

OTISCO LAKE

WATERSHED MANAGEMENT PLAN RECOMMENDATIONS

Note: The 2014 Otisco Lake Watershed Management Plan document that is currently available to the "Save Otisco Lake" committee does not contain the "Recommendations" section (Chapter 5) as indicated in the Plan's Table of Contents. Given the scope of this plan and the significance of the related recommendations to the protection and preservation of Otisco Lake public distribution of the Plan without the actual recommendations limits the value of the document for use by stakeholders. Pending receipt of the completed final version of the Plan with all sections present the "The Save Otisco Lake" committee, with the assistance of stakeholders who participated in the preparation of this Plan, was able to located a separate copy of recommendation pages for posting. The complete Plan will be reposted as a single document when available.

RECOMMENDATIONS

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9/13/23

I. WATERSHED MANAGEMENT AND REGULATORY

Although a major player in water supply and watershed protection as the purveyor of the Otisco Lake drinking water supply, OCWA can not be expected to have sole responsibility for lake and watershed protection initiatives. Partnerships with watershed towns, watershed residents Onondaga County government entities, and lake users are also needed. In drinking water supply watersheds such as Otisco Lake, the NY SPDES general permit covering construction activity is not applicable for land disturbances of one acre or more where the slope is greater than 25% and individual permits must be obtained.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Create a watershed consortium or similar mechanism to identify, define and address lake and watershed issues of mutual concern to residents, municipalities, agricultural and commercial business, water suppliers, and other stakeholder groups. Such a group would also be a mechanism for information exchange, public education, and to solicit funding opportunities on lake and watershed related topics.	Municipalities, CCE, Finger Lake Institute, OLPA	Minimal	Local, Private	Long term
Review and amend zoning and/or land use regulations to improve consistency among townships in near lake areas. Develop generic environmental guidelines for land development.	Municipalities	Low	Local	Short term
Provide copies of required Storm-water Pollution Prevention Control Plans-(SWPPPs) to OCWA.	Municipalities, NYSDEC, OCWA	Minimal	Local, State	Short term

II. IN-LAKE RECOMMENDATIONS

OCWA monitors lake water quality as an operating requirement for the water treatment plant. Sampling and monitoring efforts have provided a basic understanding of present and past conditions in Otisco Lake. Such programs should continue in order to assess lake conditions and potential changes over time. Nutrient loading from internal or external sources need to be controlled to prevent future water quality degradation. Rooted plant (macrophytes) overabundance in the shallow waters (littoral zone) impacts lake aesthetics and recreational opportunities.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Monitor in-lake parameters (nutrients, dissolved oxygen, temperature profiling, and other trophic level indicators) at appropriate time intervals. Ensure continued inclusion of Otisco Lake in the Finger Lake Institute's Finger Lakes sampling program. Re-establish remote data collection site(s).	Consultant/ NYSDEC/OCWA	Moderate	Local, State	Long term
Quantify phosphorus release and oxygen demand from deepwater (hypolimnetic) sediments.	Consultant	Moderate	Local, State	Short term
Develop and implement a comprehensive aquatic vegetation management program include, but not limited to, the following: aquatic plant harvesting, suction dredging, and the collection of accumulated aquatic vegetation along shorelines.	Consultant/ Contractor/ OLPA	Moderate	Local, State	Long-term
Assess the feasibility of winter lake draw-down as an aquatic vegetation control option.	Consultant/OCWA	Moderate	Local	Short term
Assess the results of the benthic matting project(s) and the feasibility of its expanded use as part of the aquatic plant management program.	OLPA/Consultant/ NYSDEC	Minimal	Local, State	Short term
Explore the feasibility of bottom sediment dredging in selected areas of the lake including tributary mouths, the area north of the Narrows, Turtle Bay and Lader Point.	Consultant, NYSDEC, OCWA , OLPA	Low	Local, State	Long term
Provide additional lake access while addressing the needs of user groups including, the fishing public, kayak and other car top boaters, marina operators, and lakeshore residents.	OLPA, NYSDEC, Onondaga County, Municipalities, OCWA, County Fisheries Adv.Bd.	High	Local, State	Short term
Continue enforcement of existing boat and personal water craft laws.	Onondaga County Sherriff's Dept.	Moderate	Local	Long term

