

Skaneateles Lake.

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Skaneateles Lake Watershed Program Annual Report 2021-2022  
City of Syracuse Department of Water  
April 10, 2022

Cover: Courtesy of William Hecht

Prepared By:

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Public Health Sanitarian

Department of Water

Skaneateles Lake Watershed Program  
Annual Report 2020-2021

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# Table of Contents

1.	AGRICULTURAL PROGRAM ANNUAL REPORT .....	1
1.1	Overview .....	1
1.2	Conservation Reserve Enhancement Program .....	2
2.	LAND PROTECTION PROGRAM FINAL DOCUMENTATION .....	3
3.	PUBLIC EDUCATION PROGRAM ANNUAL REPORT .....	3
3.1	Public Education .....	3
3.2	Water Department Staff Participation and Training .....	5
4.	OTHER MECHANISMS OF WATER QUALITY PROTECTION.....	6
4.1	Cooperative Agreements .....	6
4.2	Data Gathering and Management Program.....	6
4.3	Watershed Rules and Regulations .....	6
5.	COORDINATION WITH GOVERNMENT AGENCIES, NONPROFITS, AND MUNICIPALITIES.....	7
6.	STAFFING AND FUNDING .....	10
6.1	Current Staffing Levels .....	10
6.2	Watershed Program Funding.....	11
7.	LIST OF ACRONYMS.....	12

## Appendices

Appendix A – Maps

Appendix B - Skaneateles Lake Watershed Agricultural Program Progress Report

Appendix C - CCE Water Quality Education Program for the Skaneateles Lake Watershed



# 1. AGRICULTURAL PROGRAM ANNUAL REPORT

## 1.1 Overview

The City of Syracuse continued to contract with the Onondaga County Soil and Water Conservation District for the Skaneateles Lake Watershed Agricultural Program (SLWAP) in FY 2021-2022. This year forty-four (44) watershed farms meet the Agriculture and Markets' definition of a "farm." Thirty-eight (38) of these are enrolled in the program and six (6) farms do not wish to participate. Three (3) of the non-participating farms are self-implementing Best Management Practices from Whole Farm Plans developed by SLWAP. City watershed inspectors monitor one additional farm for compliance with Watershed Rules and Regulations and Environmental Conservation Law. The overall participation rate is eighty-six (86%).

The figures in this report represent the current number of Whole Farm Plans applied to active agricultural land in the watershed. Twenty-one (21) farms are no longer in active production or do not meet the definition of a farm and have been eliminated from the status reports, resulting in an annual decline in the number of enrolled farms. For the most part, the farmland has been absorbed by other active farms. Progress has continued with Whole Farm Plans completed for thirty-eight (38) farms, equaling 78.47 farm equivalents (one farm equivalent being 400 acres), and implementation is complete on thirty-one (31) farms, equaling 69.03 farm equivalents. Approximately ninety-one percent (91%) of the farmland in the watershed is enrolled in the program.

Three barriers to pathogen movement, including exclusion from watercourses, are established on eighteen (18) of the twenty-two (22) active enrolled livestock farms in the watershed. Livestock farms in the 6-mile zone were planned and implemented by June 30, 2004, in accordance with the NYS DOH requirement. Soil erosion and nitrogen and phosphorous runoff have been reduced by considerable amounts watershed-wide, based on standard estimating techniques (See Appendix B).

SLWAP staff conducted comprehensive reviews of all implemented Whole Farm Plans from January to March 2022. Farm operators received a letter in advance detailing which data to have prepared for the review, streamlining the process. Farm survey data collected during each review is presented in the "Skaneateles Lake and Watershed 2020 Annual Report," City of Syracuse Department of Water – Water Quality Management, April 2022, submitted separately to the NYSDOH.

A rental program for soil conservation tools was instituted in 2009. The City provided SLWAP with funds to purchase a John Deere conservation planter, a Great Plains no-till drill, and an AerWay minimal tillage system. The first two of these tools can plant corn and beans and apply fertilizer, seed buffer strips and filtration areas, reseed pasture and improve wildlife habitat areas. The third, the AerWay, allows for injecting liquid manure directly into the soil up to eight inches deep, reducing volatilization and the likelihood of manure-laden storm runoff leaving a field after a manure treatment. The AerWay was sold in the fall of 2012 as a result of exceedingly limited rental. In the summer of 2017, SLWAP sold the 6-Row John Deere 1750 Conservation Planter and the 10' Great Plains 1006 No-Till Drill and purchased a new 12 foot Esch 5512 No-Till Drill. The drill can plant small grains, cover crops, small seeds, soybeans, and buffer strips. In 2021 the drill was utilized on a total of 355 acres of cropland between the watershed and Onondaga County. Since 2009, four (4) farms have purchased conservation implements. Two (2) farms have purchased the 30-foot AerWay manure incorporation tool, one (1) farm purchased a 30-foot Great Plains drill and one (1) farm purchased a 12-row planter that utilizes some of the conservation technology.

SLWAP is implementing Phase II of its program as outlined in the “Task Force Recommendations for the Continuation of the Skaneateles Lake Watershed Agricultural Program,” which was accepted by Mayor Matthew J. Driscoll in January 2005. This document outlines Phase II of the Skaneateles Lake Watershed Agricultural Program and gives recommendations for procedures such as Whole Farm Plan revisions, BMP repairs, farm expansions, planning emphasis, and continuation of financial incentives.

As in other areas of New York State, every year a portion of watershed farmland converts to residential lots to finance family needs or is sold outright for development. In 2021, of the ten (10) new housing starts in the watershed, none were on active farmland. Fifteen (15) permits were issued for major additions and renovations on the lake and another eleven (11) were issued for non-lake front properties. Demand for farmland continues to be high, as some farms expand to remain profitable or increase their land base to spread manure at state-approved rates. In this watershed, many smaller farms are purchased by larger and/or new operations at the retirement of lifelong farmers. To demonstrate this point, sixty-two (62) operations met the Agriculture & Markets definition of a farm in FY 1995-96. This year only forty-four (44) operations meet that definition. Consolidation or change of operations by new owners necessitates revisions to (or sometimes brand-new) Whole Farm Plans. SLWAP is addressing these changes as they arise. Priority is given to changes that have a high probability of impact to water quality near the City’s water intakes.

The Water Department’s Watershed Quality Coordinator is the current City representative on the Skaneateles Lake Watershed Agricultural Program Review Committee (WAPRC). The Watershed Quality Coordinator also coordinates efforts between SLWAP and the monitoring of conservation easements on SLWAP participating farms. SLWAP Policy #18 has allowed for permanent integration of easement restrictions on agricultural practices and buffers into the SLWAP Whole Farm Plans. The integration is complete.

## **1.2 Conservation Reserve Enhancement Program**

The USDA Syracuse, New York Conservation Reserve Enhancement Program (CREP, a joint City/SLWAP/USDA project) has resulted in a program total of 148.4 acres planned and 146.5 acres of sensitive areas implemented and protected around Skaneateles Lake. No additional acres were implemented in 2021. SLWAP coordinates the program in the Skaneateles Lake Watershed and the federal government makes short-term rental payments as an incentive to keep the sensitive lands out of production for ten to fifteen years. The City uses its contract with SLWAP to promote interest for CREP and provide technical services and the local cost share. In return, USDA provides additional funds to increase the standard per-acre rental rate for removing lands from agriculture. NRCS District Conservationists plan and implement projects, and USDA Farm Service Agency employees handle the paperwork and rental payments.

This program supplements the City’s permanent land conservation efforts in the watershed. The federal contract with the City calls for a combined federal and City obligation of approximately \$900,000 over 15 years, with \$650,000 coming from USDA and approximately \$250,000 from the City of Syracuse. With the reauthorization of the Farm Bill in 2008, the City contract was extended by Ordinance #146-2008 for an indefinite period. Future funding will be contained in the 5-year federal Farm Bills.

A proposed budget for SLWAP for FY 2022-23 has been received and contract renewal is expected on July 1, 2022. For additional program details, see the SLWAP Annual Progress Report—April 2021 - March 2022, in Appendix C. See progress maps for SLWAP and CREP at the end of this section.

## 2. LAND PROTECTION PROGRAM FINAL DOCUMENTATION

The Land Protection Program requirements that appear in Section 5-1.30(c)(7)(j) of the Filtration Avoidance Conditions expired on June 30, 2008. The final of nine easements closed on 4/27/2009, and the NYSDEC Water Supply Permit for the program (DEC ID# 7-9907-00037/00001) expired on July 8, 2009. The final data on acquisitions and other conditions of item (j), above, appear in the “Skaneateles Lake Watershed Land Protection Program and the Skaneateles Lake Watershed Agricultural Program Annual Report for Fiscal Year 2009-10, April, 2010.” During 2012, a portion of the Withey conservation easement property was sold to another SLWAP program farmer, making eleven (11) owners of City of Syracuse conservation easement properties in the Skaneateles Lake Watershed.

## 3. PUBLIC EDUCATION PROGRAM ANNUAL REPORT

### 3.1 Public Education

The City continues to fund public education through contractual relationships with the Cornell Cooperative Extension of Onondaga County (CCE of Onondaga County) and the Onondaga County Soil and Water Conservation District, supplemented by the in-kind services of City staff to assist other agencies or groups in research or presentations. Below are activities or publications included in the contracts with CCE of Onondaga County and the OCSWCD for 2021 and 2022 that are within this report period. Previous years’ reports describe many other public education efforts. (See the SLWAP annual report, Appendix B and the CCE of Onondaga County annual report, Appendix C for details of those programs’ educational activities for FY21-22).

The CCE of Onondaga County continued to promote water quality education in the Skaneateles Lake Watershed under contract to the City. The City has renewed its contract with the CCE of Onondaga County for the calendar year 2022.

In 2021, the CCE of Onondaga County concentrated its education efforts on the following activities:

- Skaneateles Lake Watershed Website
- Non-point source pollution
- Landscaping for water quality
- Storm water management
- Invasive species management
- Stream basics
- Harmful algal blooms

Two hundred and thirty six (236) people attended virtual workshops and speaking events sponsored or supported by CCE of Onondaga County over the year.

### ***Press Articles***

Educators worked with various local media to promote the Skaneateles Lake Watershed Water Quality Education Program. CCE of Onondaga County contributed to six articles and videos that appeared in local publications in 2021.

### ***Annual Watershed Resident Newsletter***

In 2021 CCE of Onondaga published Summer and Winter editions of the Skaneateles Wave Review. The newsletters included information about the programs sponsored by the City in the watershed. Featured articles included the *New Skaneateles Lake Watershed Website*, *SUNY ESF Restoration Science Center* and the *Shotwell Brook Stormwater Attenuation Project*. (A copy is included at the end of the report before the Appendices.)

### ***Electronic Communications***

An electronic listserv was set up for the program in 2011. The e-mail list was generated from prior participants in CCE of Onondaga County educational activities and from government agency and non-profit e-mail contacts provided by the City of Syracuse Water Department. The Skaneateles Lake e-mail list includes over 700 residents, municipal officials, partners, and businesses.

### ***Miscellaneous Brochures***

The following brochures are still distributed at CCE of Onondaga County events: “How to Build a Rain Barrel: A step-by-step guide for building and installing a homemade rain barrel,” “Water Deflectors: Managing Surface Water and Reducing Erosion on Unpaved Roads,” “Catch the Rain—A Citizen’s Guide to Aquatic Plant Management,” “What Homeowners Need to Know About Emerald Ash Borer,” “Wasp Watcher: How to find the wasp that hunts Emerald Ash Borer.”

### ***Skaneateles Lake Watershed Website***

Through a collaborative effort of CCE of Onondaga, local municipalities, SLWAP and the City, the Skaneateles Lake Watershed Website [www.skanelakeinfo.org](http://www.skanelakeinfo.org) was completed and launched on July 1, 2020. The website features water quality data, information on harmful algal blooms, and links to agencies involved in the watershed. The website was viewed by a total of 9,888 visitors in 2021.

### ***SLWAP Newsletter***

The “Watershed Journal,” a publication of the Skaneateles Lake Watershed Agricultural Program, published approximately four times per year, is e-mailed and/or mailed to the agricultural community of the watershed, allied agencies, and farm businesses. A digital version is available to interested agencies and to those requesting it.

### ***SLWAP Annual Meeting***

The December meeting featured presentations on drain tile line sampling results and Bio-Reactor data from two local farms. Seven (7) watershed farms were in attendance, representing fifty percent (50%) of the tillable acres in the watershed.



## 3.2 Water Department Staff Participation and Training

Activities for the Water Quality Management Division staff are as follows:

### *Participation*

The Watershed Quality Coordinator is a member of the Watershed Agricultural Program Review Committee, representing the Syracuse Department of Water

### **3.2.1 Training & Conferences**

#### ***NYS Conservation District Employees' Association, Inc. 2021 Water Quality Symposium – March 10, 2021***

The Symposium was attended by the City's Watershed Quality Coordinator. *Certificates of Completion* were awarded for the successful completion of the Hydroseeding Forum and Forested Riparian Corridors: Ecology, Research, and Lessons Learned. A Coordinated Approach and State Funding.

#### ***Water Research Foundation Technology Scan Webcast Series: Stormwater and Algae Management – May 11, 2021***

This webcast focused on innovative water technologies related to stormwater and algae management. Products and systems featured during the presentations included a detention basin retrofit device that improves stormwater quality by prolonging storage times and a molecular test that detects and quantifies the presence of toxin-producing cyanobacteria. The webcast was attended by the Watershed Quality Coordinator.

#### ***Benefits Behind the Bubbles: Aeration + NEW Technology – May 12, 2021***

The Watershed Quality Coordinator attended the webinar sponsored by SOLITUDE Lake Management. NEW oxygenation saturation technology and the benefits of traditional aeration were discussed.

#### ***Drinking Water Source Water Protection and The Role of Watershed Rules and Regulations – June 9, 2021***

The Watershed Quality Coordinator attended the webinar sponsored by the Capital District Regional Planning Commission. The event provided an overview of a multi-year stakeholder process to draft new Watershed Rules and Regulations for Owasco Lake.

#### ***Performance Based Sediment Control Products – October 22, 2021***

The Watershed Quality Coordinator attended the presentation sponsored by Environmental Construction Solutions and ECS Learn. The webinar focused on products that have been uniquely designed to meet specific jobsite requirements in sediment control management. Evolving technology that has created more efficient products was discussed.

## 4. OTHER MECHANISMS OF WATER QUALITY PROTECTION

### 4.1 Cooperative Agreements

The City entered in to no new cooperative agreements for watershed protection in the past year.

### 4.2 Data Gathering and Management Program

The GIS position has been filled continuously since January 10, 2001. Creation and development of Geographic Information System (GIS) data sets continued to support watershed and Water Department programs, and facilitated watershed program analysis.

Work Completed:

Coverages/Databases updated or expanded:

- Farms with Whole Farm Plans or BMP revisions implemented in FY 2021-22
- Monitoring reports created for the nine watershed conservation easements
- All Water Department jobs (work orders) 2004 to present
- Water distribution features (fire hydrants, valves, etc.) within the City of Syracuse, updated with GPS points
- Documented major water infrastructure improvements
- Documented all water infrastructure improvements including water main replacement on three major downtown thoroughfares

Coordination/Cooperation with others:

- Provided digital data and/or maps to Water Department staff and contractors to support construction and maintenance of the water distribution system, the Skaneateles Lake Watershed Protection Program and SLWAP
- Provided over 100 maps to other utilities to ensure that their work doesn't interfere with underground City water infrastructure
- Worked with consultants to begin the process of using GIS with CityWorks asset and work order management software

In 2021, GIS was used throughout the Water Department. Personnel are using tablets to view and collect data in both the City and watershed. All work orders are now managed through CityWorks backed by GIS infrastructure data. For 2022, a new water data model that will allow for easier drawing of new features and provide instant analysis tools such as defining areas for main shutdowns will be implemented.

### 4.3 Watershed Rules and Regulations

The City conducts inspections to determine compliance with Watershed Rules and Regulations. Refer to the "Skaneateles Lake and Watershed 2021 Annual Report, Volume XLVII," for detailed information on inspection and enforcement. The City of Syracuse met its filtration avoidance

condition to revise its Watershed Rules and Regulations on the date of their promulgation by the State of New York, September 1, 2004. Subsequently, minor amendments were promulgated on July 6, 2005. The NY State Register Quarterly Index, January – December 2005 lists that this Administrative Rule was finalized on July 6, 2005 (reference # HLT – 48 04-00012). The DEC SEQR project number was #P7002107-00012; NYS DEC Region 7.

To view a list of significant dates and requirements for the promulgation process, refer to the Skaneateles Lake Watershed Land Protection Program and the Skaneateles Lake Watershed Agricultural Program Annual Report for Fiscal Year 2006-07, or 2007-08. The Watershed Rules and Regulations (Title 10, Public Health, Chapter III, Subchapter A, Part 131.1, and City of Syracuse) are available on the online New York State Code of Rules and Regulations at <http://www.dos.state.ny.us/info/nycrr.html> and on the City of Syracuse web page under “Departments” and “Water Department,” at <http://www.syracuse.ny.us>.

## 5. COORDINATION WITH GOVERNMENT AGENCIES, NONPROFITS, AND MUNICIPALITIES

### *Multiple Agency Coordination*

A group that includes representatives from NYSDOH, OCHD, NYSDEC, the City of Syracuse Department of Water, the SLWAP and others continues to share information on pressing watershed events, complaints and their resolutions through e-mail. The group uses this method to expedite reporting of spill incidents.

### *New York State Department of Environmental Conservation (NYSDEC)*

The NYSDEC General SPDES Permit for Confined Animal Feeding Operations (CAFOs) has enhanced the City’s voluntary agricultural program by adding an extra incentive for operations to follow their Whole Farm Plans. Seven (7) of the approximately forty-four (44) farms eligible for SLWAP are considered CAFOs under the current standards. Of those, only one (1) has its farm headquarters within the watershed. All operations that meet the definition already have Whole Farm Plans and meet the requirements of the “Agricultural Waste Management Plans” called for in the state permit. SLWAP employees are no longer the lead nutrient planners for any CAFOs in the watershed. They continue, however, to attend CAFO reviews of watershed farms to provide input and support to the CAFO review.

### *Town of Skaneateles Lake Monitoring Committee*

Based on the findings of the Town of Skaneateles Lake Monitoring Committee’s Lake Monitoring Plan, the Town approved funding for sampling, which was carried out by Upstate Freshwater Institute (UFI) from April through October 2007 and 2008. The two consecutive years of data established a baseline for the following parameters: phosphorous, water clarity, chlorophyll a, and dissolved oxygen profiles. UFI prepared a 2008 report on the results. Since the data from the first two years was very consistent, the committee proposed a 3-year cycle for repeat monitoring. Recent monitoring reports available at the Skaneateles Town Hall include *Water Quality and Limnological Monitoring of Skaneateles Lake-2019* and *Winter-Spring Monitoring of Skaneateles Lake Tributaries-2020*.

### *Land Trusts*

The Finger Lakes Land Trust (FLLT) and Central New York Land Trust’s (CNYLT) continue to emphasize the Skaneateles Lake Watershed as a priority focus area for land conservation and water quality protection. In 2021 FLLT purchased two tax parcels in the watershed totaling 130 acres.

The first acquisition was a 28-acre addition to the Hinchcliff Preserve. The property is a mix of fields and hardwood forest located at the south end of Skaneateles Lake, featuring 640 feet of frontage on Vincent Hill Rd. in the town of Spafford.

FLLT also acquired 102 acres located off of Iowa Road in the town of Sempronius. The property is bordered to the north by Bear Swamp State Forest and contains 2,275 feet of frontage on Bear Swamp Creek.

Two conservation easement agreements were completed in 2021 by the FLLT and a third-generation farm operator, permanently protecting 508 acres of farmland. The easements will ensure the property is not subdivided and will remain in agriculture in perpetuity. The farm is comprised of multiple parcels in the towns of Scott and Spafford.

CNYLT acquired three adjoining tax parcels in 2021 from a property owner in the town of Spafford totaling 15.3 acres. The properties are bordered on three sides by a 76.9 acre parcel the land trust acquired in 2020.

### ***Watershed Management Approach to Controlling Hemlock Woolly Adelgid (HWA)***

HWA was identified in the Skaneateles Lake Watershed in 2014. Once infested with HWA, mature hemlock trees die within four to 20 years. The hemlock loss and replacement with hardwood species has the potential to impact water quality by altering nutrient cycling in the watershed and changing water temperature and water quantity going into the lake over the course of the year. Hemlocks' deep shade and often streamside habitat helps keep streams cool, and their evergreen shade keeps snow on the ground into the spring, providing cold runoff into groundwater farther into the growing season. Because hemlocks draw the most water during spring and fall, and relatively little in the summer, they also help stabilize stream flows.

