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Tioughnioga Lake 9 Element Watershed Management Plan

PUBLIC MEETING #1 November 10, 2022

Zoom Features Overview

Barton & Loguidice

🔊 Zoom 📄 Leave

The chat function has been turned off

Please use the Q&A button to submit questions

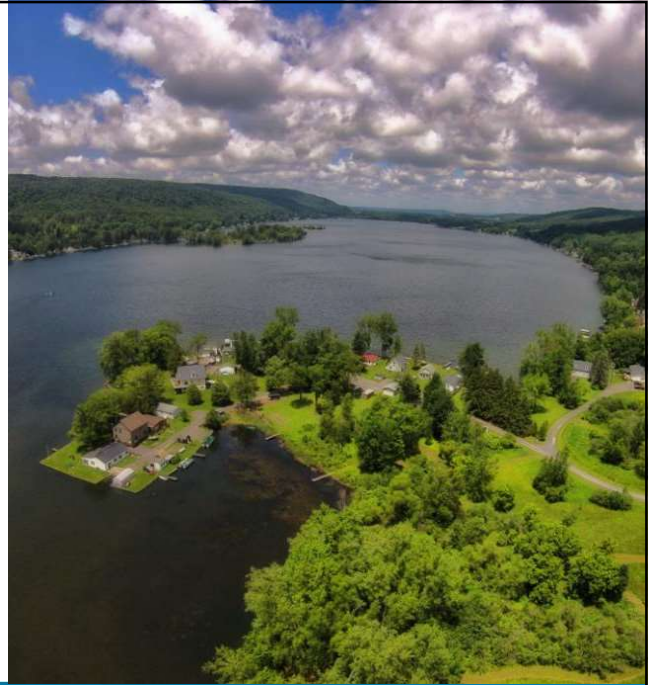
👋 Raise Hand ~~💬 Chat~~ 🗨️ Q&A ⋮ More

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Agenda

- I. Project Team Introductions
- II. Nine Element Watershed Management Plan Overview
- III. Existing Plans/Resources
- IV. Public Participation
- V. Project Schedule



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Project Team Introductions

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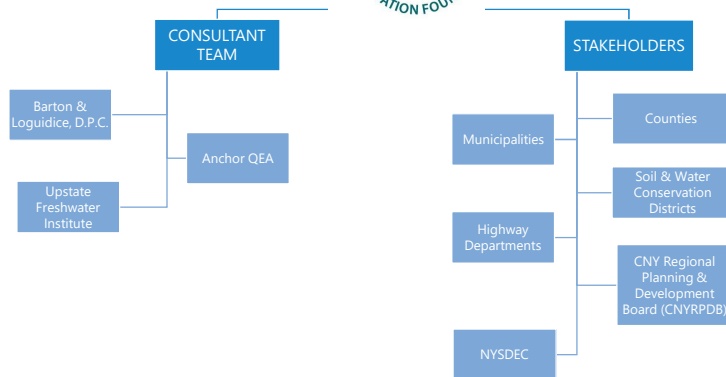
Project Team Introductions



- Barton & Loguidice, D.P.C.
- Anchor QEA
- Upstate Freshwater Institute
- Stake Holders



Project Team



Existing Plans/Resources

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DeRuyter Lake Subwatershed Stormwater Study Report
FINAL

This report was prepared with funding provided by the Tioughnioga Lake Preservation Foundation, a not-for-profit 501.c.3 environmental corporation.

Onondaga & Madison Counties, New York

Prepared for
Tioughnioga Lake Preservation Foundation
P.O. Box 476
DeRuyter, New York

July 2019



The State of DeRuyter Reservoir, Madison County,
NY and a Plan for the
Management of DeRuyter Reservoir

Leah Gorman



Photo credit: Tioughnioga Lake Association

Occasional Paper No. 59
State University of New York
College at Onontia

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9E Plan Overview

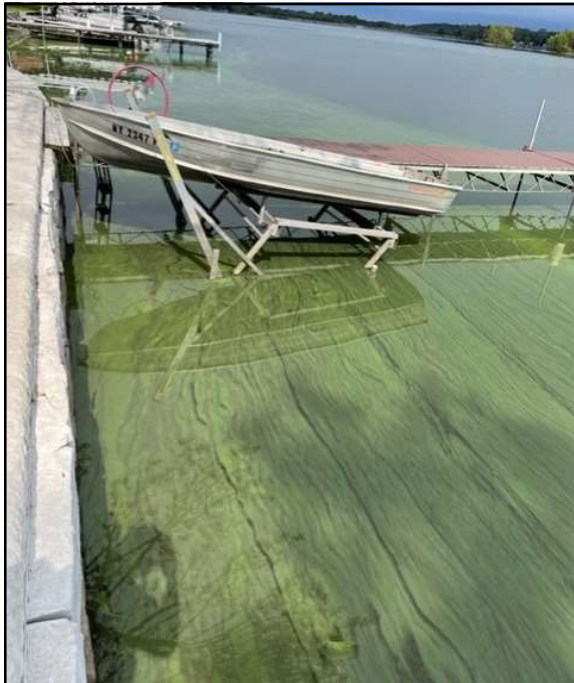
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Watershed Management Planning Framework