III. LAND USE

While a limited amount of development has taken place in the watershed in recent years, there is no guarantee such a trend will continue. An opportunity exists to guide future land use in the Otisco Lake watershed. Most obvious is the need for a strategy to review large-scale proposed projects of lake and watershed wide interest or potential impact.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME FOR NEEDED COMPLETION
Develop a watershed open space plan in conjunction with regional and/or countywide plans of a similar nature, such as the Onondaga County Sustainability Plan.	Municipalities/ SOCPA/ CNYRPDB/ Consultant	Moderate	Local	Short term
Complete a watershed biodiversity assessment to characterize the current status and protection needs of the Otisco Lake watershed's biological resources. The biodiversity assessment should include valuation of environmental services within the watershed to support discussions of land uses.	Municipalities/ SOCPA/ CNYRPDB/ Consultant	Moderate	Local, State, Private	Short term
Develop Environmental Reserve Character Areas using information from the watershed open space plan and biodiversity assessment (see above). These areas considered to be of extreme significance to the watershed's environmental well-being and natural beauty, need to be identified and protected.	Municipalities/ SOCPA/ CNYRPDB/ Consultant	Moderate	Local, State, Private	Short term

IV. AGRICULTURE

Agriculture is a predominant land use and economic activity in the Otisco Lake watershed. However, the potential exists for excessive amounts of nutrients, sediments, pathogens and other pollutants to enter the lake. Whole farm plans have been developed and implemented on most watershed farms, but there have been changes in farming operations and some BMPs are beyond their operational life span. Implementation of new BMPs and updating of previous practices are needed for water quality protection.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Implement the recommended changes identified in the Tier V review of watershed whole farms plans.	SWCD	Moderate	State, Private	Long term
Encourage and assist watershed farms to use winter cover crops to prevent soil and nutrient loss due to runoff.	SWCD	Low	State, Private,	Long term
Hold a "Day on the Farm" program to promote a better understanding of agricultural practices among the non-agricultural communities in the watershed.	SWCD	Minimal	Private	Short term
Re-establish an Otisco Lake Watershed Agricultural Advisory Committee as a means of communication among and with agricultural operators in the watershed.	SWCD/CCE	Minimal	Local	Short term
Develop and implement programs to address waste removal from farms such as waste tires, pesticides, waste oils and agricultural plastics. Removal of horse manure from small operators in the watershed should also be addressed.	SWCD	Low	Local, State, Private	Short term
Partner with watershed farms to monitor event-driven runoff patterns in priority farm fields	SWCD	Low	Local	Long term
Investigate potential incentives to promote organic farming in the watershed.	SWCD	Minimal	Local, State	Short term

V. STORMWATER MANAGEMENT

Nonpoint sources of sediments, pesticides, fertilizer, and other contaminants not derived from agricultural sources enter Otisco Lake directly from stormwater runoff or via tributary inflows.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Inventory roadside ditches, culvert outlet areas and other public infrastructure locations in need of repair and then remediate to eliminate sources of sedimentation and other contaminants.	Municipalities/ County DOT, SWCD/OLPA	High	Local	Long term
Provide training on erosion control practices (e.g., revegetation, hydroseeding, water bars, diversion ditches) for municipal highway departments operating in the watershed.	SWCD/CCE/ CNYRPDB	Minimal	Local/State	Short term
Implement Best Management Practices (BMPs) such as hydroseeding and other approved methods in conjunction with road construction and maintenance projects.	Municipalities/ County DOT/ SWCD	Moderate	Local	Long term
Encourage the use of green infrastructure practices for all new residential construction and, where practicable, at redevelopment (retrofit) projects. Examples: use of rain gardens and rain barrels, bioretention areas, vegetative swales, porous pavement/pavers, natural feature preservation and stream buffer establishment or restoration.	Municipalities/ CCE/ SWCD/ OLPA	Minimal	Local	Long term

VI. STREAMS/SHORELINE

Before large scale remediation efforts can be implemented, better quantification and site specific locations of watershed inputs are needed. Tributary derived sediments have resulted in siltation of nearshore areas of the lake and some site-specific sources such as sediment derived from erosion in the Rice Brook subwatershed are known. Though not part of a regulated MS4, Otisco Lake is part of the Onondaga Lake watershed and may be subject to phosphorus allocations to meet TMDL requirements.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Conduct streambank erosion surveys on the major tributaries in the Otisco Lake watershed to identify sources of sediment to the lake and to prioritize sites for stabilization / remediation.	SWCD	Low	State	Short term
Refer any areas of streambank erosion to the SWCD for design assistance. Refer sites associated with roadway crossing to the respective highway department(s).	Municipalities/ County DOT/ SWCD	High	Local, State, Federal	Long term
Evaluate the feasibility of delta sediment build-up removal thorough dredging; especially at Amber Brook, Van Benthuyzen Brook and Rice Brook.	Town of Otisco/ OCWA/SWCD	Low	Local	Short term
Conduct comprehensive tributary monitoring focusing on loading data for nutrients and sediments on a recurring time interval (three years). Use of results would include: numerical model development, BMP assessments, and future watershed projects. Other constituent analyses may include pathogens, pesticides and baseline inorganic parameters as determined.	USGS	Very High	Local, State, Federal	Long term
Conduct a site specific groundwater sampling program to assess potential impact of nutrient input from nearshore septic systems	USGS/OCWA/ OLPA	Moderate	Local, State, Federal, Private	Short term