HWA has been found on both shores of Skaneateles Lake and on the southern portion of the lake. As of February 2021, the northernmost points where HWA has been found are in the area of Fire Lane 22A on the western shore, and around Ten Mile Point on the eastern shore. (For the most up to date information, please visit the NY iMapInvasives map at [nyimainvasives.org/data-and-maps](http://nyimainvasives.org/data-and-maps)).

In May 2015, one-hundred (100) Eastern Hemlock trees were planted within this region of the watershed to grow populations of biological controls to resist the spread of HWA. Three insects that feed on HWA (biocontrols) have been released in the Skaneateles Watershed in 2014, 2015 and 2016. These are a beetle referred to as 'Little Larry', *Laricobius nigrinus*, and two species of silver fly, *Leucopis piniperda* and *L. argenticollis*. All three species are imported from their native range in the Northwestern US where they are natural predators of HWA. Establishment has not been verified in the Skaneateles watershed for any of the three species, but establishment can take many years to be detected.

To minimize the spread of HWA, the City has collaborated with the Onondaga County Soil and Water District, Cornell University, CCE of Onondaga County and several volunteers residing within the watershed. In 2021, the group received \$50,000 from the Great Lakes Restoration Initiative for targeted treatment of high-priority hemlocks in the Skaneateles watershed. Onondaga County Soil and Water Conservation District staff treated four hundred and five (405) trees within the Bahar and High Vista Nature Preserves and Hemlock Hollow (lake-front subdivision) in 2021.

In 2021, CCE Onondaga and the New York State Hemlock Initiative partnered on a program "Hemlock Woolly Adelgid Planning and Management in Skaneateles." Held on March 1st, 2021, this program shared basic information on hemlocks and HWA, and focused on the management

strategies available and tools for planning a response to HWA on your property. The program also covered the biological control research for HWA at Cornell University, and reached 38 people.

## 6. STAFFING AND FUNDING

### 6.1 Current Staffing Levels

#### *City of Syracuse*

Geographic Information System Specialist	0.17
Watershed Quality Coordinator	1.00
Watershed Inspectors	2.00
Assistant Corporation Counsel	0.02
Total FTE	3.19

#### *SLWAP Staff -- Liverpool, New York*

Program Leader	0.25
Resource Conservation Specialists	1.00
Conservation District Technician	1.00
Conservation District Technician	0.50
Total FTE	2.75

#### *Onondaga Soil and Water Conservation District – Liverpool, New York*

Executive Director	0.25
Accountant I	0.35
Secretary	0.50
Total FTE	1.10

#### *CCE of Onondaga Water Quality/Agriculture Education Program Staff*

Team Coordinator (Water Quality)	0.21
Resource Educator (Water Quality/Forestry)	0.01
Subject Educator (Water Quality)	1.00
Social Media Platform & IT	0.03
Administrative Assistant (Water Quality)	0.13
Total FTE	1.38

## 6.2 Watershed Program Funding

<b>Expenditures</b>	<b>Actual FY 20-21</b>	<b>Estimated 21-22</b>	<b>Proposed 22-23</b>
<u>Onondaga Co, SWCD Contract Services:</u>	\$477,504	\$515,000	\$716,000
<u>Watershed Education Program:</u>			
CCE of Onondaga Co, Contract Services	\$84,361	\$84,605	\$89,000
GIS Expenses	\$11,000	\$11,000	\$12,000
Miscellaneous Expenses	\$0	--0-----	--0-----
Subtotal Contractual Expenses	\$543,479	\$614,605	\$817,000
<u>City of Syracuse Staff (Direct Salary Expenses):</u>			
Water Department Staff	\$114,352	\$135,992	\$139,255
Legal Staff	\$1,055	\$1,000	\$1,000
Surveying Staff	\$1,323	\$2,000	\$2,000
Subtotal City Staff Expenses	\$172,293	\$153,000	\$142,255
<u>Other Expenditures:</u>			
Onon. SWCD Grant Program Activities- Fund Secured	\$81,052	\$73,282	\$130,000
CCE of Onondaga County Grant Supported Activities	-----	-----	-----
Subtotal Other Expenditures	\$81,052	\$73,282	\$130,000
Total Program Expenditures	\$796,824	\$840,887	\$1,089,255
<u>Funding Sources:</u>			
City of Syracuse			
Operating Budget	\$746,122	\$741,542	\$959,200
Subtotal City Funding	\$600,467	\$746,122	\$959,200
Other Funding	\$83,252	\$75,882	\$130,055
Total Funds Available	\$683,719	\$822,004	\$1,089,255

## 7. LIST OF ACRONYMS

BMP	Best Management Practice
CAFO	Confined Animal Feeding Operation
CCE	Cornell Cooperative Extension
CEH	Council on Environmental Health (Onondaga County)
CNY	Central New York
CNYLT	Central New York Land Trust
CNY RPDB	Central New York Regional Planning & Development Board
CREP	Conservation Reserve Enhancement Program
CSLAP	Citizens Statewide Lake Assessment Program
EQIP	Environmental Quality Incentives Program
FE	Farm Equivalent
FLI	Finger Lakes Institute
FLLT	Finger Lakes Land Trust
FLOWPA	Finger Lakes-Lake Ontario Watershed Protection Alliance
FPIG	Farmland Protection Implementation Grant
FTE	Full Time Equivalent
GIS	Geographic Information System
GPS	Global Positioning System
HABs	Harmful Algae Blooms
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OCHD	Onondaga County Health Department
OCSWCD	Onondaga County Soil and Water Conservation District
OEC	Onondaga Earth Corps
OEI	Onondaga Environmental Institute
PDH	Professional Development Hour
SGEIS	Supplemental Generic Environmental Impact Statement
SLA	Skaneateles Lake Association
SLWAP	Skaneateles Lake Watershed Agricultural Program
SPDES	State Pollution Discharge Elimination System
SWCS	Soil and Water Conservation Society
UFI	Upstate Freshwater Institute
USDA	United States Department of Agriculture
USDA NRCS	United States Department of Agriculture, Natural Resources Conservation Service
US EPA	United States Environmental Protection Agency
USTF	Upstate Safety Task Force
WAPRC	Watershed Agricultural Program Review Committee
WQIP	Water Quality Improvement Project

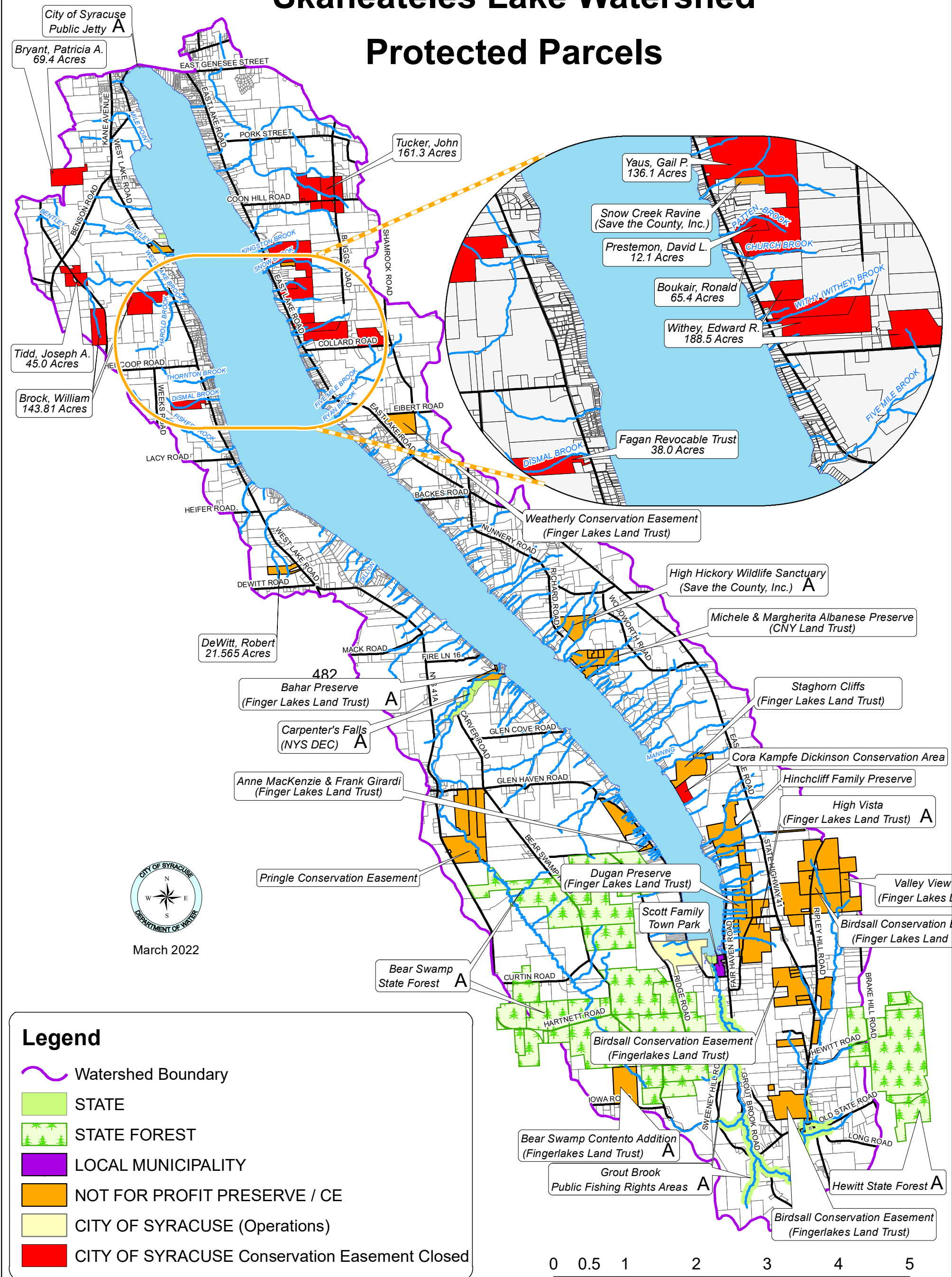


# Appendices

## **Appendix A – Maps**


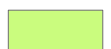



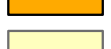

# Skaneateles Lake Watershed

## Protected Parcels



March 2022

### Legend

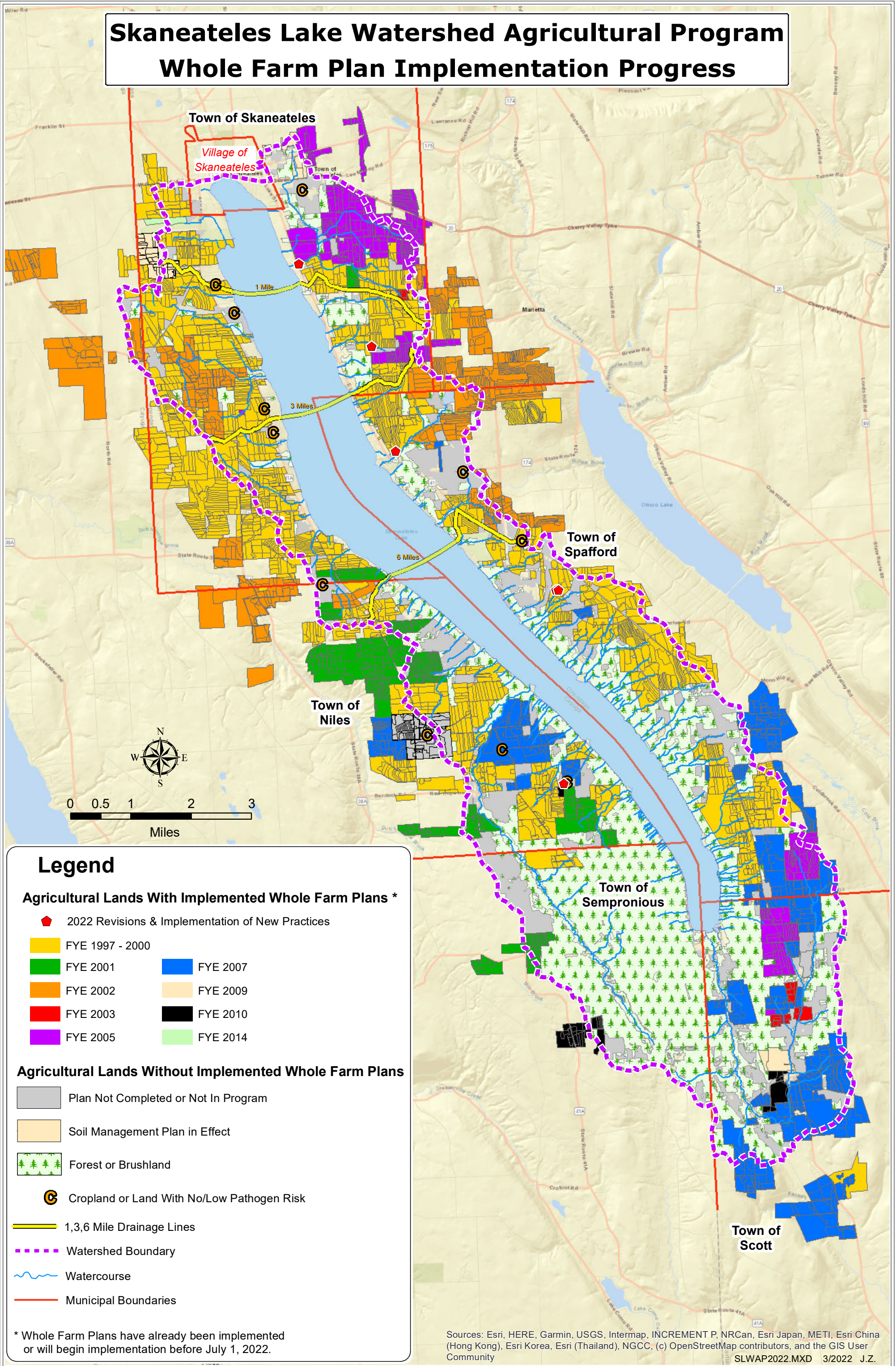
-  Watershed Boundary
-  STATE
-  STATE FOREST
-  LOCAL MUNICIPALITY
-  NOT FOR PROFIT PRESERVE / CE
-  CITY OF SYRACUSE (Operations)
-  CITY OF SYRACUSE Conservation Easement Closed

**A** Denotes Area Open For Public Access

No Public Access On Non-Profit Conservation Easements or City Of Syracuse Conservation Easements



# Skaneateles Lake Watershed Agricultural Program Whole Farm Plan Implementation Progress



## **Appendix B** - Skaneateles Lake Watershed Agricultural Program Progress Report



## **Onondaga County Soil and Water Conservation District**

**6680 Onondaga Lake Parkway  
Liverpool, NY 13088**

Phone: (315)-457-0325

E-mail: [info@ocswcd.org](mailto:info@ocswcd.org)

Fax: (315)-457-0410

Web: [www.ocswcd.org](http://www.ocswcd.org)

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### **Progress Report –**

## **Skaneateles Lake Watershed Agricultural Program**

**March 2021 – February 2022**

### **I. Introduction**

The Onondaga County Soil and Water Conservation District (OCSWCD) signed a contract with the City of Syracuse initiating the Skaneateles Lake Watershed Agricultural Program (SLWAP) in September of 1994. SLWAP was created as part of the filtration avoidance criteria established by the NYS Department of Health for the City of Syracuse in accordance with the 1986 Safe Drinking Water Act. On October 1, 1994, the OCSWCD entered into agreement with our conservation partners to implement the program. These partners included: the SWCD's of Cayuga and Cortland counties; the Cornell Cooperative Extension Associations of Onondaga, Cayuga and Cortland counties; and the USDA Natural Resources Conservation Service (NRCS).

In addition to the conservation partners, a Watershed Agricultural Program Review Committee (WAPRC) consisting of seven watershed farmers and one representative of the City of Syracuse was formed. The primary function of WAPRC is to give guidance, develop and recommend SLWAP policy for approval by SWCD district boards, and review and recommend approval of Whole Farm Plans to district boards that are developed by SLWAP.

The objective of SLWAP is to carry out a voluntary, cost-effective whole farm planning and implementation program for the watershed's agricultural community that will reduce the risk of contamination of the lake from agricultural nonpoint sources. Priority agricultural nonpoint sources of pollution include pathogens, nutrients and sediment. Whole farm plans must not only meet the water quality objectives of the program; they must also meet business objectives of the farming enterprise to be successful. Plans are developed by a multi-agency team, which includes the farm manager, and utilizes a tiered approach to whole farm planning. The whole farm plan recommends Best Management Practices (BMPs) to be implemented on the farm to address priority water quality concerns. According to NYS Soil and Water Conservation Districts Law, BMP "means a practice or combination of practices determined to be the most effective, economically feasible and practicable means of preventing or reducing pollution generated by nonpoint sources." BMP implementation is paid for through the SLWAP with principal funding provided by the City of Syracuse and other outside sources.

The program team began developing plans in March of 1995 by taking participants through Tiers I and II. The first whole farm plan was completed in February 1996. SLWAP now has participants' at all five tiers of the whole farm planning process.

## **II. Participation**

There are currently 38 farms enrolled in the program that meet the definition of a "farm". *For the purpose of the SLWAP, a farm is defined as "land used in a single farming operation for the production for sale of crops, livestock or livestock products of an average (over the past two years) gross sales of \$10,000 or more."* This represents an 86% participation rate in the SLWAP. Six (6) farms that meet the definition of a "farm" do not want to participate in the program but are visited annually to discuss any issues/opportunities for SLWAP to provide technical assistance. Four of these non-participating farms have whole farm plans developed, and three farms have chosen to self-implement Best Management Practices identified in the plan. Twenty one (21) of the original farms are either no longer in active production or no longer meet the definition of a farm; "land used in a single farming operation for the production for sale of crops, livestock, or livestock products of an average (over the past two years) gross sales value of \$10,000 or more." Typically, a portion (or all) of the land base associated with these farms is being utilized by other agricultural operations in the watershed and the land is included in that farm's whole farm plan.

Of the land in the watershed in agricultural production, approximately 91% has been enrolled in the program. It is important to note that some farmers have retired and have sold or leased their land to another watershed farm. This land has stayed in agricultural production within the watershed.

Efforts will continue to enroll those farms that have yet to sign up with the program. A continued goal of the program is to eventually involve 100% of the active farm operations in the watershed.

## **III. Planning Status (Tiers I, II, III & IV)**

Through February 2022:

- 38 farms have completed Tier I (farm inventory and identification of potential water quality concerns).
- 38 of these farms have completed Tier II (verification of water quality concerns).
- 38 farms have completed whole farm plans (Tier III) for their operations (78.47 Farm Equivalents). Note: One farm equivalent is equal to 400 acres of agricultural land, which includes forested land. (Some farms have been replanned to incorporate the management of the new owners: Allan and Ronk).

- 31 farms have completed Tier IV plan implementation (69.03 Farm Equivalents). Two (2) additional farms have self-implemented portions of whole farm plan prepared by SLWAP.

Planning Progress by Fiscal Year – Whole Farm Plans Completed\*

FY	Planning Time (months)	Plans	Updates to Plans	New Acres Planned	Updates to Previously Planned Acres	Farm Equivalents
95-96	6	5		1,200		5.56
96-97	12	11		3,747		13.87
97-98	12	7		4,618		13.79
98-99	12	4		5,580		19.81
99-00	12	5		2,866		8.76
00-01	12	4		1,735		7.92
01-02	9	5		2,628		8.43
02-03	11	2		1,470		4.08
03-04	11	4		257		4
04-05	7	1		188		1
** , ***						
05-06	12	2		489		2
06-07	12	3		1,367		5.25
07-08	12	2		466		2.14
08-09	12	2		286		2
09-10	12	4		1,016		4.65
10-11	12	3		520		3
11-12	12	0	3	-	137	3.39
12-13	12	0	1	37	0	1
13-14	12	1	0	89	0	1
14-15	12	1	1	60	1048	3.62
15-16	12	0	1	0	125	1
16-17	12	0	3	15	108	3
17-18	12	0	2	0	3032	8.22
18-19	12	0	2	0	279	9.25
19-20	12	2	0	217	0	2
20-21	12	0	1	0	24	1
21-22	12	1	0	210	0	1
TOTAL		68	14	29,061	4,753	140.74

\* Note: Data in this report has been updated to reflect the number of Whole Farm Plans that are currently being applied to agricultural land that is in active production, within the watershed. During the last 28



years, some farms have gone out of business and some of that land has been absorbed by other farmers (new or existing). Therefore, many of the values that are now being reported are lower than in previous reports. By way of our database, an historical record of all farms who have participated in the SLWAP has been maintained.