1. Document existing conditions of the natural and built environment
2. Evaluate trends and probable scenarios
3. Explore the community vision of a desired future
4. Outline a path to achieve the vision: goals, strategies, action agenda, and priorities

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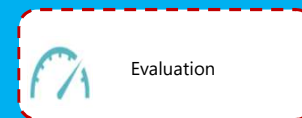
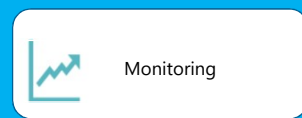
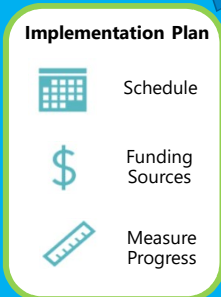
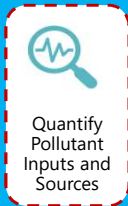


Nine Element Watershed Management Plans

- Actively **engage** the public to capture local knowledge and priorities
- Use best available **science**
- Develop **quantitative tools** to predict how land use affects water quality
- **Set priorities to guide investment** in protection & remediation
- Commit to **adaptive management**- build and measure

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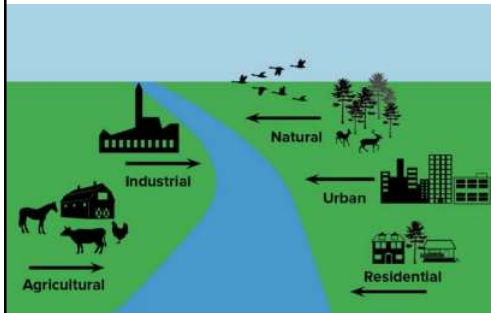
The Nine Elements



= 9E elements where water quality models can be used to support evaluations

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Why Develop a 9E Plan?



Protect and/or restore a waterbody, especially when nonpoint sources of pollution are the primary threat in the watershed



Watershed based management approach



Clear direction for future development



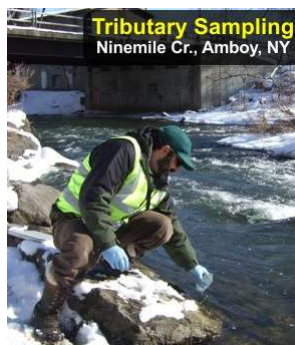
Develop long-term partnerships



More funding opportunities

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Upstate Freshwater Institute



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Upstate Freshwater Institute

Monitoring Report for DeRuyter Reservoir Tributaries, 2020



Prepared for:
Toughnioga Lake Preservation Foundation
P.O. Box 476
DeRuyter, NY 13052

Prepared by:
Upstate Freshwater Institute
224 Miller Park Drive
Syracuse, NY 13206



April 2021

DeRuyter Reservoir Tributaries Monitoring Report, 2021



Prepared for:
Toughnioga Lake Preservation Foundation
P.O. Box 476
DeRuyter, NY 13052

Prepared by:
Upstate Freshwater Institute
224 Miller Park Drive
Syracuse, NY 13206



March 2022

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Citizens Statewide Lake Assessment Program (CSLAP)



DeRuyter Reservoir	Toughnioga Lake Association or DeRuyter Lake Association	Town of DeRuyter	Madison County
	Lake Characteristics	Surface area (ac/ha)	557 / 225
		Max depth (ft/m)	52 / 16
		Mean depth (ft/m)	24 / 7
		Retention time (years)	3.3
Watershed Characteristics	Watershed area (ac/ha)	2498/1011	
	Watershed / Lake ratio	4	
	Lake & wetlands %	19%	
	Agricultural %	1%	
CSLAP Participation	Forest, shrub, grasses %	80%	
	Residential	<1%	
	Urban	0%	
Trophic state	Years	1988-2010, 2012-2019	
	Volunteers	Kathy Sherlock and Jim Additt	
Mesotrophic	HABs Susceptibility Frequent blooms, Moderate Susceptibility	Invasive Vulnerability Invasives present, High Vulnerability	PWL Assessment Stressed

- Volunteer lake monitoring and education program
- Collaboratively managed by NYSDEC and Lake Associations
- Monitors existing water quality of lakes, ponds and reservoirs
- Monitors for Harmful Algae Blooms