VII. INVASIVE SPECIES MANAGEMENT

Zebra mussels and Eurasian watermilfoil are well-established invasive species in Otisco Lake. Asian clams have recently been identified in the lake. Early detection and hand-pulling events conducted by the Otisco Lake Preservation Association have nearly eliminated water chestnut. The most significant aquatic invasive species threat is Hydrilla. Emerald ash borer (EAB) is an imminent threat to ash trees in the watershed. Giant Hogweed poses a threat to the landscape.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Establish/expand a lake steward program to operate at boat public access points to help prevent invasive species introductions.	CCE/OLPA	Minimal	Local, State	Long term
Continue efforts to eradicate remnant water chestnut population by annual hand-pulling and surveillance.	OLPA/CCE	Minimal	Local, Private	Long term
Create or re-establish a lake "weed watch" program for shoreline residents as an early detection and removal of invasive species. <i>Hydrilla</i> should be of highest priority.	OLPA/CCE.	Minimal	Local, State, Private	Long-term
Monitor the impact of <i>Corbicula</i> (Asian clam) on the lake's water quality and ecology,	Consultant/OCWA/NYSDEC	Minimal	Local, State	Long term
Implement public education programs pertaining to emerald ash borer identification, monitoring and management for watershed residents.	CCE/ SWCD/ OLPA/ Municipalities	Minimal	Local, State, Private	Long term
Provide training to all highway personnel in the watershed on the identification of invasive species with the focus on Giant Hogweed and damaged ash trees. Establish an early detection and eradication program for targeted invasive plants. Include a reporting and removal protocol for EAB impacted ash trees.	CCE/ Municipalities/County DOT	Minimal	Local	Long term

VIII. STEWARDSHIP

In addition to being a prime public drinking water supply source, Otisco Lake provides numerous recreational opportunities. Issues of concern revolve around dense aquatic weed growth interfering with boating and public access to the lake.

RECOMMENDATION	RECOMMENDED LEAD PARTIES	FUNDING LEVEL REQUIRED	POTENTIAL FUNDING SOURCE(S)	TIME FRAME NEEDED FOR COMPLETION
Develop a public education program to encourage planting and protection of stream and lake shore vegetation including establishing buffers, discourage the use of pesticides and fertilizer. Encourage homeowners to install shoreline erosion control measures and other lake-friendly landscaping techniques.	CCE/OLPA	Minimal	Local	Long term
Provide educational materials including the encouraging of water quality testing to watershed private well owners.	County Health, CCE, OLPA	Minimal	Local	Short term
Develop or continue a public education effort emphasizing the adverse impacts associated with boat speed in areas of aquatic vegetation, preventing the introduction of invasive species and existing boat and personal watercraft laws.	CCE	Minimal	Local	Long term
Enroll Otisco Lake in the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP). Implement tributary sampling through Project Watershed or similar citizen science effort.	OLPA, NYSDEC, Izaak Walton League, American Chemical Society Local Chapter	Minimal	Local, State, Private	Long term
Encourage participation in OCRRA's household hazardous waste drop-off program.	OLPA/CCE	Minimal	Local, Private	Short term
Explore and participate, if found feasible, in the "Adopt-a-Highway Program" within the Otisco Lake watershed.	OLPA/ NYSDOT	Minimal	State, Private	Short term
Obtain grant funding for these and other identified stewardship, conservation protection and remediation initiatives.	Municipalities, OLPA/OCWA/ SOCPA, OCDOH/ SWCD/ CCE/ CNYRPDB	Moderate	Local, State, Federal, Private	Long term
Evaluate implementation progress of the Watershed Plan and update recommendations every five years	Municipalities	Minimal	Local	Long term

List of Acronyms Used in the Recommendations

CNYRPDB Central New York Regional Planning and Development Board

CCE Cornell Cooperative Extension of Onondaga County

County Fisheries Advisory Board Onondaga County Fisheries Advisory Board

NYSDEC New York State Department of Environmental Conservation

OCDOH Onondaga County Health Department

OCDOT Onondaga County Department of Transportation

OCRRA Onondaga County Resource Recovery Agency

OCWA Onondaga County Water Authority

OLPA Otisco Lake Preservation Association

SOCPA Syracuse Onondaga County Planning Agency

SWCD Onondaga County Soil and Water Conservation District

USGS United States Geological Survey