\*\* Note: Two farms already accounted for in previous fiscal years required additional planning to account for changes in the operation. This additional planning effort was equivalent to 2.65 Farm Equivalents and 642 acres of agricultural land. This data was not recorded for the 04-05 Fiscal Year.

\*\*\* Note: Planning team suspended Whole Farm Planning for four months to assist implementation team.

#### **IV. Implementation Status (Tier IV)**

Through February 2022, SLWAP has fully implemented whole farm plans for 31 farms (69.03 farm equivalents). During the past year revisions were planned and implemented to existing BMPs on four farms (17.93 farm equivalents). BMP implementation (survey/design/build) occurred on two new farms (2 farm equivalents). SLWAP is now primarily in a maintenance phase. Throughout the 2022 construction season, we anticipate BMP implementation to occur on at least one new farm and revisions to BMPs on four existing farms.

Best Management Practices (BMPs) that have been constructed on farms in the watershed include:

<b>BMP</b>	<b>Quantity Implemented</b>
Pathogen Management Systems	27
Barnyard Runoff Management Systems	30
Temporary Manure Storage/Composting Systems	22
Nutrient Management Systems (~ AEM Tier 4)	31
Alternative Water Supply	43
Buffer Strips	39.69 acres
Access Road Improvement Sites	72
Diversions	28,973 feet
Fencing	128,419 feet
Milking Center Waste Water Treatment & Disposal Systems	15
Short Duration Grazing Systems	13
Strip-cropping on Contour	1,375 acres
Water & Sediment Control Systems (WASCOBs)	68
Waterways – grass, stone lined	50,427 feet
Critical Area Protection – vegetation control	394 acres
Critical Area Protection – streambank stabilization	8,206 feet
Nutrient Management Reviews (annually)	26
Mortality Composting Systems	10
Cover Crops (cumulative acres - 2021)	650
Conservation Cover in Wheat (cumulative acres – 2021)	747
Roof Water Dripline (ft) -2019	23
Road Ditch Stabilization Projects w/ Heavy Armoring (#)	1
Hydroseeded Road Ditch-Cleaned by Municipalities ('22 Miles)	7.4

Measurable results from the implementation of these BMPs include:

- Per the Chesapeake Bay model for NYS, a forest buffer applied along a pasture can provide up to a 57.57% reduction in sediment loading. The model also reports that a forest buffer applied along a pasture can provide up to a 39.43% reduction in Phosphorous loading (no value provided for Nitrogen from this model).
- The SLWAP and District have participated with Greenfield Farms to monitor tile outlet water and water coming from a wooded stream nearby the crop field. Results have shown that between May 1 and November 1, it was observed in all but three instances, there was more Total Phosphorous in the water sampled coming out of the woods versus water coming out of the tile outlet. For two of those instances, there was no water available for sampling coming out of the woods (June 7 and June 21). October 18 was the only sample event where TP was higher in the tile outlet water. This occurred after a major rain event on October 16, 2021.

Overall, Total Dissolved Phosphorous (TDP) was higher coming out of the woods than out of the tile outlet. There were only three times that tile outlet water had higher concentrations of TDP than stream water sampled coming out of the woods. For two of those instances, there was no water available for sampling coming out of the woods (June 7 and June 21). On September 20 TDP was higher than that measured in stream water.

In all but three instances, Nitrogen Oxides (NO<sub>x</sub>) were higher in stream water sampled coming out of the woods as compared to tile outlet water. Again on June 7 and 21, there was no water in the stream to sample, when the tile was flowing. On October 18, the second most significant rain event of the growing season affected the project area. Corn was already harvested. NO<sub>x</sub> samples were higher in tile outlet water versus stream water.

In conclusion, water quality in agricultural tile lines can be of high quality if the farmer has a focus to build and maintain soil health, like Greenfield Farms has! This means establishing and maintaining vegetative buffers on the downslope side between your fields, streams and ditches. Planting cover crops annually also enhances soil health!

Hire a qualified agricultural nutrient management planner to develop a plan. Strictly adhere to the nutrient management plan (NMP)! A NMP will determine the nutrients your fields need for the intended crop growth. It is important to only apply the amount of nutrients needed. If you are an animal farmer, work with your NMP and/or your local Soil and Water Conservation District to sample your manure to determine the amount of nutrients in that manure. Then have a planner develop a NMP so that you

can maximize the nutrient benefits of your manure. One local farmer in the Skaneateles Lake watershed “estimates \$180 per acre saved due to efficient manure management. For my 1,400 acres that receive manure nutrient applications, that’s over \$250,000 in savings to my farm’s bottom line every year!”

Other BMPs in the agricultural tool box to help protect water quality and to build soil health include, but are not limited to:

- Buffers
- No-till planting
- Terrace
- Strip Cropping
- Bio Reactors
- Cover Crops
- Water & Sediment Control Basins (WASCOBs)
- Protected/enhanced wetlands
- Filter Strips
- Grassed Waterways
- Crop Rotation
- Residue & tillage management
- Diversion

Research has shown that better drained soils have better growing seasons. Tile drained soils provide the farmer greater flexibility when timing fertilizer and manure applications. This allows animal farmers to have more flexibility to stay off fields during higher risk times (rain and/or snow melt events). And, tile drained fields generally provide longer periods to harvest crops and spread manure. All of which means cover crops can be planted sooner in the fall!

- Cornell University in cooperation with Onondaga County Soil and Water Conservation District and funding from the USDA-Natural Resources Conservation Service (NRCS) Conservation Innovation Grants Program have been working with a watershed farm, since 2016, to reduce nitrate-rich farm runoff that could be discharged via tile (subsurface) drains to waterways.

Denitrifying bioreactors, also called wood chip bioreactors, utilize a carbon source in the form of wood chips which support denitrifying bacteria, converting nitrates into nitrogen gas that is released to the atmosphere. Tile drainage water is diverted by a water control structure through the bed of wood chips. This practice does not require land to be pulled out of production and does not inhibit the normal operation of subsurface drainage systems. Monitoring of previously installed bioreactors in the Susquehanna and Finger Lakes watersheds has shown a 57% reduction in nitrogen that enters our streams.

The performance of the denitrifying bioreactors is being monitored to determine if these can become part of the NRCS best management practices and to further develop a Conservation Practice Standard for New York to design and implement them. The cost of implementation is quite reasonable,

typically less than \$10,000, since woodchips are readily available and the diversion structures to control the flow of the water through the bioreactor are less than \$1000 each. Operation and maintenance costs are also low because they work passively underground (Figure 3). Since the denitrifying bacteria are always hungry, as long as there is a supply of nitrate and some woodchips to decompose, they are expected to continue to work. The decomposition of the woodchips is very slow because the intent is to keep the woodchip bed saturated and in an anaerobic, oxygen deficient type of environment where the nitrate-consuming bacteria thrive best.

Results have shown a 43% (2017 – high of 42.9 ppm on inlet side and low of <0.5 ppm on outlet side) to 68% (2021 – high of 21 ppm inlet side to low of <0.5 ppm on outlet side) reduction in Nitrate as N in one bio reactor during the months of June and early July and an 85% (2021 – high of 15 ppm on inlet side to low of <0.5 ppm on outlet side) reduction in Nitrate at N in a second bio reactor during that same time period. In 2022 SLWAP staff, and farmers, are tentatively going to University of Vermont to help install a bio reactor that is designed using clean iron shavings to treat Phosphorous. The team will also tour a bio reactor which is being used to treat silage leachate. The goal of the tour is to see the technology first-hand and then bring that technology back to the watershed in anticipation of replicating the design for use on similar projects.

- The SLWAP has also participated in graduate level research projects with SUNY College of Environmental Science and Forestry. Those research projects included:

Pradhanang, Soni. 2009. Monitoring and Modeling of Water Quality in Streams of Skaneateles Lake Watershed, NY. 185 p.

Abe, Noaya. 2006. Dissertation. Studies in Resources Economics: Scrap Tire Management and Watershed Management for Water Source Protection. 321 p.

- When a farm goes out of business, there is a “vacuum” in the watershed. Typically, there are 3 to 5 farms bidding to purchase the outgoing farm to keep that land base and the BMPs in active agricultural production.
- Fertilizer recommendations have been made for all 39 farms with a Tier III Whole Farm Plan. Nutrient savings in the watershed are achieved through better timing and placement of the nutrient application, as compared to traditional practices. Today, nutrient recommendations are based upon maximum economic yields, as determined by Cornell University’s “Cropware” program. The end-result of using Cropware is that nutrients are applied at a scientifically-balanced rate as opposed to a producer “guessing” as to what a crop needs to grow.

- Crop rotations and BMPs have helped reduce soil erosion by an average of 3,770 tons/year.
- Three barriers to pathogen movement (heard health, following barnyard maintenance and manure spreading schedules at agronomic applications on approved fields, and excluding livestock from water courses), are established on 18 out of 22 “active” livestock farms enrolled in the watershed agricultural program. Progress is being made to establish the three barriers to pathogen movement on all remaining livestock farms.
- According to the Procedure for Estimating Agricultural Nonpoint Source Phosphorus Runoff (Lake Champlain Basin Program – USDA/NRCS and University of Vermont), BMPs implemented through the SLWAP will prevent approximately 19,525 pounds of phosphorus/year from entering Skaneateles Lake. BMPs responsible for the reduction include Barnyard Runoff Management, Milking Center Waste Water Treatment & Disposal Systems, Animal Waste Management Systems, and Short Duration Grazing Systems.

There are currently three remaining livestock farms in the watershed that require some amount of implementation to complete their whole farm plan goals. Implementation has commenced on these farms.

## **V. Whole Farm Plan Annual Evaluation (Tier V)**

Tier V of the Tiered Approach to Whole Farm Planning is the annual review, evaluation, operation, maintenance, update and potential revision of completed whole farm plans. SLWAP has been developing and implementing plans since 1995, therefore the evaluation of previously completed plans is critical. It is important to determine if the plan agreed to by the farmer is effectively being followed and protecting water quality as designed. Tier V provides the opportunity to revise and update the plan as needed and reinforces the objectives of the plan with the farm manager. Most plans require revisions in crop rotations and an update to the nutrient management plans (i.e. fertilizer recommendations and manure spreading schedules). Accordingly, Whole Farm Plans are “living” documents that are always changing.

In January 2013, SLWAP initiated a more-in-depth annual evaluation of whole farm plans for farms in the watershed with completed plans. Specifically, all the BMPs from the long-form of the whole farm plan were plotted on an aerial photo base GIS map. Staff went farm-to-farm to identify and evaluate BMP installations on the farm. Staff also continued to hold one-on-one meetings to collect information necessary to update the plans. In addition, this meeting allows SLWAP to determine how well the plan and the BMPs are being operated and maintained. It has helped staff to anticipate any new revision projects that will be needed to protect water quality. Reviews were conducted between January and

March 2019. Any new revision projects will be added to the existing data base and will be planned and implemented as revision projects are completed and removed from the existing database, subject to the availability of unencumbered funds.

The Annual Farm Consumption Reviews of the recent years have been most comprehensive, stream-lined reviews ever completed in recent history of the watershed program. The data collected was extremely accurate and took into account amounts of items such as livestock housed, manure applied, fertilizer applied, etc. for land that the farms owned and/or operated both inside of and outside of the watershed. The farmers were provided with an “annual review refresher letter” as to what data was necessary to collect and present during the annual review to stream-line future annual reviews.

In the winter of 2016, SLWAP utilized services of an Intern from Onondaga Community College (OCC) to graphically analyze data from past Farm Consumption Reviews. The results were inconclusive, so the project was redone by a new OCC intern to achieve more accurate results and results were reviewed by the SLWAP Whole Farm Planner. The goal of the project was to observe trends in livestock numbers, manure volumes spread, production acreage, fuel, and pesticide usage. These data were last updated in 2020.

## **VI. Conservation Reserve Enhancement Program (CREP)**

In 2001, the USDA Secretary of Agriculture approved a Conservation Reserve Enhancement Program (CREP) for Syracuse and the Skaneateles Lake Watershed. This USDA program focuses on removing highly erodible cropland, within 800 feet of eligible water bodies and marginal pasture found adjacent to open water bodies (riparian areas), from active agricultural use. Participating Landowners are compensated by USDA’s Farm Service Agency (FSA) with land rental payments, multiple incentive payments, maintenance fees, and cost share for the installation of associated BMPs. Land entered into the Skaneateles Lake Watershed CREP must be included in a whole farm plan. All pasture acreage enrolled in the program must be established with trees and shrubs, while any cropland entered can be established with either grasses or woody vegetation. All BMP’s through CREP must be maintained for the life of the contract (ten to fifteen years). The intent of establishing a vegetative cover is to effectively reduce/remove pathogens, nutrients, and sediments from field and pasture runoff, while providing high quality wildlife habitat. The agreement between USDA and Syracuse allows for a total of 1000 acres to be enrolled in CREP, with a combined contribution of \$900,000 over 15 years (\$250,000 from Syracuse and \$650,000 from USDA).

No farms enrolled land into CREP in 2021. In 2021 the SLWAP staff worked with USDA FSA staff. One farmer’s contract expired when their father, the patriarch of the family, passed. Accordingly, the farm did not ask to re-enroll their land quick enough, the time was beyond the USDA grace period. Now, the farm must sign up for a new enrollment and add additional acres to qualify for the program. The SLWAP Whole

Farm Planner is attempting to work with USDA on an amicable resolution to this matter to keep that critical land in conservation cover through CREP.

A continued effort is being made to identify potential farms for CREP enrollment and then to sell these farms on the conservation benefits of CREP participation. To this end, SLWAP and the Onondaga County Soil & Water Conservation District posted a USDA-authored article on the benefits of participating in CREP on their websites as well as in both programs' quarterly newsletters. The efforts have not yet resulted in any new CREP enrollments in either the Skaneateles Lake watershed.

<b>Year</b>	<b># of CREP Farms Planned</b>	<b>Acres of CREP Planned</b>	<b>Farms Implemented</b>	<b>Acres Implemented</b>	<b># Farms / Acres – Enhanced</b>	<b># Farms / Acres – Re-enrolled</b>
2021	0	0	0	0	1 / 1.2	1 / 1.2
2020	0	0	0	0	0	
2019	0	0	0	0	1 / 1.4	
2018	0	0	0	0	2 / 8.4	
2017	0	0	0	0		
2016	0	0	0	0		
2015	0	0	0	0		
2014	0	0	0	0		
2013	0	0	0	0		
2012	0	0	0	0		
2011	0	0	0	0		
2010	1	0.7	1	0.7		
2009	0	0	2	3.3		
2008	3	5.8	1	2.5		
2007	2	5.9	2	6.7		
2006	0	0	1	6.3		
2005	4	84	3	74		
2004	2	9	3	18		
2003	3	21	2	13		
2002	1	22	1	22		
<b>TOTAL</b>	<b>16</b>	<b>148.4</b>	<b>16</b>	<b>146.5</b>	<b>4 / 11 ac</b>	<b>N/A</b>

## **VII. Soil Conservation Tools in the Watershed**

In the summer of 2017, the SLWAP sold the 6-Row John Deere 1750 Conservation Planter and the 10' Great Plains 1006 No-Till Drill that was purchased in 2009 by the City of Syracuse. It is important to note that the City's goal of the program was to provide these implements for usage on farms (at a nominal fee). Ideally, the farm would be satisfied with the results of the implements on their land and then would purchase this type of conservation implement when they update their equipment in future years. The program was very successful.

Since the City of Syracuse purchased these implements in 2009, four farms operating large acreages have purchased the conservation-type implements. Two farmers have purchased the 30-foot AerWay manure incorporation tool (these two large farms work a combined 5,500 acres of tillable land, which accounts for approximately 20% of the tillable land in the watershed), one farm has purchased a 30-foot Great Plains drill and one farm has purchased a 12-row planter that utilizes some of the conservation technology.

A new 12-foot Esch 5512 no-till drill was purchased during the summer of 2017. The drill is two-foot wider to help the farmers plant more ground with each pass. A unique feature of the drill is that it has a folding draw bar so that it is only 8.5 feet wide when trailering down the road between farms. This was a great advancement for safety of the staff member that delivers the implement to farms.

The drill can plant small grains, cover crops, small seeds, soybeans, and buffer strips. It has 5.5-inch row spacing, two seed boxes, and requires a 100-horse power tractor to operate.



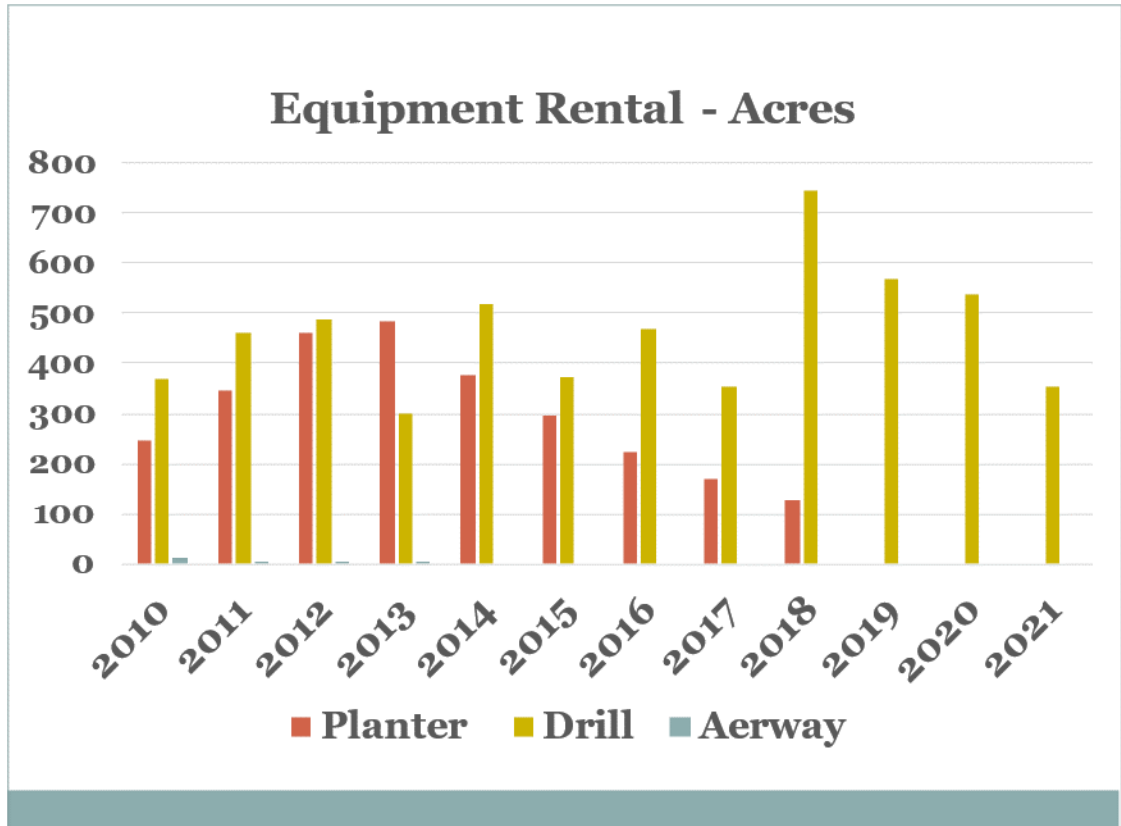
### **Implement Usage Summary**

In 2021, the Esch was utilized on 355 acres of cropland between the watershed and Onondaga County. There was a spectacular fall for planting cover crops! SLWAP staff advertised these implements to SLWAP producers utilizing the following means: printer flyers, website, and by posting a video of the equipment being used on YouTube.