Open Water Indicators	2018 Sampling Results								Seasonal change	Long Term Avg	Long Term Trend?	18 Diff from Avg
	6/10	6/27	7/14	8/1	8/12	8/29	9/16	9/30				
Clarity (m)	5.0	5.1	5.5	4.2	4.5	2.7	0.9	3.8	3.5	↑↑	no	
Surface TP (mg/l)	0.011	0.010	0.014	0.012	0.009	0.018	0.016	0.011	0.012	no	no	
Surface TDP (mg/l)	0.002	0.006	0.014	0.006	0.006	0.006	0.004	0.006	1.653	no	no	
Deep TP (mg/l)	0.009	0.009	0.018	0.012	0.011	0.015	0.017	0.014	0.028	no	no	
Deep/Surface TP	1	1	1	1	1	1	1	1	2	no	no	
TN (mg/l)	0.371	0.430	0.310	0.457	0.322	0.407	0.382	0.343	0.376	no	no	
TDN (mg/l)	0.463	0.451	0.368	0.382	0.327	0.353	0.337	0.385				
N:P Ratio	35	45	22	39	34	22	23	31	26			
Deep/Surface NH4	1	1	2	3	1	4	6	1	3			
Chl-a (ug/l)	1.4	0.4	1.3	3.6	1.0	11.4	12.3	2.2	5.0	↓	no	
pH	8.1	7.4	7.6	7.7	6.8	7.1	7.5	7.1	7.8	↓↓	no	
Cond (umho/cm)	193	205	195	141	126	130	147	150	166	↓	no	
Upper Temp (degC)	22	21	28	26	27	27	25	20	22	↑↑	no	
Deep Temp (degC)	20	21	24	25	25	25	23	18	20	↑↑	no	
FP BG Chl-a (ug/l)	0	0	0	0	0	11	10	1	1	no	↑	
HABs reported?	no	no	no	no	no	no	no	shore				

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Public Participation

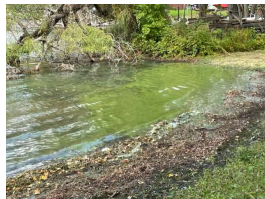
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Public Participation Resources



- Interactive Mapper - Identify problem areas or potential opportunities for watershed improvement
- Community Survey – Identify stakeholder priorities and perceptions of the watershed

- [TLPF Website](#)
- [Interactive Mapper](#)
- [Community Survey](#)



<https://www.foundationatderuyterlake.org/watershedmanagement>

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Project Schedule & Next Steps

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**Toughnioga Lake 9 Element Plan
Project Schedule**

Task	Anticipated Completion
Project Team Meeting with Regulators/Stakeholders	October 2022
Public Engagement Website Information	November 3, 2022
Public Engagement Survey	November 8, 2022
Public Engagement Interactive Mapper	November 8, 2022
Public Information Meeting No. 1	November 10, 2022
Plan Preparer Qualifications	November 2022
Quality Assurance Project Plans	November 2022
Data Usability Assessment Report	January 2023
Pollutant Load Evaluation	January 2023
Pollutant Reduction Goals	February 2023
Development of Monitoring Criteria	February 2023
Development of Tracking & Reporting System	February 2023
Development of Monitoring & Reporting Program	February 2023
Evaluation of Climate Impacts	March 2023

**Toughnioga Lake 9 Element Plan
Project Schedule**

Task	Anticipated Completion
Draft 9E Plan	March 2023
Public Information Meeting No. 2	April 2023
Stakeholder/Regulator Review of Draft 9E Plan	April - May 2023
Retrofit Project Cost Estimates	April 2023
Evaluation of Technical Assistance Sources	April 2023
Development of Public Education & Outreach Program	April 2023
Evaluation of Funding Opportunities	May 2023
Project Implementation/Milestone Schedule	May 2023
Final 9E Plan	July 2023
Public Information Meeting No. 3	August 2023



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foundationatderuyterlake.org

Let's Keep DeRuyter Lake Beautiful

Project Website (survey and interactive mapper)

<https://www.foundationatderuyterlake.org/watershedmanagement>

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Contact Information

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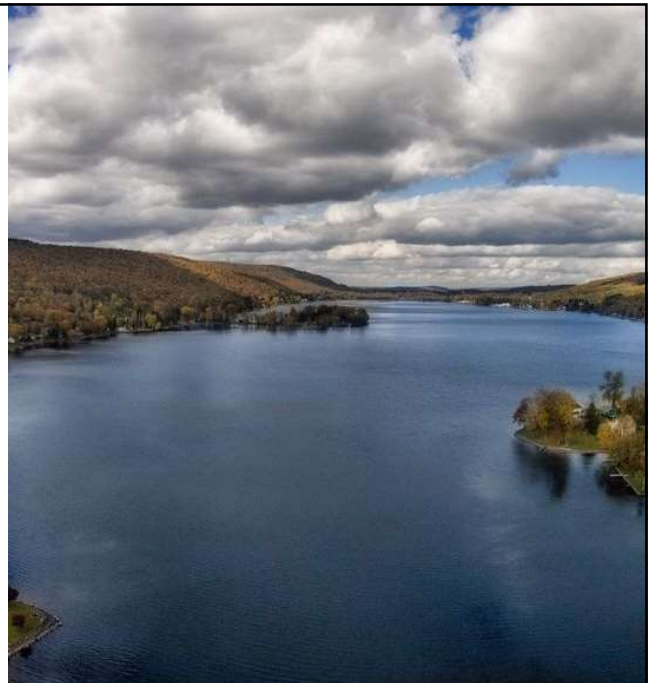
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Project Website (survey and interactive mapper)

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Questions & Open Discussion?



[Project Website \(survey and interactive mapper\)](https://www.foundationatderuyterlake.org/watershedmanagement)

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