows to NCLSD
 - › Further evaluate segments to determine if RME would be appropriate
 - ▶ Where appropriate, eliminate private commercial systems
 - ▶ Sewer the west portion of the Lake and convey flows to SCCLSD
 - ▶ Sewer the Hamlet of Ashville and convey flows to SCCLSD



North Chautauqua Lake Sewer District (NCLSD)

- Evaluated options to extend public sewers along the north east side of the Lake
 - ▶ From the existing NCLSD to Midway Park
 - ▶ Includes collection of flows from Chautauqua Heights Sewer District
 - ▶ Includes collection systems adjacent to Institute
- Developed an engineering report with cost estimates
- Estimated project cost of \$31.0 million dollars
- Serves approximately 500 additional parcels initially
- Public funding required to keep user fees at sustainable levels



South & Center Chautauqua Lake Sewer Districts (SCCLSD)

- Evaluated options to extend public sewers along the west side of Chautauqua Lake
 - ▶ From the existing SCCLSD to Prendergast Point
 - ▶ Includes collection flows from Ashville
- Developed an engineering report with cost estimates
- Estimated cost of \$41.8 million dollars to implement (2018 dollars)
- Serves approximately 770 parcels initially
- Public funding required to keep user fees at sustainable levels



How can we make this affordable?

Grants applied for:

- Water Quality Improvement Project Program
- Empire State Development
- NYS Water Grants Program

Identified Funding:

- NYSEFC Intended Use Plan
- Hardship funding - \$18 million interest free loan
- Low interest loans

Questions?



Thank you!