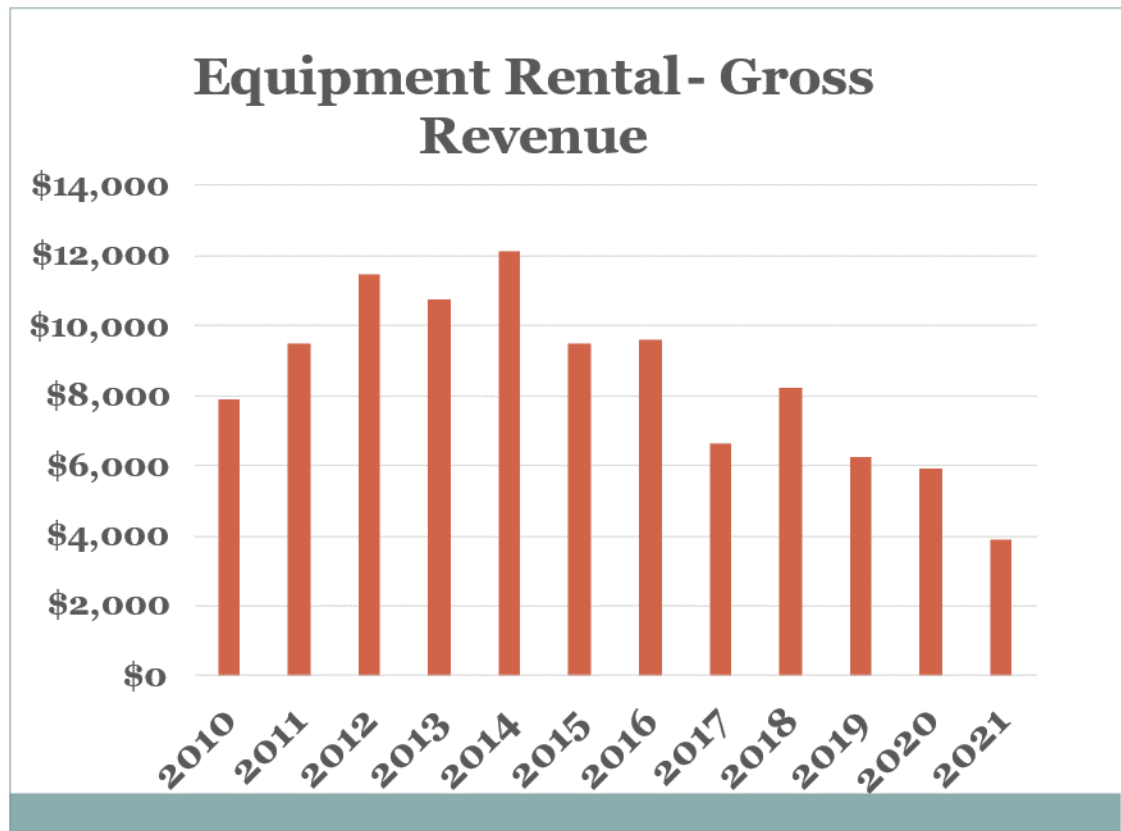


SLWAP staff, the City of Syracuse, WAPRC, and Onondaga County SWCD District Board of Directors review the rental rates annually for each equipment rental season. The rental rates will remain affordable enough so that farmers will continue to try the equipment, be satisfied with the results, and “will purchase these types of implements when their current implements wear out.” The 2021 rental rate stayed the same at \$11/acre with a \$100 delivery fee.

A bar graph showing gross revenue from the equipment rental program is presented below.



A bar graph showing implement usage is presented below. (Please note: Aerway usage is reported as number of users per year. Aerway sold in fall of 2012).



### VIII. Funding Assistance

A component of the SLWAP contract with the City of Syracuse is to secure additional funding sources to assist with whole farm planning and implementation.

Four outside funding sources were applied for in 2021 for a total of \$289,038 to supplement City funds. They are as follows.

- \$81,540 NYS EPF Round 27 – Snow Brook – Phase II
- \$64,820 NYS EPF Round 27 – Shotwell Brook - Pasture System
- \$57,042 NYS EPF Round 27 – Manure Stacking Pad - Fesko
- \$25,000 USFS Great Lakes Restoration Initiative – Hemlock Woolly Adelgid
- \$25,000 Finger Lakes Erosion & Sediment Control – E. Richards – WASCOB & Access Control

- \$14,568 Finger Lakes Erosion & Sediment Control – Tucker – Stream Crossing
- \$14,568 Finger Lakes Erosion & Sediment Control – McMahon – Stream Crossing
- \$6,500 Finger Lakes Erosion & Sediment Control – Jackson – Diversion & Clean Water Exclusion

As new project opportunities arise, SLWAP staff will certainly apply for grant funding to continue to offset implementation cost to the City.

The total of grant funds secured by SLWAP for implementing projects on the land since the beginning of the program is \$6,181,673.80.

**IX. Awards & Recognition**

**Environmental Steward of the Year**

The SLWAP recognizes outstanding cooperators in the watershed agricultural program throughout the years .Below is a table of past recipients.

Award recipients are listed below.

<b>Year</b>	<b>Farm Name</b>	<b>Farm Type</b>
<b>2019</b>	<b>City of Syracuse Watershed Agricultural Program</b>	<b>Water Purveyor</b>
<b>2018</b>	<b>Ireland Farms</b>	<b>Crop</b>
<b>2015</b>	<b>Birdsall Farm</b>	<b>Beef</b>
<b>2014</b>	<b>John F. Tucker &amp; Sons</b>	<b>Dairy/Crop</b>
<b>2013</b>	<b>McMahon’s E-Z Acres</b>	<b>Dairy</b>
<b>2008</b>	<b>Congressman James T. Walsh</b>	<b>Government</b>
<b>2006</b>	<b>Fesko Farms</b>	<b>Dairy</b>
<b>2005</b>	<b>Weeks Farm</b>	<b>Crop/Beef</b>
<b>2004</b>	<b>Greenfield Farms</b>	<b>Crop</b>

**Municipal Partner of the Year**

Award recipients are listed below.

<b>Year</b>	<b>Farm Name</b>
<b>2021</b>	<b>Town of Spafford / Highway Department</b>
<b>2015</b>	<b>Onondaga County / Highway Department</b>

The Town of Spafford has been in existence since 1811. The highway department has three full-time and one part-time employees. They have at their disposal three ten-wheel dump trucks, one payloader, one backhoe, one grade all, one motor grader, and one one-ton dump truck. The municipality focuses on: neighbor relations issues, agricultural issues, stormwater management and flooding and drainage concerns. The town shares equipment, personnel and resources with the Towns of: Scott, Marcellus, Otisco, Tully and Skaneateles, when needed. Town of

Spafford started their relationship with the SLWAP in 1996 after “the great blowout”.

Highway Superintendent Jody Fisher has been proactive contacting OCSWCD with questions regarding culvert sizing, stormwater attenuation, and stream dynamics for all of 2021. This made working with him on the Spafford Landing emergency permits, and the 10-Mile emergency permits, effective and expeditious. Jody has been growing his own knowledge relative to concepts like bank full, floodplain, channel evolution so much so, he uses the terms regularly in conversations with FEMA and the DEC.

**A quote from Mr. Fisher:** *“I feel I'm just trying to doing my job, I feel if we all just do our part we can do amazing work for the residents and mother earth. I couldn't do the work we have done if it wasn't for the employees of this town and for the support and guidance that the folks at Onondaga county soil and water along with the guidance of the department of DEC.”*

## **X. Information & Education Activities**

SLWAP has established an Information & Education program designed to support, reinforce and expand planning, implementation and revision efforts. A summary of Information & Education activities is listed below:

- Watershed Journal – our program’s newsletter, is designed to keep all farmers in the watershed up to date with program activities. Our articles focus on various water quality BMPs, timely reminders on BMP Operation and Maintenance, a calendar of environmentally oriented meetings and seminars in the area, and the results of farmer experiences with various BMPs. The journal publication is published four times a year and sent out by US Mail and electronically.
- The SLWAP web page is integrated with the Onondaga County Soil and Water Conservation District home page. Updates are made to the site periodically and current newsletters are available on the website. The web address is [www.ocswcd.org](http://www.ocswcd.org).
- The Skaneateles Lake Watershed Agricultural Program Watershed Agricultural Program Review Committee had five meetings in 2021. (Jan. 26, Apr. 20, Jul. 13 Aug. 24, Sept. 21, Dec. 2).
- Attended numerous regularly scheduled and special meetings of the Skaneateles Lake Municipal Website Committee meeting. (Mar. 18, 22; June 14)

- SLWAP and the District purchased a 2021 Kawasaki Mule UTV to provide access to remote sites for the planning and implementation of BMPs to protect water quality.



- Program Manager Burger addressed approximately 65 students enrolled in Dr. Brigg’s ENS 132 class at SUNY ESF. The presentation focused on “Who We Are and What We Do”. February 4 & 11, 2021.
- Six annual reports sent to NYS Department of Agricultural and Markets for 2021 activity. February 15, 2022. The Annual Report of the Treasurer will be submitted by April 15, 2022.
- SLWAP Program Manager Burger and SLWAP Conservation District Technician Kim Clark attended Legislative meetings in Albany (March 2-3).
- Staff members attended five days of annual training at Water Quality Symposium, East Syracuse, NY, to enhance staff skills and study new approaches (and BMPs) to address environmental concerns on farms in the watershed. March 8-12, 2021.
- Program Manager Burger presented an overview of the City of Syracuse’s Agricultural Program to Greening USA, by Zoom on May 7, 2021.
- Program Manager Burger participated in an interview with Mr. Joe Paduda regarding the nomination of Greenfield Farms for the NYS Aldo Leopold Conservation Award (June 15). Greenfield Farms came in second place in the state-wide competition!

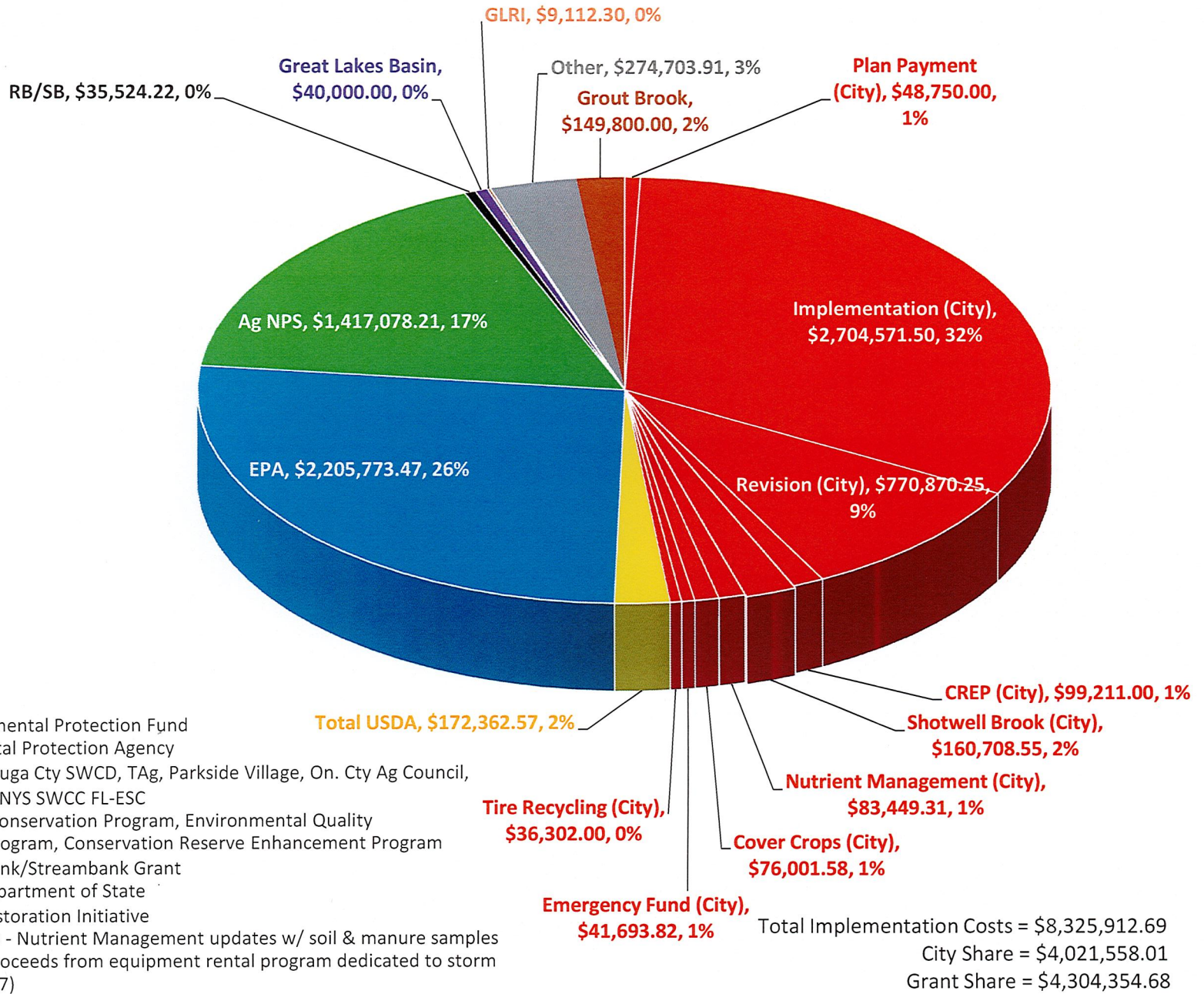
- District staff submitted a WQIP grant application to NYS DEC for three additional years of funding to revegetate municipally cleaned road ditches (July 30).
- Technician C. Travis and Program Manager M. Burger attended a two-day certification training for North Atlantic Aquatic Connectivity Collaboration (NAACC) (Aug. 4-5). They are now certified to help improve aquatic connectivity, and provide stream crossing assessments, in the watershed.
- Joe Quatrini from Bradford County (PA) came to the Town of Spafford to share his expertise on earth road repair after a major storm event in the watershed (August 6).
- Program Manager Burger taught another class to SUNY ESF students on “Who We Are / What We Do”. (Sept. 15).
- Prepared FY 22/23 SLWAP budget for submittal to City of Syracuse, Department of Water. (Nov. 23).
- SLWAP Annual Meeting (virtual). December 2, 2021. Power Point presentation topics included: “Year in Review”, summary of seven years of research on the two “Denitrifying Bio Reactors at Ireland’s Crop Farm” and a summary of one year of data on “Tile Drainage Research at the Greenfield’s Crop Farm”. Seven watershed farms attended representing 50% of the tillable acres in the watershed. The “next generation” from two Perry Crop Farm and Greenfield Crop Farm were in attendance. Approximately 26 people attended the meeting.

## **XI. Conclusion**

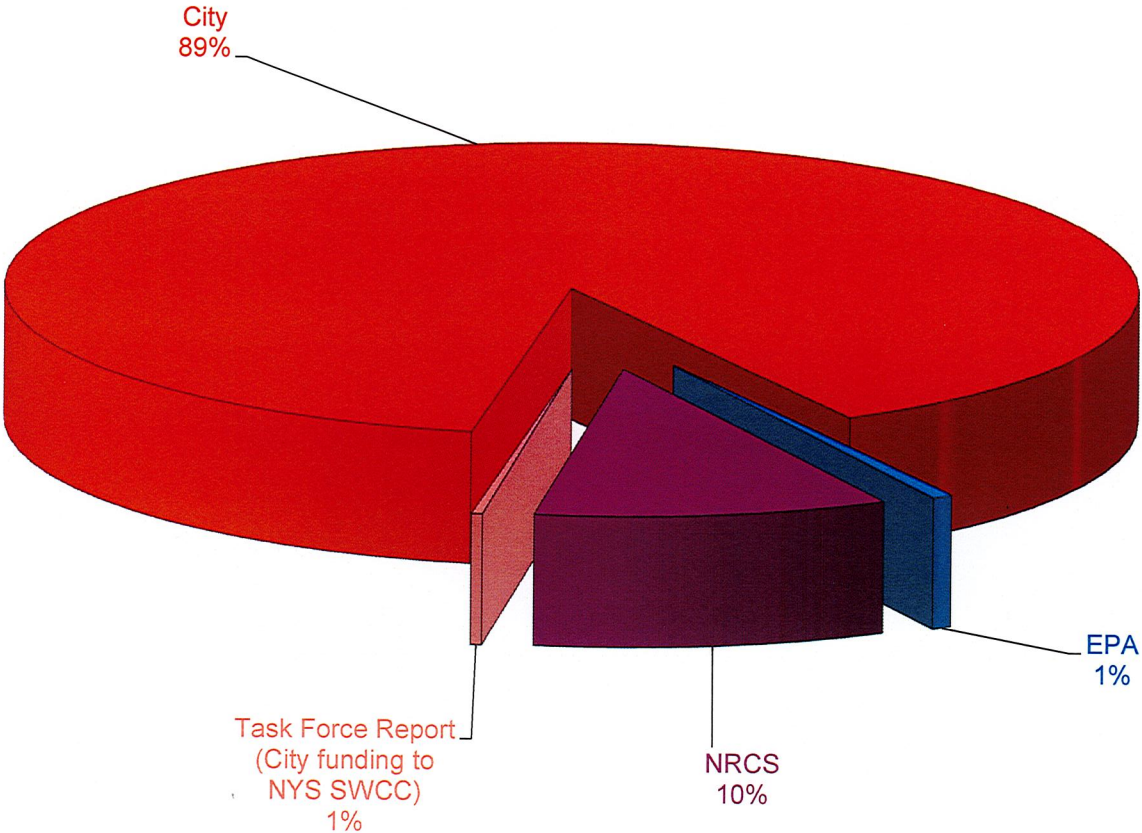
The SLWAP remains a successful model of the Agricultural Environmental Management approach to whole farm planning. The program has been an excellent opportunity for farmers in the Skaneateles Lake watershed to voluntarily work towards water quality protection while keeping agriculture viable within the watershed. Secondary benefits of the program include preservation of open space and continued maintenance of a safe and reliable food supply.

## SLWAP Implementation Costs 1/1995 Through 2/28/2022

Note: 0% is equivalent to less than 1%. Please use available financial data for calculations.



**SLWAP Operating Costs 1/1994 Through 2/28/2022**



**Total Operating Costs = \$11,086,892.37**  
**City Share = \$9,872,608.37**  
**Grant Share = \$1,214,283.95**

**Key:**  
**NRCS - USDA Natural Resource Conservation Service**  
**EPA - US Environmental Protection Agency**  
**NYS SWCC - NYS Soil and Water Conservation Committee**

Please note: figures denoted as 1% are actually less than 1%.



## **Appendix C** - CCE Water Quality Education Program for the Skaneateles Lake Watershed

## Skaneateles Lake Watershed Water Quality Education Program Program Report for January - December 2021

### **Workshops and Events**

<i>Date(s)</i>	<i>Event Name</i>	<i># of Participants</i>	<i>Location(s)</i>
3/1	Hemlock Woolly Adelgid (HWA) Planning and Management in Skaneateles	38	Online (Zoom)
5/2 – 5/8	Lake Friendly Living Awareness Week	43	Online (Zoom)
6/10	iMapInvasives Training	12	Online (Zoom)
7/14	Transitioning Your Lawn to a Meadow	50	Online (Zoom)
9/22	Spotted Lanternfly Information Session	10	Online (Zoom)
10/13	Streams 101 for Skaneateles Lake	13	Online (Zoom)

### **Trainings and Stewardship Opportunities**

<i>Date(s)</i>	<i>Event Name</i>	<i># of Participants</i>	<i>Location(s)</i>
7/18	Boat Stewards Training	20	Buzz Roberts House, Skaneateles

### **Municipal/Organizational Support**

<i>Date</i>	<i>Constituent/ Meeting</i>	<i># of Participants</i>	<i>Location(s)</i>
3/18, 3/22, 4/12, 6/14, 9/24, 12/3	Skaneateles Municipal Stakeholders Website Meetings	7-11	Online (Zoom)
1/13, 2/3, 3/3, 4/7, 5/5, 6/2, 7/14, 9/8, 11/3, 12/8	Skaneateles Lake Association (SLA) Lake Ecology Team Meetings	30	Online (Zoom)
9/16	Public Information Session for EarthTec Treatment of Harmful Algal Blooms (HABs) in Skaneateles Lake	70	Online (Zoom)
10/21	CCE Onondaga Annual Meeting	30	Online (Zoom)
12/2	Skaneateles Lake Watershed Agricultural Program Annual Meeting		Rod and Gun Club, Skaneateles

**Community Presentations**

<i>Date</i>	<i>Presentation Title (Group)</i>	<i># of Participants</i>	<i>Location(s)</i>
10/27	iMapInvasives Presentation for Skaneateles High School Environmental Club	35	Online (Zoom)

**Community Outreach**

<i>Date(s)</i>	<i>Event Name</i>	<i># of Participants</i>	<i>Location(s)</i>
1/7	SUNY ESF Job Shadow	1	Online (Zoom)
6/7, 7/19	Watersheds Video with 4-H	7	Online (Zoom) and CCE Onondaga office

**Original Publications\***

<i>Date</i>	<i>Title</i>	<i>Format</i>	<i>Print Copies Distributed</i>	<i>E-mail Recipients</i>
12/15	Skaneateles Lake WAVE Review	Newsletter	2,730	185

\*All original publications are also posted to our website. All are available for free download as PDF by visiting [cceonondaga.org](http://cceonondaga.org) and clicking on the “resources” tab at the top. For WAVE Review newsletters, visit: [cceonondaga.org/environment/skaneateles-lake/wave-reviews-newsletter](http://cceonondaga.org/environment/skaneateles-lake/wave-reviews-newsletter).

**FEATURED on Local News Sources: Video, Article, Print**

<i>Date</i>	<i>Title</i>	<i>Newspaper/ Channel</i>	<i>Format</i>
4/28	Public invited to Lake Friendly Living week events held May 2-8	Skaneateles Press	Print Article
4/8	Looking After the Lake: Coalition Launches Lake Friendly Living Awareness Week	Edible Finger Lakes	Article
4/7	Lake Friendly Living week coming this may to the Finger Lakes	FingerLakes1.com	Article
4/9	Coalition launches Lake Friendly Living Week	Daily Messenger	Article
4/12	New event stresses lake-friendly living in the Finger Lakes	Auburn Citizen	Article
4/12	Lake Friendly Living Awareness Week is May 2-8	Finger Lakes Times	Article

**CCE Onondaga Water Quality E-newsletters: MailChimp**

<i>Date</i>	<i>Topics (s)</i>	<i>Reach</i>
2/18	Skaneateles Education Program February Updates – HWA Program	159
2/25	Hemlock Woolly Adelgid webinar reminder!	183
4/5	Skaneateles Education Program April Updates	156
5/3	Skaneateles Education Program May Updates	162
5/27	Skaneateles Education Program June Updates	140
6/7	Invasive Species Awareness Week Reminder Email	130
6/22	Summer 2021 Skaneateles WAVE Newsletter	220

7/7	Skaneateles Education Program July Updates	156
7/13	Reminder - Lawn to Meadow Program	166
8/13	Skaneateles Education Program August Updates	166
8/27	No Wake Zone Announcement	200
9/7	Skaneateles Education Program September Updates	149
9/9	Public Information Session for EarthTec Treatment	174
9/21	Spotted Lanternfly Reminder	141
10/7	Skaneateles Education Program October Updates!	142
10/12	Reminder - Stream Systems Program	131
12/15	Skaneateles Education Program Year End Email	185

### Skaneateles Lake Watershed Website Analytics

<i>Month</i>	<i>Visits</i>	<i>Unique Visitors</i>	<i>Page views</i>
January	280	222	502
February	274	203	513
March	387	290	660
April	530	384	903
May	873	618	1,383
June	1,043	701	1,662
July	1,207	878	1,997
August	2,183	1,506	3,698
September	1,375	918	2,196
October	751	533	1,138
November	509	339	800
December	476	342	694

### Water Quality Social Media Posts

<i>Month</i>	<i>Facebook Posts</i>	<i>Twitter Posts</i>	<i>Instagram Posts</i>
January	2	1	1
February	5	4	3
March	8	7	5
April	2	3	2
May	4	4	4
June	6	7	5
July	2	2	2
August	5	8	5
September	5	4	3
October	4	4	4
November	5	5	5
December	2	1	2

### Consumer Calls and E-mail Inquiries

Month	# of calls/e-mails
January	6
February	2
March	0
April	2
May	1
June	4
July	2
August	2
September	7
October	6
November	3
December	0

### Program Evaluations, Surveys, and Feedback \*

<i>Date</i>	<i>Evaluation/Survey Title</i>	<i>Attendees</i>	<i>Responses</i>	<i>Response Rate (%)</i>
3/1	<i>Program Evaluation: Hemlock Woolly Adelgid Planning and Management in Skaneateles</i>	38	6	16%
6/10	<i>Program Evaluation: iMapInvasives Training</i>	12	3	25%
7/14	<i>Program Evaluation: Transitioning your Lawn to a Meadow</i>	50	8	16%
9/22	<i>Program Evaluation: Spotted Lanternfly Information Session</i>	10	3	30%
10/13	<i>Program Evaluation: Stream Systems 101 for Skaneateles</i>	13	6	46%

\* Surveys were distributed electronically in 2021 to correspond with digital programs.

Report compiled and submitted by Camille Marcotte, CCE Onondaga, on 3/2/2022.

# Cornell Cooperative Extension

## Onondaga County

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East Syracuse, NY, 13057  
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e. onondaga@cornell.edu  
www.cceonondaga.org

### **Water Quality Education Program for the Skaneateles Lake Watershed - 2021 Report**

Cornell Cooperative Extension of Onondaga County provides environmental education and outreach to four primary groups within the Skaneateles Lake Watershed, including:

1. Residents and property owners within the watershed,
2. Rural landowners managing agricultural, forested or open space land within the watershed,
3. Municipal leaders and officials of the towns, villages and counties within the watershed, and
4. Community groups, lake associations, and other organizations that currently act as stewards of the lake and watershed, or may potentially in the future.

Education and outreach are provided by the CCE Onondaga Natural Resources Team Educators. In 2021, Educators covered topics including landscaping for water quality (transitioning lawns to meadows), stormwater management, riparian buffers, non-point source pollution, invasive species (including Hemlock Woolly Adelgid and Spotted Lanternfly), land stewardship, stream system basics, lake and streamside erosion resistance, and overall water quality protection efforts. These topics were developed and delivered by educators in the following ways:

#### **Workshops and Events**

- **Hemlock Woolly Adelgid (HWA) Planning and Management in Skaneateles** (March 1<sup>st</sup>, Zoom): This talk, presented by Caroline Marschner of the New York State Hemlock Initiative, shared basic information on hemlocks and HWA, and focused on the management strategies available and tools for planning a response to HWA on your property. She also covered the biological control research for HWA at Cornell University. 38 attendees
- **Lake Friendly Living Awareness Week** (May 2<sup>nd</sup> - May 8<sup>th</sup>, Zoom): This week offered free virtual education sessions and resources to all who live in the Finger Lakes region. Experts presented throughout the week on topics that included citizen science, native plants, and shorescaping. The educational sessions were designed to inform and empower watershed residents to make changes to protect the Finger Lakes. This educational week was organized by the Finger Lakes Regional Watershed Alliance, specifically the Lake Friendly Living Coalition of the Finger Lakes, which consists of the many different lake associations in the region. CCE Onondaga Water and Ecology Educator Camille Marcotte presented tips and resources for landscaping shorelines to prevent erosion and protect water quality on May 6<sup>th</sup>. 43 attendees
- **iMapInvasives Training** (June 10<sup>th</sup>, Zoom): This interactive session, presented by CCE Onondaga Water and Ecology Educator Camille Marcotte, offered a refresher of some common invasive species in the Finger Lakes. The session also included a basic training on the web and mobile application versions of iMapInvasives, an online database used to

*Helping Put Knowledge to Work*

Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities and provides equal program and employment opportunities.

track and report invasive species sightings. This program was offered during New York's annual Invasive Species Awareness Week. 12 attendees

- **Transitioning Your Lawn to a Meadow** (July 14<sup>th</sup>, Zoom): From this presentation, people who live around Skaneateles Lake learned more about ways to steward their land, specifically the benefits of transitioning their lawn or a portion of their lawn to a more natural, meadow landscape. Sam Quinn, Researcher and Instructor from SUNY ESF's Restoration Science Center, spoke about how to create a meadow on your property and shared some beautiful photo examples! 50 attendees
- **Spotted Lanternfly Information Session** (September 22<sup>nd</sup>, Zoom): Spotted Lanternfly (SLF) is an invasive pest from Asia that mainly feeds on tree of heaven, but can also feed on plants, including grapevine, hops, maple, walnut, fruit trees and more. Participants learned how to get involved in identifying and reporting SLF in this webinar presented by CCE Onondaga Forestry Program Specialist Kristina Ferrare. 10 attendees
- **Streams 101 for Skaneateles Lake** (October 13<sup>th</sup>, Zoom): Skaneateles Lake has about 150 distinct watercourses that flow into the lake, all of which play a role in the lake's water quality. Homeowners and other stakeholders learned the basics of how stream systems function and the role stream health plays in the water quality of the lake. Presented by Carl Schwartz from US Fish and Wildlife. 13 attendees

### Trainings and Stewardship Opportunities

- **Boat Stewards Training (July 18<sup>th</sup>, Buzz Roberts' house):** CCE Water and Ecology Educator provided training on aquatic invasive species identification for Skaneateles Lake Association Boat Stewards. 20 attendees

### Municipal and Organizational Support

Municipal Stakeholders Meetings are meant to encourage communication and collaboration between the municipalities and organizations within the Skaneateles Lake Watershed towards protecting and maintaining water quality.

- **Skaneateles Lake Association (SLA) Lake Ecology Team Meetings** (January 13<sup>th</sup>, February 3<sup>rd</sup>, March 3<sup>rd</sup>, April 7<sup>th</sup>, May 5<sup>th</sup>, June 2<sup>nd</sup>, July 14<sup>th</sup>, September 8<sup>th</sup>, November 3<sup>rd</sup>, December 8<sup>th</sup>, Zoom) CCE Water Quality Educator attended 10 out of 12 monthly meetings for the SLA Lake Ecology Team focused on preventing nonpoint source pollution and harmful algal blooms in Skaneateles Lake, and other water quality related initiatives. About 30 attendees on average
- **Skaneateles Municipal Stakeholders Website Meetings:** CCE Water Quality Educator shared updates and analytics on the Skaneateles Lake Watershed website, and received feedback and input from municipal stakeholders. Efforts to promote, publicize, and update the website were also discussed. Also, additional initiatives the group could undertake were explored at meetings. A list of meetings by date is included below (all meetings were held via Zoom):
  - March 18<sup>th</sup>, 9 municipal leaders and decision makers attended
  - March 22<sup>nd</sup>, 7 municipal leaders and decision makers attended
  - April 12<sup>th</sup>, 11 municipal leaders and decision makers attended
  - June 14<sup>th</sup>, 7 municipal leaders and decision makers attended

- September 24<sup>th</sup>, 10 municipal leaders and decision makers attended
- December 3<sup>rd</sup>, 11 municipal leaders and decision makers attended
- **Public Information Session for EarthTec Treatment of Harmful Algal Blooms (HABs) in Skaneateles Lake** (September 16<sup>th</sup>, Zoom): This meeting provided information on the regulatory review of an application for use of the aquatic pesticide EarthTec in Skaneateles Lake to protect the local water supply. EarthTec is an algaecide/bactericide. Pending regulatory review, algaecide treatment would occur in near-shore areas (north basin of Skaneateles Lake) to reduce cyanobacteria contributing to harmful algal blooms. CCE Onondaga staff helped facilitate the meeting, including the question and answer period. 70 attendees
- **CCE Onondaga Annual Meeting** (October 21<sup>st</sup>, Zoom): 30 attendees
- **SLWAP Annual Meeting** (December 2<sup>nd</sup>, Zoom): Annual meeting for the Skaneateles Lake Watershed Agriculture Program

### Community Presentations

To engage watershed residents, Skaneateles Lake water supply consumers, and other watershed stakeholders who might not be able to attend public workshops, CCE educators gave the following presentations to organizations and community groups upon request in 2021:

- **iMapInvasives Presentation for Skaneateles High School Environmental Club** (October 27<sup>th</sup>, Zoom): This presentation talked about common invasive species in the Skaneateles Lake watershed, and also included a basic training on the web and mobile application versions of iMapInvasives. 33 youth and 2 adult attendees

### Community Outreach

Typically, to expand reach, increase water quality awareness, and promote stewardship in the watershed community and amongst water supply consumers, CCE educators provide education and outreach, mostly through tabling, on water quality related topics. Topics include, but are not limited to: watersheds, nonpoint source pollution, and water quality, HABs and other contaminants, and best practices for homeowners and landowners. **In-person community outreach and tabling events that CCE Onondaga typically attends were cancelled due to the pandemic.**

- **SUNY ESF Job Shadow** (January 7<sup>th</sup>, Zoom): Connected with students and shared information on current job duties and water quality work. Answered questions about water quality field and current position. 1 student
- **Watersheds Video with 4-H** (June 7<sup>th</sup> and July 19<sup>th</sup>, Zoom and CCE Onondaga office): CCE Onondaga 4-H youth learned about watersheds and the water cycle, and filmed a video about both topics. They provided instructions and demonstration on how to build a temporary model watershed. A copy of the video was shared with staff at the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) for their annual Environmental Field Days event (which was virtual in 2021). NYS OPRHP then shared the video, instructions and curriculum with local school districts. 7 youth assisted with filming and learned about watersheds/the water cycle. The video was also posted to the CCE Onondaga YouTube page and has 29 views.



### **Skaneateles Lake Wave Reviews**

The *Skaneateles Lake WAVE Review* is a newsletter by CCE Onondaga that includes updates and information from important watershed agencies and organizations. The newsletter is delivered to watershed residents in print, as well as shared online through CCE's listservs. In 2021, CCE Onondaga published two editions of the Skaneateles WAVE Review newsletter on June 22<sup>nd</sup>, 2021 (summer) and December 15<sup>th</sup>, 2021 (winter). The winter newsletter was printed through Zoom Printing, Inc. and mailed directly to 2,730 watershed properties.

**Summer Skaneateles Lake WAVE Review Newsletter:** Topics for the summer edition included:

- Skaneateles Education Program Update by CCE Onondaga
- Land Acquisition a Win for Skaneateles Lake by Finger Lakes Land Trust
- Hemlock Woolly Adelgid Monitoring and Control by Onondaga County Soil and Water Conservation District
- Finger Lakes Coalition Hosts Lake Friendly Awareness Week by the Skaneateles Lake Association
- Water quality contacts for residents

**Winter Skaneateles Lake WAVE Review Newsletter:** Topics for the winter newsletter included:

- A Year in Review by CCE Onondaga
- Land Trust Adds One-Mile Hiking Trail to Network of Conserved Lands Overlooking Skaneateles Lake by Finger Lakes Land Trust
- The Endless Summer Storms by the Skaneateles Lake Watershed Agricultural Program, Onondaga County Soil and Water Conservation District
- Waste Ag Tire Recycling Project by the Skaneateles Lake Watershed Agricultural Program, Onondaga County Soil and Water Conservation District
- Watershed Tributary Restoration Projects Showcased on Skaneateles Lake by the Skaneateles Lake Watershed Agricultural Program, Onondaga County Soil and Water Conservation District
- Water quality contacts for residents

### **FEATURED in local media (print/video)**

To promote programming, in 2021, Educators worked with various news outlets and tracked that the Skaneateles Lake Watershed Water Quality Education Program and its programs were highlighted/featured in 6 articles created, published, and/or broadcasted by outside publications and news platforms:

- *"Public invited to Lake Friendly Living week events held May 2-8"* (April 28<sup>th</sup>, Skaneateles Press): Print article
- [\*"Looking After the Lake: Coalition Launches Lake Friendly Living Awareness Week"\*](#) (April 8<sup>th</sup>, Edible Finger Lakes): Article
- [\*"Lake Friendly Living week coming this may to the Finger Lakes"\*](#) (April 7<sup>th</sup>, FingerLakes1.com): Article
- [\*"Coalition launches Lake Friendly Living Week"\*](#) (April 9<sup>th</sup>, Daily Messenger): Article

- [“New event stresses lake-friendly living in the Finger Lakes”](#) (April 12<sup>th</sup>, Auburn Citizen): Article
- [“Lake Friendly Living Awareness Week is May 2-8”](#) (April 12<sup>th</sup>, Finger Lakes Times): Article

### **Electronic Communications**

Throughout 2021, periodic newsletters and announcements were distributed through the CCE Onondaga Skaneateles Lake mailing lists informing stakeholders of ongoing educational programming and stewardship opportunities in the Skaneateles Lake Watershed. The Skaneateles Lake e-mail list includes over 700 residents, municipal officials, partners, and businesses. Educators also shared information and upcoming events digitally via the CCE Onondaga website, Skaneateles Lake Watershed website, and CCE Onondaga Facebook, Twitter and Instagram accounts.

### **E-Newsletters**

Summarized by e-mail subject, date sent, # of recipients/opens/and link clicks, and a brief description of content. E-mails are all sent through MailChimp to the Skaneateles Lake Watershed listserv. E-mail archives can be accessed by right clicking hyperlinked e-mail subjects below.

- [Skaneateles Education Program February Updates - HWA Program](#) (February 18<sup>th</sup>). This newsletter shared information on the HWA Planning and Management program, as well as information on the NYSDEC Buffer in a Bag program, and Spotted Lanternfly and Tree of Heaven volunteer opportunities. It was sent to 472 recipients, with 159 opens and 24 clicks on links for more information.
- [Hemlock Woolly Adelgid webinar reminder!](#) (February 25<sup>th</sup>). This included a reminder for the HWA program in March, and was sent to 472 recipients, with 141 opens and 14 clicks on links for more information.
- [Hemlock Woolly Adelgid Webinar Email to Businesses](#) (February 25<sup>th</sup>). This email provided information on the HWA program in March for our business listserv, and was sent to 248 recipients, with 42 opens and 5 clicks on links for more information.
- [Skaneateles Education Program April Updates](#) (April 5<sup>th</sup>). This email shared information on the Lake Friendly Living Awareness week events, including CCE Onondaga’s presentation on shorescaping. The newsletter also shared an article on zebra mussels discovered in aquarium moss balls, the NYSDEC Buffer in a Bag program, and the Finger Lakes PRISM macrophyte survey effort. It was sent to 471 recipients, with 156 opens and 21 clicks on links for more information.
- [Skaneateles Education Program May Updates](#) (May 3<sup>rd</sup>). This newsletter shared a reminder for the Lake Friendly Living Awareness week events, and was sent to 468 recipients, with 162 opens and 28 clicks on links for more information.
- [Skaneateles Education Program June Updates](#) (May 27<sup>th</sup>). Shared information on the iMapInvasives training and Finger Lakes PRISM’s Invasive Species week events. The email also shared information on lake friendly landscaping, including the date for the lawn to meadow program. Lastly, this email shared information on the Keep Forests

Healthy workshop, and was sent to 468 recipients, with 140 opens and 19 clicks on links for more information.

- [Invasive Species Awareness Week Reminder Email](#) (June 7<sup>th</sup>). Shared a reminder for the invasive species and iMapInvasives training and information on Finger Lakes PRISM's Invasive Species Awareness Week events, and was sent to 467 recipients, with 130 opens and 5 clicks on links for more information.
- [Summer 2021 Skaneateles WAVE Newsletter](#) (June 22<sup>nd</sup>). Shared link to the digital version of the summer Skaneateles WAVE newsletter, and was sent to 707 recipients, with 220 opens and 70 clicks on links for more information.
- [Skaneateles Education Program July Updates](#) (July 7<sup>th</sup>). Shared information for the Transitioning your Lawn to a Meadow program, as well as the homeowner's septic system program with information for each county in the watershed. The email also shared links to the NY Sea Grant Guide to Native Plants for Shorelines, and was sent to 466 recipients, with 156 opens and 31 clicks on links for more information.
- [Reminder - Lawn to Meadow Program](#) (July 13<sup>th</sup>). This newsletter shared a reminder for the Transitioning your Lawn to a Meadow program, and was sent to 466 recipients, with 166 opens and 24 clicks on links for more information.
- [Skaneateles Education Program August Updates](#) (August 13<sup>th</sup>). Shared the information for the Spotted Lanternfly program and the NYS DEC's Sustainable Shorelines program, as well as the Lawn to Meadow Demonstration site visit event. The email also shared information on the septic system program for homeowners, as well as Finger Lakes PRISM Spotted Lanternfly info and the CNY Regional Planning Board's Gardens and Gutters newsletter. It was sent to 466 recipients, with 166 opens and 23 clicks on links for more information.
- [No Wake Zone Announcement](#) (August 27<sup>th</sup>). This email shared information on the temporary no wake zone emergency order on Skaneateles Lake, and was sent to 464 recipients, with 200 opens and 30 clicks on links for more information.
- [Skaneateles Education Program September Updates](#) (September 7<sup>th</sup>). Provided information on the Spotted Lanternfly program, and save the date for the Stream Systems program. This email also provided information on the septic system program for homeowners, a report on lakeshore homeowners' attitudes towards aquatic invasives management, and harmful algae bloom info. It was sent to 464 recipients, with 149 opens and 25 clicks on links for more information.
- [Public Information Session for EarthTec Treatment](#) (September 9<sup>th</sup>). Shared information on the Public Information Session for EarthTec Treatment of Harmful Algal Blooms (HABs) in Skaneateles Lake, and was sent to 462 recipients, with 174 opens and 38 clicks on links for more information.
- [Spotted Lanternfly Reminder](#) (September 21<sup>st</sup>). Provided a reminder for the Spotted Lanternfly program, and shared information on the Cortland County SWCD's Septic System Maintenance program, and was sent to 463 recipients, with 141 opens and 13 clicks on links for more information.
- [Skaneateles Education Program October Updates!](#) (October 7<sup>th</sup>). Provided information on the Stream Systems program, and shared follow-up materials from the Public Information Session for EarthTec Treatment of HABs. The email also shared information on Spotted Lanternfly, the NYS Association of Conservation Commissions conference, as well as

well water contractor reports. It was sent to 463 recipients, with 142 opens and 16 clicks on links for more information.

- [Reminder - Stream Systems Program](#) (October 12<sup>th</sup>). Provided a reminder for the Stream Systems program, and was sent to 463 recipients, with 131 opens and 8 clicks on links for more information.
- [Skaneateles Education Program Year End Email](#) (December 15<sup>th</sup>). This newsletter shared the link to the digital version of the winter Skaneateles WAVE newsletter. This email also included an article on the SUNY ESF Restoration Science Center's work in Skaneateles, a save the date for the road salt program, and information on heating oil storage tanks. It was sent to 468 recipients, with 185 opens and 24 clicks on links for more information.

### **Skaneateles Lake Watershed Website**

Starting in 2019, CCE Onondaga began putting together a website for the Skaneateles Lake watershed. The website contains sections on: watershed rules and regulations; boating; agriculture; soil and erosion control; septic systems; wells; landscaping; timber harvesting; frequently asked questions; road salt use; and city watershed programs. It presents regularly updated data on lake temperatures, elevation, and dam discharges and has maps of the watershed and protected parcels. The site also provides information on Harmful Algae Blooms (HABs) and invasive species, both critical environmental issues facing the lake. The website was completed and launched July 1, 2020. One new page on algae control was added in 2021. For more detailed information on website analytics, view the Skaneateles Lake Watershed Website 2021 Analytics report.

Information on website visits and pageviews for January 1, 2021 – December 31, 2021 are included below:

- Total visits: 9,888 (average visits per month: 824)
- Unique visitors: 6,934 (average number of unique visitors per month: 577)
- Total pageviews: 16,146 (average pageviews per month: 1,345)
- Top 5 most viewed pages:
  - Home (5,806 views)
  - Lake Data (4,030 views)
  - Boat Launch Locations (1,392 views)
  - HABs and Blue-Green Algae (1,156 views)
  - FAQ (369 views)

### **Facebook, Twitter, Instagram and YouTube**

CCE educators posted a total of 50 Facebook posts, 50 Twitter posts, and 41 Instagram posts in 2021 regarding water quality issues of interest for the Skaneateles watershed. The average reach per Facebook post was 99 views, and the average amount of engagements (clicks, reactions, comments and shares) per Facebook post was 4. The average reach per Twitter post was 190 views and the average amount of engagements (clicks, retweets, replies, follows and likes) per Twitter post was 4. On Instagram, the average number of likes per post was 9, with an overall total of 381 likes for the year. Total CCE Onondaga social media followers (potential reach for

posts): 1,008 Facebook followers, 562 Twitter followers and 483 Instagram followers (as of February 22, 2021).

CCE Onondaga shifted to virtual programming at the onset of the COVID-19 pandemic. As a result, most programs have been recorded and posted to the CCE Onondaga YouTube page. As of February 22<sup>nd</sup>, 2021, videos of programs have the following numbers of views:

- Stewardship in Skaneateles (2020 event): 113 views
- Landscaping for Shorelines (2020 event): 92 views
- Hemlock Woolly Adelgid Planning and Management in Skaneateles: 69 views
- Transitioning Your Lawn to a Meadow: 129 views
- Public Information Session for EarthTec Treatment of Harmful Algal Blooms in Skaneateles Lake: 19 views
- Stream Systems 101 for Skaneateles: 27 views

### **Consumer Calls and E-mail Inquiries for Water Quality/ Skaneateles**

CCE educators also provide direct support to constituents who inquire about water quality issues and watershed protection for both the Skaneateles Lake watershed and greater Onondaga County. Consumer requests for information come to CCE as phone calls, e-mails, and sometimes drop-in visits. Educators provide information, support, and resources depending on the inquiry. All inquiries are provided a response within 2-weeks. In 2021, the average number of consumer calls answered related to water quality and/or the Skaneateles watershed was 3 inquiries per month; with 35 total consumer calls answered for the year.

### **Program Evaluations, Surveys, and Feedback**

In order to continuously improve and grow our programming to effectively reach, engage, educate, and support our target audience and constituents, CCE educators develop and distribute confidential surveys for program participants to fill out after programming, events, and workshops. Educators use the results to evaluate, update, and grow our programming and meet the needs of our constituents. Surveys were distributed electronically in 2021.

- *Program Evaluation: Hemlock Woolly Adelgid Planning and Management in Skaneateles.* This evaluation was distributed after the 3/1/21 HWA program to record and evaluate feedback from the program. There were 38 attendees and 6 evaluation responses, for a response rate of 16%.
- *Program Evaluation: iMapInvasives Training.* This survey was distributed after the 6/10/21 iMapInvasives training to record and evaluate feedback from the training. There were 12 attendees and 3 evaluation responses, for a response rate of 25%.
- *Program Evaluation: Transitioning your Lawn to a Meadow.* This survey was distributed after the 7/14/21 Lawn to Meadow webinar to record and evaluate feedback from the webinar. There were 50 attendees and 8 evaluation responses, for a response rate of 16%.
- *Program Evaluation: Spotted Lanternfly Information Session.* This survey was distributed after the 9/22/21 Spotted Lanternfly webinar to record and evaluate feedback from the webinar. There were 10 attendees and 3 evaluation responses, for a response rate of 30%.

- *Program Evaluation: Stream Systems 101 for Skaneateles.* This survey was distributed after the 10/13/21 Stream Systems webinar to record and evaluate feedback from the webinar. There were 13 attendees and 6 evaluation responses, for a response rate of 46%.

**Salary Full-Time Equivalents used to deliver the program 2021**

Team Coordinator (Water Quality)	0.21
Subject Educator (Water Quality)	1.00
Subject Educator (Water Quality)	0.00
Resource Educator (Water Quality/Forestry)	0.01
Social Media Platform & IT	0.03
Administrative Assistant (Water Quality)	0.13
Total FTE	1.38

Report compiled and submitted by Camille Marcotte, CCE Onondaga, on 3/2/2022.



**When:** Monday March 1st, 2021, 10-11 AM

# Hemlock Woolly Adelgid:

## Management and Planning

Register: [bit.ly/3p1jSCc](https://bit.ly/3p1jSCc)

**Where:** Your computer!

**Hosted by:** CCE Onondaga County and the New York State Hemlock Initiative at Cornell University

### About the Event

The eastern hemlock tree (*Tsuga canadensis*) is one of the most important tree species in New York forests. Here in New York, hemlocks are threatened by an invasive forest pest, the **hemlock woolly adelgid** (HWA). HWA reached New York in the 1980s and continues to spread today, infesting new areas each year. In the Skaneateles watershed, HWA is well established in the southern watershed with several new locations identified in 2020.

In this talk, Caroline Marschner of the New York State Hemlock Initiative will present basic information on hemlocks and HWA, and focus on the management strategies available and tools for planning a response to HWA on your property. She will cover the biological control research for HWA at Cornell University.

Register online at [bit.ly/3p1jSCc](https://bit.ly/3p1jSCc)





# IMAPINVASIVES TRAINING

Thursday, June 10th  
11:00am - 12:00 pm

Join us for this interactive session which will offer a refresher of some common invasive species in the Finger Lakes. The session will also include a basic training on the web and mobile application versions of iMapInvasives, an online database used to track and report invasive species sightings.

**Register:**

**[https://cornell.zoom.us/meeting/register/tJEtc0-rpj4pGdMYsU87fqV\\_M58RaCfyw8gI](https://cornell.zoom.us/meeting/register/tJEtc0-rpj4pGdMYsU87fqV_M58RaCfyw8gI)**





# FINGER LAKES LAKE FRIENDLY LIVING WEEK

MAY 2 - 8, 2021

Photo by Mike  
Duttweiler

## THURSDAY, MAY 6, 2021 AT 3:00 PM LANDSCAPING FOR CAYUGA LAKE SHORELINES

There are many ways homeowners can manage and prevent erosion and runoff on their property. Water quality concerns can be addressed along shorelines and streambanks, and across lawns leading to the lake. Learn about tips and resources for landscaping shorelines to prevent erosion and protect water quality.

### PRESENTER: CAMILLE MARCOTTE CORNELL COOPERATIVE EXTENSION OF ONONDAGA COUNTY



Camille Marcotte is the Water and Ecology Educator for Cornell Cooperative Extension Onondaga County working on the Skaneateles Lake Watershed Education Program. Camille has a B.S. in Environmental Studies with a concentration in Environmental Communication, Culture and Writing from the SUNY College of Environmental Science and Forestry and an M.S. in Natural Resources from the University of Vermont.

TO REGISTER, VISIT:  
[WWW.FLRWA.ORG/LAKE-FRIENDLY-LIVING](http://WWW.FLRWA.ORG/LAKE-FRIENDLY-LIVING)



JOIN US FOR A WEBINAR ON

# TRANSITIONING YOUR LAWN TO A MEADOW

Presented by Sam Quinn, SUNY ESF  
Restoration Science Center

**WEDNESDAY, JULY 14TH, 2021**

**11AM-12PM**

**REGISTER: [BIT.LY/2U9Y5UE](https://bit.ly/2U9Y5UE)**

Land conservation and stewardship can help protect water quality, ensuring clean drinking water is available for future generations. At this webinar, people who live around Skaneateles Lake can learn more about ways to steward their land to protect water quality, promote birds, bees, butterflies and other beneficial wildlife, specifically the benefits of transitioning your lawn or a portion of your lawn to a more natural, meadow landscape. Sam Quinn from SUNY ESF's Restoration Science Center will speak about how to create a meadow on your property and will share some beautiful photo examples!

# Skaneateles Lake Watershed Website

## 2021 Analytics Report

### Key Takeaways, Suggestions, and Opportunities

- Seasonally, most of the website traffic is between the months of April and September (the most visits and pageviews). This would be a good time to focus on updating the website.
- Most visitors accessed the website either directly through the URL (49.8%) or through a search engine (47.3%) compared to referrals from other websites or social media. A good practice is to continue sharing direct links to pages and the general skanlakeinfo.org URL on any outreach materials.
- The top 3 websites that referred visitors to the Skaneateles Lake Watershed website were the Town of Skaneateles website, CCE Onondaga website, and Village of Skaneateles website. Other websites that referred visitors were the Onondaga County website, the Daily Orange, and Town of Scott website.
- Most visitors view the website on a mobile device (59%). When updating pages, continue to ensure accessibility/compatibility with mobile devices.
- The most popular search keywords that returned clicks to the website are related to lake data queries (lake temperature, lake elevation, etc.). Ensuring that the lake data page is regularly updated and even sharing additional and historical data might be interesting to users.
- Boat launch and harmful algae bloom information are also frequently searched keywords that direct users to the website. Consider making additions to those pages, as well.
- Most sessions and pageviews are within 30 days, so users are regularly checking the website at least each month, if not each day or week.
- Most pages have a greater than 50% exit rate, which means visitors are leaving after viewing that page without visiting any other pages on the website. There is also an average of 1.32 pages per session, which means users are looking at a little more than one page each time they visit the website. The average time on a page is 1 minute and 45 seconds. To keep users on the website longer, create more interactive content.
- Ensure regular updates to the homepage with news, alerts, etc. as it is the most frequently visited page.

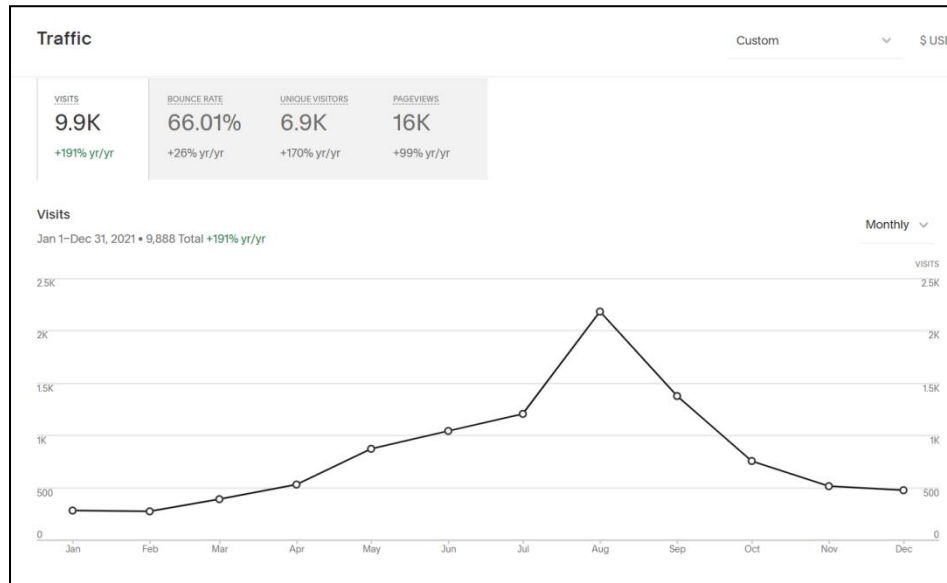
**\*Because there are so many links to other sources on the website, it's not necessarily bad that users are not spending a ton of time on the website. However, in order to keep users longer or have them explore additional pages on the website, consider adding engaging and interactive embedded content.**

### Visits, Unique Visitors and Overall Pageviews

**Visits:** The total number of visits in a selected time. Any hits within a 30-minute browsing session count as one visit.

**Unique Visitors:** An estimate of the total number of actual visitors that reached the site.

**Pageviews:** The total number of views (page requests) across all pages.



*This table shows the number of visits, unique visitors and pageviews for each month, as well as the yearly totals*

Month	Visits	Unique Visitors	Pageviews
January	280	222	502
February	274	203	513
March	387	290	660
April	530	384	903
May	873	618	1,383
June	1,043	701	1,662
July	1,207	878	1,997
August	2,183	1,506	3,698
September	1,375	918	2,196
October	751	533	1,138
November	509	339	800
December	476	342	694
<b>Yearly Total</b>	<b>9,888</b>	<b>6,934</b>	<b>16,146</b>

## Acquisition

### Traffic Sources

**Direct:** Direct represents when someone typed your URL directly into their browser, rather than coming to your site from another page. Links opened in a new window also count as Direct.

**Search:** The Search channel represents organic traffic from Google and other search engines.

**Referral:** Referral represents websites and blogs that link to your content that don't fit under other channels.

**Social:** Social represents traffic to your site from social media platforms like Facebook, Twitter, Pinterest, LinkedIn, Instagram, and YouTube.

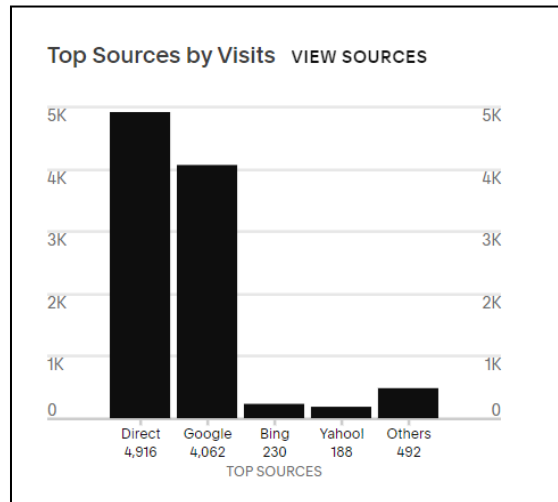
**Email:** Email represents traffic from email marketing campaigns (like MailChimp).

*This table shows the traffic sources and corresponding numbers of visits, as well as the percentage of visits from that traffic source*

Source	Visits
Direct	4,920 (49.8%)
Search	4,681 (47.3%)
Referral	216 (2.18%)
Social	61 (0.62%)
Email	10 (0.10%)

### Search Engine Sources

Most search traffic comes from Google compared to other search engines.



*This table shows the top devices (mobile, desktop, etc.) by both visits and users and percentages of each*

Top Devices by Visits and Users	Visits	Users
Mobile	5,846 (59%)	3,983 (55.3%)
Desktop	3,805 (38%)	3,015 (41.9%)
Tablet	237 (2%)	201 (2.8%)

### Website Search Keywords from Google

Clicks: 3,707

*The number of times a user clicked through to the website from a Google search result*

Impressions: 85,028

*The number of times a user saw a link to the website in the Google search results*

Click Rate: 4.36%

*The percent of times a user clicked through to the website after seeing it in Google search results*

Average Position: 22

*The average position where the website appeared in Google search results*

\* Clicks and taps to the website from search engines other than Google: 566 total clicks

*This table shows Search Keywords that Returned Over 30 Clicks*

<b>Search Keyword</b>	<b>Page</b>	<b>Clicks</b>	<b>Impressions</b>	<b>Click Rate</b>	<b>Average Position</b>
<b>Skaneateles lake level</b>	Weekly Lake Data	223 (6.02%)	434	51.38%	2.15
<b>Skaneateles lake temperature</b>	Weekly Lake Data	221 (5.96%)	1,994	11.08%	5.22
<b>Skaneateles lake data</b>	Weekly Lake Data	191 (5.15%)	414	46.14%	2.01
<b>Skaneateles lake water temperature</b>	Weekly Lake Data	120 (3.24%)	1,270	9.45%	5.06
<b>Skaneateles lake water level</b>	Weekly Lake Data	109 (2.94%)	260	41.92%	2.12
<b>Skaneateles boat launch</b>	Boat Launch Locations	66 (1.78%)	525	12.57%	3.59
<b>Algae bloom Skaneateles Lake</b>	HABs and Blue-Green Algae	51 (1.38%)	117	43.59%	1.86
<b>Boat launch Skaneateles Lake</b>	Boat Launch Locations	43 (1.16%)	272	15.81%	3.12
<b>Skaneateles algae bloom</b>	HABs and Blue-Green Algae	33 (0.89%)	77	42.86%	1.82
<b>Skaneateles lake boat launch</b>	Boat Launch Locations	30 (0.81%)	504	5.95%	3.71
<b>Blue green algae Skaneateles Lake</b>	HABs and Blue-Green Algae	30 (0.81%)	52	57.69%	1.02

## Audience Demographics and Behavior

Total users for 2021 = 7,147

New users in 2021 = 7,163

### Recency and Frequency

*This table shows New vs. Returning Users and the percentage of each type of user*

	Users	Percentage
<b>New</b>	7,111	82.7%
<b>Returning</b>	1,485	17.3%

### Demographics

Demographics are only available for a small segment of the total users (around 16% for both gender and age).

*This table shows users and percent users by gender*

Gender (Only available for 16.59% users)	Users	Percentage
<b>Male</b>	696	58.7%
<b>Female</b>	490	41.3%

*This table shows users and percent users by age group, as well as average session duration by age group*

Age (Only available for 16.37% of users)	Users	Percentage	Average session duration by age (min:sec)
<b>18-24</b>	124	10.69%	1:18
<b>25-34</b>	225	19.23%	0:33
<b>35-44</b>	160	13.68%	0:45
<b>45-54</b>	189	16.15%	0:38
<b>55-64</b>	264	22.56%	0:50
<b>65+</b>	208	17.78%	1:05

## Days Since Last Session

This table shows the number of days between the close of one session and the opening of another

Days Since Last Session	Sessions	Pageviews
0	8,854	11,647
1	403	497
2	222	283
3	157	201
4	148	182
5	136	167
6	141	164
7	49	64
8-14	157	175
15-30	350	574
31-60	98	145
61-120	32	35
121-364	18	27

## Geography

### Countries

Most visits are from the United States. The next highest country is Canada with 281 visits (2.85%). Other countries that show up in the analytics (all with less than 1% of visits), include China, Puerto Rico, Ireland, India, Philippines, Germany, Uganda, Australia, United Kingdom, Mexico, Turkey, France, Kenya, Republic of Korea, Netherlands, Poland, Austria, Belgium, Spain, Hong Kong, Israel, Iraq, Sri Lanka, Norway, Pakistan, Qatar, and Russia.

### States

New York is the state with the most visits (7,348). States with over 100 visits (excluding NY) include: Pennsylvania (319), Virginia (182), New Jersey (116), Ohio (112) and Florida (105). States with no visits: Alaska, Kansas, South Dakota, and Nebraska.

### Cities

Top 20 cities in New York with total visits and users (as well as total numbers for location unknown/not set/other). This data is from Squarespace and is by visits. The data below is from Google Analytics and is organized by users.

*This table shows the top 20 cities in New York with visits and users (user data is from Google, so it's not available for every city identified in Squarespace)*

Name of City/Town in New York State	Visits	Users
Skaneateles	1,246	707
Auburn	1,030	573
Syracuse	797	536
Cortland	371	182
Clifton Park	306	ND (no data)
New York	291	554
Albany	247	216
Brooklyn	228	ND
Utica	208	14
Manlius	206	101



Buffalo	202	54
Ithaca	201	98
Liverpool	154	ND
The Bronx	142	ND
Camillus	135	ND
Rochester	132	78
Moravia	62	15
Schenectady	56	25
Fairport	52	45
Oneida	51	8
Location Not Set/Unknown/Other	553	757

## Website Content

### Summary Statistics for Pages and Site Content

Total sessions in 2021 = 10,765

Average session duration = 0:39

Most of our sessions are 10 seconds or less with an average session duration of 39 seconds.

Pages per session = 1.32

Our average number of pages per session is 1.32 (or slightly more than one page).

Average Bounce Rate: 66.01%

The percent of visits that contained only a single pageview (calculated by the number of visits that contained only a single pageview divided by the total number of visits).

Average time spent on a page: 105 seconds (1 minute and 45 seconds)

This is the average amount of time a user spends on a single page before navigating to another part of the site.

Exit rate: 61.24%

This metric is the percentage of views to a given page that did not result in any more pageviews on the website. This is helpful for identifying pages that cause visitors to exit the site.

### Top Viewed Pages

Home and lake data are consistently the top 2 viewed pages, even when splitting out the data by quarter. Boat launch locations is always in the top 5, as well. In the summer and fall, HABs and the new Algae Control pages were in the top 5.

*This table shows the top viewed pages and the time spent on each page, as well as bounce and exit rates for each of the top ten viewed pages*

Page Name	Views	Time on Page (min:sec)	Bounce Rate (%)	Exit Rate (%)
Home	5,806	1:33	62.28%	62.66%

<b>Lake Data</b>	4,030	1:46	66.18%	64.94%
<b>Boat Launch Locations</b>	1,392	1:49	69.72%	63.43%
<b>HABs and Blue-Green Algae</b>	1,156	2:24	72.11%	69.64%
<b>FAQ</b>	369	0:59	61.9%	36.59%
<b>Skaneateles Watershed Map</b>	365	2:35	78.89%	59.18%
<b>Landscaping</b>	346	1:50	57.94%	59.25%
<b>Contact</b>	336	1:23	82.11%	53.27%
<b>How can I help?</b>	273	1:19	67.31%	45.79%
<b>City of Syracuse Programs</b>	226	1:44	63.71%	56.64%

### Landing Pages

The pages through which visitors enter our site. Most sessions (50%) entered through the home page and 23% of sessions entered through the Lake Data page. There is a high bounce rate from some of the landing pages and overlap between the landing and exit pages, which means users are often entering and exiting from the same page (and not navigating to other pages before they exit).

*This table shows the number of pageviews by page for the top ten pages with the most pageviews, as well as other statistics like average time on page and bounce rate for each page*

Page	Pageviews	Unique Pageviews	Avg. Time on Page	Entrances	Bounce Rate	% Exit
	14,161 % of Total: 100.00% (14,161)	11,628 % of Total: 100.00% (11,628)	00:02:05 Avg for View: 00:02:05 (0.00%)	10,765 % of Total: 100.00% (10,765)	73.68% Avg for View: 73.68% (0.00%)	76.02% Avg for View: 76.02% (0.00%)
1. /	7,315 (51.66%)	5,486 (47.18%)	00:01:13	5,364 (49.83%)	59.92%	68.65%
2. /weekly-lake-data	2,911 (20.56%)	2,562 (22.03%)	00:04:09	2,461 (22.86%)	86.83%	85.57%
3. /boat-launch-locations	1,038 (7.33%)	893 (7.68%)	00:03:26	785 (7.29%)	83.95%	80.73%
4. /habs-and-bluegreen-algae	866 (6.12%)	785 (6.75%)	00:05:02	756 (7.02%)	89.55%	88.22%
5. /skaneateles-watershed-map	227 (1.60%)	213 (1.83%)	00:05:05	180 (1.67%)	88.33%	85.90%
6. /landscaping	212 (1.50%)	196 (1.69%)	00:03:14	98 (0.91%)	84.69%	77.36%
7. /how-can-i-help	161 (1.14%)	158 (1.36%)	00:03:12	45 (0.42%)	93.33%	75.78%
8. /invasive-species	144 (1.02%)	136 (1.17%)	00:05:29	134 (1.24%)	91.79%	90.97%
9. /city-of-syracuse-programs	138 (0.97%)	132 (1.14%)	00:05:19	117 (1.09%)	84.62%	85.51%
10. /faq	137 (0.97%)	131 (1.13%)	00:02:59	57 (0.53%)	87.72%	72.26%

### Pages with Longest Average Time on Page:

The top ten pages with the longest average time on the page are: Algae Control, Events, Invasive Species, Permit Info, City of Syracuse Programs, Skaneateles Watershed Map, HABs and Blue-Green Algae, Weekly Lake Data, Agriculture, and Microcystin Results. Even though some of these pages have lower numbers of pageviews, they tend to engage users for longer with the shortest average time on page at 3 minutes and 51 seconds. See table below.

*This table shows pages by highest average time on page*

Page ?	Pageviews ?	Unique Pageviews ?	Avg. Time on Page ? ↓	Entrances ?	Bounce Rate ?	% Exit ?
	14,161 % of Total: 100.00% (14,161)	11,628 % of Total: 100.00% (11,628)	00:02:05 Avg for View: 00:02:05 (0.00%)	10,765 % of Total: 100.00% (10,765)	73.68% Avg for View: 73.68% (0.00%)	76.02% Avg for View: 76.02% (0.00%)
1. /algae-control	73 (0.52%)	63 (0.54%)	00:08:33	51 (0.47%)	82.35%	76.71%
2. /events	39 (0.28%)	35 (0.30%)	00:05:55	29 (0.27%)	93.10%	76.92%
3. /invasive-species	144 (1.02%)	136 (1.17%)	00:05:29	134 (1.24%)	91.79%	90.97%
4. /permit-info	56 (0.40%)	50 (0.43%)	00:05:20	41 (0.38%)	87.80%	75.00%
5. /city-of-syracuse-programs	138 (0.97%)	132 (1.14%)	00:05:19	117 (1.09%)	84.62%	85.51%
6. /skaneateles-watershed-map	227 (1.60%)	213 (1.83%)	00:05:05	180 (1.67%)	88.33%	85.90%
7. /habs-and-bluegreen-algae	866 (6.12%)	785 (6.75%)	00:05:02	756 (7.02%)	89.55%	88.22%
8. /weekly-lake-data	2,911 (20.56%)	2,562 (22.03%)	00:04:09	2,461 (22.86%)	86.83%	85.57%
9. /agriculture-info	59 (0.42%)	54 (0.46%)	00:04:00	52 (0.48%)	82.69%	81.36%
10. /microcystin-results	32 (0.23%)	29 (0.25%)	00:03:51	18 (0.17%)	94.44%	81.25%

## Form and Button Clicks

### Form Submissions (newsletter sign up):

- Total submissions = 11; Unique views = 985; and Conversion rate 1.1%
- Form data is from September – December as that was when the form was created and added to the website.

### Button clicks:

- Total for the year for all buttons was 473 clicks

*This table shows specific details by button (clicks, unique views and conversion rate)*

Button Name/Details	Clicks	Unique Views	Conversion Rate
Septic System Program Information (pop-up)	161	1,799	8.5%
Summer 2021 WAVE newsletter	80	2,765	2.8%
No Wake Boating Zone Official Press Release from August 24, 2021 (pop-up)	64	953	6.5%
Local Emergency Order for No Wake Zone Official Document (pop-up)	54	1,050	5.0%
No Wake Zone Ends Press Release	36	952	3.6%
Local Emergency Order for No Wake Zone Official Document	28	576	4.7%
Septic System Program Information	16	80	18.8%

<b>Registration Information for EarthTec Public Meeting (pop-up)</b>	12	273	4.0%
<b>Extension of No Wake Zone Order Press Release (pop-up)</b>	10	98	10.2%
<b>Winter 2021 WAVE newsletter</b>	7	190	3.2%
<b>Take the Lake Friendly Land Pledge</b>	5	146	3.4%

# Skaneateles Lake Watershed Website

## 2021 Analytics Report

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- Ensure regular updates to the homepage with news, alerts, etc. as it is the most frequently visited page.

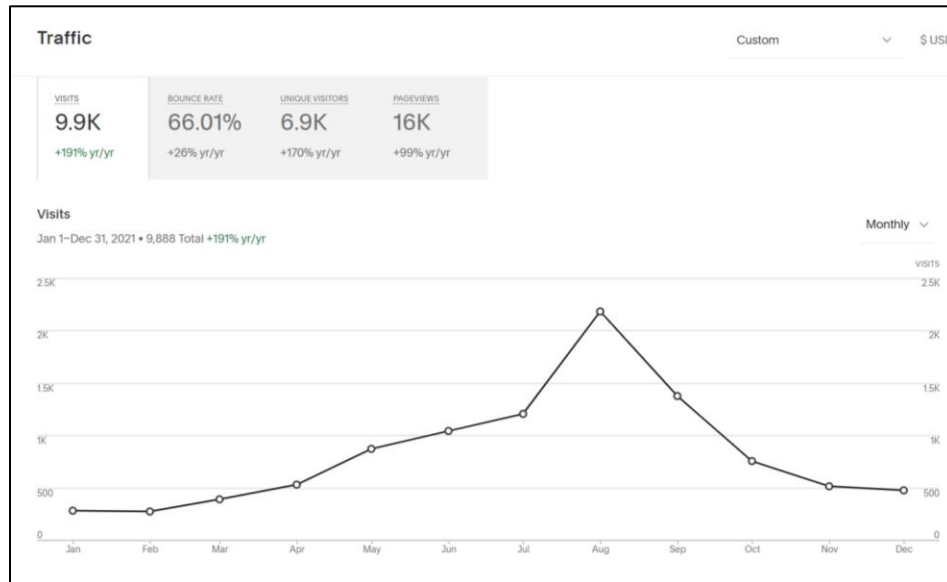
**\*Because there are so many links to other sources on the website, it's not necessarily bad that users are not spending a ton of time on the website. However, in order to keep users longer or have them explore additional pages on the website, consider adding engaging and interactive embedded content.**

## Visits, Unique Visitors and Overall Pageviews

**Visits:** The total number of visits in a selected time. Any hits within a 30-minute browsing session count as one visit.

**Unique Visitors:** An estimate of the total number of actual visitors that reached the site.

**Pageviews:** The total number of views (page requests) across all pages.



*This table shows the number of visits, unique visitors and pageviews for each month, as well as the yearly totals*

Month	Visits	Unique Visitors	Pageviews
January	280	222	502
February	274	203	513
March	387	290	660
April	530	384	903
May	873	618	1,383
June	1,043	701	1,662
July	1,207	878	1,997
August	2,183	1,506	3,698
September	1,375	918	2,196
October	751	533	1,138
November	509	339	800
December	476	342	694
<b>Yearly Total</b>	<b>9,888</b>	<b>6,934</b>	<b>16,146</b>

# Acquisition

## Traffic Sources

**Direct:** Direct represents when someone typed your URL directly into their browser, rather than coming to your site from another page. Links opened in a new window also count as Direct.

**Search:** The Search channel represents organic traffic from Google and other search engines.

**Referral:** Referral represents websites and blogs that link to your content that don't fit under other channels.

**Social:** Social represents traffic to your site from social media platforms like Facebook, Twitter, Pinterest, LinkedIn, Instagram, and YouTube.

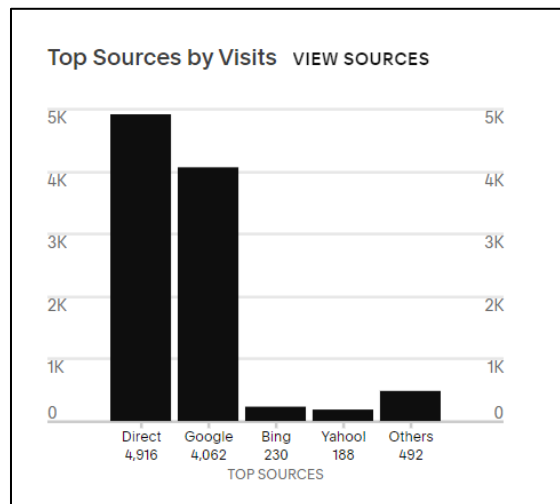
**Email:** Email represents traffic from email marketing campaigns (like MailChimp).

*This table shows the traffic sources and corresponding numbers of visits, as well as the percentage of visits from that traffic source*

Source	Visits
Direct	4,920 (49.8%)
Search	4,681 (47.3%)
Referral	216 (2.18%)
Social	61 (0.62%)
Email	10 (0.10%)

## Search Engine Sources

Most search traffic comes from Google compared to other search engines.



*This table shows the top devices (mobile, desktop, etc.) by both visits and users and percentages of each*

Top Devices by Visits and Users	Visits	Users
Mobile	5,846 (59%)	3,983 (55.3%)
Desktop	3,805 (38%)	3,015 (41.9%)
Tablet	237 (2%)	201 (2.8%)

## Website Search Keywords from Google

Clicks: 3,707

*The number of times a user clicked through to the website from a Google search result*

Impressions: 85,028

*The number of times a user saw a link to the website in the Google search results*

Click Rate: 4.36%

*The percent of times a user clicked through to the website after seeing it in Google search results*

Average Position: 22

*The average position where the website appeared in Google search results*

\* Clicks and taps to the website from search engines other than Google: 566 total clicks

*This table shows Search Keywords that Returned Over 30 Clicks*

Search Keyword	Page	Clicks	Impressions	Click Rate	Average Position
Skaneateles lake level	Weekly Lake Data	223 (6.02%)	434	51.38%	2.15
Skaneateles lake temperature	Weekly Lake Data	221 (5.96%)	1,994	11.08%	5.22
Skaneateles lake data	Weekly Lake Data	191 (5.15%)	414	46.14%	2.01
Skaneateles lake water temperature	Weekly Lake Data	120 (3.24%)	1,270	9.45%	5.06
Skaneateles lake water level	Weekly Lake Data	109 (2.94%)	260	41.92%	2.12
Skaneateles boat launch	Boat Launch Locations	66 (1.78%)	525	12.57%	3.59
Algae bloom Skaneateles Lake	HABs and Blue-Green Algae	51 (1.38%)	117	43.59%	1.86
Boat launch Skaneateles Lake	Boat Launch Locations	43 (1.16%)	272	15.81%	3.12
Skaneateles algae bloom	HABs and Blue-Green Algae	33 (0.89%)	77	42.86%	1.82
Skaneateles lake boat launch	Boat Launch Locations	30 (0.81%)	504	5.95%	3.71



<b>Blue green algae Skaneateles Lake</b>	HABs and Blue-Green Algae	30 (0.81%)	52	57.69%	1.02
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## Audience Demographics and Behavior

Total users for 2021 = 7,147

New users in 2021 = 7,163

### Recency and Frequency

*This table shows New vs. Returning Users and the percentage of each type of user*

	<b>Users</b>	<b>Percentage</b>
<b>New</b>	7,111	82.7%
<b>Returning</b>	1,485	17.3%

### Demographics

Demographics are only available for a small segment of the total users (around 16% for both gender and age).

*This table shows users and percent users by gender*

<b>Gender (Only available for 16.59% users)</b>	<b>Users</b>	<b>Percentage</b>
<b>Male</b>	696	58.7%
<b>Female</b>	490	41.3%

*This table shows users and percent users by age group, as well as average session duration by age group*

<b>Age (Only available for 16.37% of users)</b>	<b>Users</b>	<b>Percentage</b>	<b>Average session duration by age (min:sec)</b>
<b>18-24</b>	124	10.69%	1:18
<b>25-34</b>	225	19.23%	0:33
<b>35-44</b>	160	13.68%	0:45
<b>45-54</b>	189	16.15%	0:38
<b>55-64</b>	264	22.56%	0:50
<b>65+</b>	208	17.78%	1:05

## Days Since Last Session

*This table shows the number of days between the close of one session and the opening of another*

Days Since Last Session ?	Sessions ?	Pageviews ?
0	8,854	11,647
1	403	497
2	222	283
3	157	201
4	148	182
5	136	167
6	141	164
7	49	64
8-14	157	175
15-30	350	574
31-60	98	145
61-120	32	35
121-364	18	27

## Geography

### Countries

Most visits are from the United States. The next highest country is Canada with 281 visits (2.85%). Other countries that show up in the analytics (all with less than 1% of visits), include China, Puerto Rico, Ireland, India, Philippines, Germany, Uganda, Australia, United Kingdom, Mexico, Turkey, France, Kenya, Republic of Korea, Netherlands, Poland, Austria, Belgium, Spain, Hong Kong, Israel, Iraq, Sri Lanka, Norway, Pakistan, Qatar, and Russia.

### States

New York is the state with the most visits (7,348). States with over 100 visits (excluding NY) include: Pennsylvania (319), Virginia (182), New Jersey (116), Ohio (112) and Florida (105). States with no visits: Alaska, Kansas, South Dakota, and Nebraska.

### Cities

Top 20 cities in New York with total visits and users (as well as total numbers for location unknown/not set/other). This data is from Squarespace and is by visits. The data below is from Google Analytics and is organized by users.

*This table shows the top 20 cities in New York with visits and users (user data is from Google, so it's not available for every city identified in Squarespace)*

Name of City/Town in New York State	Visits	Users
Skaneateles	1,246	707
Auburn	1,030	573
Syracuse	797	536
Cortland	371	182
Clifton Park	306	ND (no data)
New York	291	554
Albany	247	216
Brooklyn	228	ND
Utica	208	14

<b>Manlius</b>	206	101
<b>Buffalo</b>	202	54
<b>Ithaca</b>	201	98
<b>Liverpool</b>	154	ND
<b>The Bronx</b>	142	ND
<b>Camillus</b>	135	ND
<b>Rochester</b>	132	78
<b>Moravia</b>	62	15
<b>Schenectady</b>	56	25
<b>Fairport</b>	52	45
<b>Oneida</b>	51	8
<b>Location Not Set/Unknown/Other</b>	553	757

## Website Content

### Summary Statistics for Pages and Site Content

Total sessions in 2021 = 10,765

Average session duration = 0:39

Most of our sessions are 10 seconds or less with an average session duration of 39 seconds.

Pages per session = 1.32

Our average number of pages per session is 1.32 (or slightly more than one page).

Average Bounce Rate: 66.01%

The percent of visits that contained only a single pageview (calculated by the number of visits that contained only a single pageview divided by the total number of visits).

Average time spent on a page: 105 seconds (1 minute and 45 seconds)

This is the average amount of time a user spends on a single page before navigating to another part of the site.

Exit rate: 61.24%

This metric is the percentage of views to a given page that did not result in any more pageviews on the website. This is helpful for identifying pages that cause visitors to exit the site.

### Top Viewed Pages

Home and lake data are consistently the top 2 viewed pages, even when splitting out the data by quarter. Boat launch locations is always in the top 5, as well. In the summer and fall, HABs and the new Algae Control pages were in the top 5.

This table shows the top viewed pages and the time spent on each page, as well as bounce and exit rates for each of the top ten viewed pages

Page Name	Views	Time on Page (min:sec)	Bounce Rate (%)	Exit Rate (%)
Home	5,806	1:33	62.28%	62.66%
Lake Data	4,030	1:46	66.18%	64.94%
Boat Launch Locations	1,392	1:49	69.72%	63.43%
HABs and Blue-Green Algae	1,156	2:24	72.11%	69.64%
FAQ	369	0:59	61.9%	36.59%
Skaneateles Watershed Map	365	2:35	78.89%	59.18%
Landscaping	346	1:50	57.94%	59.25%
Contact	336	1:23	82.11%	53.27%
How can I help?	273	1:19	67.31%	45.79%
City of Syracuse Programs	226	1:44	63.71%	56.64%

### Landing Pages

The pages through which visitors enter our site. Most sessions (50%) entered through the home page and 23% of sessions entered through the Lake Data page. There is a high bounce rate from some of the landing pages and overlap between the landing and exit pages, which means users are often entering and exiting from the same page (and not navigating to other pages before they exit).

This table shows the number of pageviews by page for the top ten pages with the most pageviews, as well as other statistics like average time on page and bounce rate for each page

Page	Pageviews	Unique Pageviews	Avg. Time on Page	Entrances	Bounce Rate	% Exit
	14,161 % of Total: 100.00% (14,161)	11,628 % of Total: 100.00% (11,628)	00:02:05 Avg for View: 00:02:05 (0.00%)	10,765 % of Total: 100.00% (10,765)	73.68% Avg for View: 73.68% (0.00%)	76.02% Avg for View: 76.02% (0.00%)
1. /	7,315 (51.66%)	5,486 (47.18%)	00:01:13	5,364 (49.83%)	59.92%	68.65%
2. /weekly-lake-data	2,911 (20.56%)	2,562 (22.03%)	00:04:09	2,461 (22.86%)	86.83%	85.57%
3. /boat-launch-locations	1,038 (7.33%)	893 (7.68%)	00:03:26	785 (7.29%)	83.95%	80.73%
4. /habs-and-bluegreen-algae	866 (6.12%)	785 (6.75%)	00:05:02	756 (7.02%)	89.55%	88.22%
5. /skaneateles-watershed-map	227 (1.60%)	213 (1.83%)	00:05:05	180 (1.67%)	88.33%	85.90%
6. /landscaping	212 (1.50%)	196 (1.69%)	00:03:14	98 (0.91%)	84.69%	77.36%
7. /how-can-i-help	161 (1.14%)	158 (1.36%)	00:03:12	45 (0.42%)	93.33%	75.78%
8. /invasive-species	144 (1.02%)	136 (1.17%)	00:05:29	134 (1.24%)	91.79%	90.97%
9. /city-of-syracuse-programs	138 (0.97%)	132 (1.14%)	00:05:19	117 (1.09%)	84.62%	85.51%
10. /faq	137 (0.97%)	131 (1.13%)	00:02:59	57 (0.53%)	87.72%	72.26%

Pages with Longest Average Time on Page:

The top ten pages with the longest average time on the page are: Algae Control, Events, Invasive Species, Permit Info, City of Syracuse Programs, Skaneateles Watershed Map, HABs and Blue-Green Algae, Weekly Lake Data, Agriculture, and Microcystin Results. Even though some of these pages have lower numbers of pageviews, they tend to engage users for longer with the shortest average time on page at 3 minutes and 51 seconds. See table below.

*This table shows pages by highest average time on page*

Page ?	Pageviews ?	Unique Pageviews ?	Avg. Time on Page ? ↓	Entrances ?	Bounce Rate ?	% Exit ?
	14,161 % of Total: 100.00% (14,161)	11,628 % of Total: 100.00% (11,628)	00:02:05 Avg for View: 00:02:05 (0.00%)	10,765 % of Total: 100.00% (10,765)	73.68% Avg for View: 73.68% (0.00%)	76.02% Avg for View: 76.02% (0.00%)
1. /algae-control	73 (0.52%)	63 (0.54%)	00:08:33	51 (0.47%)	82.35%	76.71%
2. /events	39 (0.28%)	35 (0.30%)	00:05:55	29 (0.27%)	93.10%	76.92%
3. /invasive-species	144 (1.02%)	136 (1.17%)	00:05:29	134 (1.24%)	91.79%	90.97%
4. /permit-info	56 (0.40%)	50 (0.43%)	00:05:20	41 (0.38%)	87.80%	75.00%
5. /city-of-syracuse-programs	138 (0.97%)	132 (1.14%)	00:05:19	117 (1.09%)	84.62%	85.51%
6. /skaneateles-watershed-map	227 (1.60%)	213 (1.83%)	00:05:05	180 (1.67%)	88.33%	85.90%
7. /habs-and-bluegreen-algae	866 (6.12%)	785 (6.75%)	00:05:02	756 (7.02%)	89.55%	88.22%
8. /weekly-lake-data	2,911 (20.56%)	2,562 (22.03%)	00:04:09	2,461 (22.86%)	86.83%	85.57%
9. /agriculture-info	59 (0.42%)	54 (0.46%)	00:04:00	52 (0.48%)	82.69%	81.36%
10. /microcystin-results	32 (0.23%)	29 (0.25%)	00:03:51	18 (0.17%)	94.44%	81.25%

## Form and Button Clicks

Form Submissions (newsletter sign up):

- Total submissions = 11; Unique views = 985; and Conversion rate 1.1%
- Form data is from September – December as that was when the form was created and added to the website.

Button clicks:

- Total for the year for all buttons was 473 clicks

*This table shows specific details by button (clicks, unique views and conversion rate)*

Button Name/Details	Clicks	Unique Views	Conversion Rate
Septic System Program Information (pop-up)	161	1,799	8.5%
Summer 2021 WAVE newsletter	80	2,765	2.8%
No Wake Boating Zone Official Press Release from August 24, 2021 (pop-up)	64	953	6.5%
Local Emergency Order for No Wake Zone	54	1,050	5.0%

<b>Official Document (pop-up)</b>			
<b>No Wake Zone Ends Press Release</b>	36	952	3.6%
<b>Local Emergency Order for No Wake Zone Official Document</b>	28	576	4.7%
<b>Septic System Program Information</b>	16	80	18.8%
<b>Registration Information for EarthTec Public Meeting (pop-up)</b>	12	273	4.0%
<b>Extension of No Wake Zone Order Press Release (pop-up)</b>	10	98	10.2%
<b>Winter 2021 WAVE newsletter</b>	7	190	3.2%
<b>Take the Lake Friendly Land Pledge</b>	5	146	3.4%

# Skaneateles Lake Watershed Wave Reviews

Summer 2021 Edition

Visit the new Skaneateles Lake website for resources and tips on how to protect the water quality of Skaneateles Lake  
[www.skanlakeinfo.org](http://www.skanlakeinfo.org)

## *In this Issue:*

Skaneateles Lake Education Program Update (p.1) - CCE Onondaga

Land Acquisition a Win for Skaneateles Lake (p.2) - Finger Lakes Land Trust

Hemlock Woolly Adelgid Monitoring & Control (p.2-3) - Onondaga Soil and Water Conservation District

Finger Lakes Coalition Hosts Lake Friendly Awareness Week (p.3) - Skaneateles Lake Association

Helpful Contacts and Resources for Watershed Residents (p.4)

*Brought to you by the City of  
Syracuse Department of Water  
Ben Walsh, Mayor*

## Skaneateles Lake Education Program Update!

Camille Marcotte, Cornell Cooperative Extension Onondaga County

Cornell Cooperative Extension Onondaga County programming in the Skaneateles watershed brings workshops, trainings, educational materials, volunteer and stewardship opportunities, and updates related to water quality protection to the watershed community.

The Skaneateles Watershed Education Program works to:

- reduce non-point source pollution in the watershed
- improve watershed health and water quality
- connect residents, homeowners, farmers, landowners, and municipal officials with information and opportunities to implement evidence-based best practices for protecting water quality
- fulfill the City of Syracuse's filtration avoidance waiver

Our next program on transitioning your lawn to a meadow will be held on Wednesday, July 14th, 2021. Details will be posted to the CCE Onondaga and Skaneateles Lake Watershed websites. Stay tuned for programs on topics like: green infrastructure and stormwater management, stream systems, and road salt to be held later this year.

We have been posting sustainable landscaping tips to protect water quality on our social media. Make sure you are following us on:

 Facebook: [www.facebook.com/CCEOnondaga](https://www.facebook.com/CCEOnondaga)

 Twitter: [twitter.com/CCEOnondaga](https://twitter.com/CCEOnondaga)

 Instagram: [www.instagram.com/cce\\_onondaga](https://www.instagram.com/cce_onondaga)

### Recent educational programming by CCE Onondaga includes:

- [Hemlock Woolly Adelgid Planning and Management Webinar - 3/1/21](#)
- [Landscaping for Shorelines Webinar - 5/6/21](#)
- [Invasive Species and iMapInvasives Webinar - 6/10/21](#)

### Stay tuned for additional programming to be announced!

Resources from workshops are posted to the CCE Onondaga website at: [www.cceonondaga.org](http://www.cceonondaga.org). If you're not on our mailing list, be sure to sign up for notices about upcoming programs (1-2 emails per month): <http://eepurl.com/bQ22XP>

The Skaneateles Watershed Education Program works to protect the water quality of Skaneateles Lake, a treasured resource that serves as the primary drinking water source for Skaneateles and the City of Syracuse. The City of Syracuse has funded this program since its inception in 1996.

Keep reading for more information on water quality happenings in the Skaneateles Lake Watershed!

Cornell Cooperative Extension  
Onondaga County



# Land Acquisition A Win for Skaneateles Lake

Finger Lakes Land Trust

The Finger Lakes Land Trust (FLLT) recently acquired 102 acres nestled among the rolling hills of southern Cayuga County. The property is bordered to the north by Bear Swamp State Forest and contains 2,275 feet of frontage on Bear Swamp Creek, a critical tributary to Skaneateles Lake. The property also contains 26 acres of wetlands, springs and streams, mature forest, and a trail system.

The FLLT purchased the property from Brenda (Bean) Contento, who spent her childhood farming, hunting, and foraging on the land with her family. She seems to have memories of every corner of the property and describes herself as being “both sad and thrilled” to have sold the land and to know that it will continue to be protected.



*Bear Swamp property; photo credit: Rob Howard*

Conserving the property protects Skaneateles Lake—the source of drinking water for the City of Syracuse. The FLLT prioritizes securing hillsides in this area, known as the Skaneateles Highlands, especially those adjacent to Bear Swamp State Forest. The organization intends to transfer the property to the state in the future as an addition to the forest.



*Parcel acquired in Niles in December 2020; photo credit: Bill Hecht*

This is the FLLT’s seventh conservation project on Bear Swamp Creek, where it has already protected 4.5 miles of streambank. Nearby, the FLLT recently acquired a 68 acre property that protects nine tributaries, steep hillsides overlooking the lake, and 4,300 feet of frontage on Glen Haven Road in Niles. Other conserved lands here include the FLLT’s Bahar Nature Preserve and three privately owned properties protected with conservation easement agreements held by the FLLT.

## Onondaga County Soil & Water Conservation District Awarded \$50,000 U.S. Department of Agriculture, Forest Service ‘Great Lakes Restoration Initiative Grant’ for Hemlock Woolly Adelgid Monitoring and Control in Otisco and Skaneateles Lake Watersheds

*Teresa Link, Conservation District Technician, Onondaga County Soil and Water Conservation District*

Onondaga County Soil & Water Conservation District (OCSWCD) has been awarded a \$50,000 federal grant under the U.S. Department of Agriculture, Forest Service Great Lakes Restoration Initiative. These funds will aid in the monitoring and treatment of Hemlock Woolly Adelgid (HWA) on Eastern Hemlock trees in the Otisco and Skaneateles Lake watersheds. HWA is an invasive sap-sucking insect that feeds on hemlock trees at the base of the needles. The trees can succumb to HWA in four to ten years. In 2015, in an effort to minimize the spread of HWA, the City of Syracuse Department of Water collaborated with OCSWCD, Cornell Cooperative Extension of Onondaga County, and volunteers to plant 100 six-foot Eastern Hemlock trees in an effort to grow populations of biological controls that would feed on HWA.

*(continued on next page)*



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Eastern Hemlocks are a crucial species to the Otisco and Skaneateles Lake watersheds which provide drinking quality water to 485,000 residents of Onondaga County. Eastern Hemlock trees grow on steep slopes providing soil stability (protection from soil erosion) and a unique ecosystem for flora and fauna. With these funds, approximately 1,500 Eastern Hemlock will be treated across the watersheds. OCSWCD is partnering with the Otisco Lake Preservation Association and the Skaneateles Lake Association (SLA) to implement this grant.

“The late and great lake ecologist and SLA board member Robert G. Werner coined it most appropriately that if we lose the Hemlocks, we lose the lake,” said SLA Executive Director Frank Moses.

Currently, the District Arborist and Assistant are preparing trees for treatment in the next few weeks.



Photo by Teresa Link

*Hemlock Woolly Adelgid on a Hemlock branch*

## New Finger Lakes “Coalition” Hosts Lake Friendly Awareness Event

Skaneateles Lake Association

From May 2nd to May 8th, the newly established Lake Friendly Living Coalition of the Finger Lakes hosted their inaugural ‘Lake Friendly Living Awareness Week.’

Seven Finger Lakes collaborated to educate and engage watershed residents, local governments and businesses to adopt practices that protect and preserve our lakes for sustainable water quality, recreational use, and tourism. The week of events included multiple free resources and virtual education sessions with experts discussing topics related to lake friendly living practices.

The event was also an effort to encourage residents and businesses to show their support by “Taking the Pledge” to incorporate lake friendly living practices into home and/or business activities. They can also serve as Lake Friendly Living advocates by posting yard signs provided by the associations.

Local experts from Skaneateles Lake provided various presentations on how to help our lakes. Camille Marcotte, Cornell Cooperative Extension Onondaga County, presented on shoreline landscaping. Dr. Dana Hall, Skaneateles Lake Association (SLA) board member and President of the Owasco Lake Watershed Lake Association, presented on saving Eastern Hemlocks by addressing the invasive forest pest Hemlock Woolly Adelgid. SLA Executive Director Frank Moses shared ways to engage as a citizen scientist.

Other presentations included: “Nature’s Best Hope” by Doug Tallamy; “Creating an Earth Friendly Landscape” by Janet Allen; and “Native Plants: Lake-Friendly by Nature” by Dan Segal; and more. Links to recordings of the presentations and information on why and how to take the “Lake Friendly Living Pledge” for each participating Finger Lake can be found at [www.flrwa.org/lake-friendly-living](http://www.flrwa.org/lake-friendly-living).



Lake Friendly Living Coalition of the Finger Lakes



CCE Onondaga  
6505 Collamer Road,  
East Syracuse, NY  
13057

# Skaneateles Lake Wave Reviews

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### Stay connected!

Join our Water Quality List-serve to receive digital WAVE Reviews, event announcements, and more. Skaneateles Watershed Residents and those looking to protect water quality in their community are encouraged to join.

List serve accessible through this direct link <http://eepurl.com/bQ22XP> or by visiting our website at [www.cceonondaga.org](http://www.cceonondaga.org) and searching for our 'Skaneateles Lake' landing page.

Don't forget to check out the new Skaneateles Lake Watershed website at [www.skanelakeinfo.org](http://www.skanelakeinfo.org)

### Important Contacts for the Skaneateles Watershed

Cayuga County Health Department 315-253-1405  
Cayuga County Soil & Water Conservation District 315-252-4171  
Cornell Cooperative Extension of Onondaga County 315-424-9485  
Cortland County Health Department 607-753-5036  
Cortland County Soil & Water Conservation District 607-756-5991  
NYS DEC Region 7 Environmental Permits (Onondaga & Cayuga) 315-426-7438  
NYS DEC Region 7 Environmental Permits Sub-office (Cortland) 607-753-3095  
NYS DEC Spill Prevention and Response 800-457-7362  
NYS DEC Region 7 Water & Wastewater (Stormwater, Dam Safety, Flood Control) 315-426-7500  
Onondaga County Health Department 315-435-3252  
Onondaga County Soil & Water Conservation District 315-457-0325  
Skaneateles Lake Watershed Agricultural Program 315-457-0325  
Syracuse Water Department (Skaneateles) 315-448-8366

This newsletter was created by Camille Marcotte of Cornell Cooperative Extension Onondaga County and Rich Abbott, City of Syracuse Water Dept. Special thank you to our partnering contributors.

#### Skaneateles Lake Watershed Education Program

Funding for Cornell Cooperative Extension programming in the Skaneateles Lake Watershed is provided by the City of Syracuse Department of Water.

*Cornell Cooperative Extension is an equal opportunity program and employment provider.  
If you need special assistance, please contact our office at 315-424-9485.*

# Skaneateles Lake Watershed Wave Reviews

Winter 2021 Edition

Visit the Skaneateles Lake website for resources and tips on how to protect the water quality of Skaneateles Lake  
[www.skanlakeinfo.org](http://www.skanlakeinfo.org)

## *In this Issue:*

A Year in Review (p.1 & 5) - CCE Onondaga

Land Trust Adds One-Mile Hiking Trail to Network of Conserved Lands Overlooking Skaneateles Lake (p.2) - Finger Lakes Land Trust

The Endless Summer Storms (p.2-3) - Onondaga Soil and Water Conservation District (SWCD)

Waste Ag Tire Recycling Project (p.3) - Onondaga SWCD

Watershed Tributary Restoration Projects Showcased on Skaneateles Lake (p.4) - Onondaga SWCD & Skaneateles Lake Association

Helpful Contacts & Resources for Watershed Residents (p.6)

*Brought to you by the City of  
Syracuse Department of Water  
Ben Walsh, Mayor*

## Skaneateles Lake Education Program: A Year in Review

Camille Marcotte, Cornell Cooperative Extension Onondaga County

Cornell Cooperative Extension Onondaga County programming in the Skaneateles watershed brings workshops, trainings, educational materials, volunteer and stewardship opportunities, and updates related to water quality protection to the watershed community.

The Skaneateles Watershed Education Program works to:

- reduce non-point source pollution in the watershed
- improve watershed health and water quality
- connect residents, homeowners, farmers, landowners, and municipal officials with information and opportunities to implement evidence-based best practices for protecting water quality
- fulfill the City of Syracuse's filtration avoidance waiver

**Read a summary of this year's programs on page 5.**

**Stay tuned for additional programming to be announced starting next year!**

**Suggestions for future programs may be shared with CCE Onondaga Water and Ecology Educator, Camille Marcotte, by email at [ctm78@cornell.edu](mailto:ctm78@cornell.edu) or by phone at (315) 424-9485 ext.232. We welcome your suggestions and feedback!**

Resources from all programs are posted to the CCE Onondaga website at: [www.cceonondaga.org](http://www.cceonondaga.org) and the Skaneateles Lake Watershed website at: [www.skanlakeinfo.org](http://www.skanlakeinfo.org).

If you're not on our mailing list, be sure to sign up for notices about upcoming programs (1-2 emails per month): <http://eepurl.com/bQ22XP>

**Keep reading for more information on water quality happenings in the Skaneateles Lake Watershed!**

The Skaneateles Watershed Education Program works to protect the water quality of Skaneateles Lake, a treasured resource that serves as the primary drinking water source for Skaneateles and the City of Syracuse. The City of Syracuse has funded this program since its inception in 1996.

**Cornell Cooperative Extension**  
Onondaga County



# Land Trust Adds One-Mile Hiking Trail to Network of Conserved Lands Overlooking Skaneateles Lake

*Finger Lakes Land Trust*

The Finger Lakes Land Trust (FLLT) formally opened a new one-mile hiking trail connecting its High Vista Nature Preserve to its Hinchcliff Family Preserve near the south end of Skaneateles Lake. The trail is located in a scenic area of steep forested hillsides which play a crucial role in protecting the water quality of the lake.

In July 2020, the FLLT purchased 75 wooded acres in Cortland and Onondaga counties, linking the two existing nature preserves, just west of State Route 41. With this latest acquisition, the organization has created a 2.25 mile-long corridor of conserved lands overlooking the eastern shore of Skaneateles Lake.

The woodland trail can now be accessed from a High Vista Preserve trailhead on Vincent Hill Road in the town of Scott, or from within the Hinchcliff Preserve in the town of Spafford. The trail is open during daylight hours for quiet nature observation and low-impact recreation such as hiking, trail running, and snowshoeing. With the addition of the connector trail, ambitious hikers can now travel over 4.5 miles between the two preserves.

Ongoing efforts by the FLLT focus on securing hillsides in this area, known as the Skaneateles Highlands. Its extensive upland forest provides habitat for a diversity of birds and also prevents erosion and nutrient loading in the lake. Watch a beautiful aerial video highlighting the property at [flt.org/highlands](http://flt.org/highlands).



*Nature Preserve Manager Jason Gorman and Skaneateles residents Tom Fairhurst & Patty Weisse cut a ribbon at the new trail in August.*

## The Endless Summer Storms

*Chris Travis, Onondaga County Soil and Water Conservation District*



*10-Mile Creek - looking upstream from crossing,  
8/18/21*

Not one person in the Towns of Skaneateles or Spafford needs to be reminded how much rain we received this summer, but I'll go ahead and remind everyone else. Our region received precipitation during three major storm events this summer equivalent to the 200-year (July 11th), 100-year (August 17th), and 50-year (October 16th) storms respectively. Clearly referring to these storms as 100-year events is a misnomer, as they seem to occur every two to five years in reality; but what is clear, is that these storms are becoming more and more frequent.

Onondaga County Soil and Water technicians were pleased to report working with Town of Spafford Highway Superintendent Jody Fisher was not only effective, but complimentary; Mr. Fisher worked tirelessly to clean damaged roads and streams, he implemented erosion and sediment controls to keep sediment out of the lake during said cleanouts. Yes, Skaneateles Lake Watershed Agricultural Program facilitated the permitting process for the cleanout of 10-Mile Creek, Randall Gulf, and an emergency culvert replacement at Spafford Landing, but it was Jody and his guys who did the heavy lifting, pun intended.

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*10-Mile post-cleanout, 10/6/2021*

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SLWAP is grateful to have partners like Mr. Fisher, individuals who go out of their way to educate themselves and grow their knowledge to better understand the ecosystems and resources we are all working to safeguard. Give the highway guys a wave and beep the next time you see them out there, they've missed a lot of sleep this summer.

## Waste Ag Tire Recycling Project

*Eric Jensen, Resource Conservation Specialist, Onondaga County Soil and Water Conservation District*

Waste ag tires piled outside provide an environment for mosquitoes to breed in the stagnant water that collects inside. These mosquitos pose a health concern since they can carry West Nile Virus, EEE, and other diseases. By removing the tires, the risk of disease is reduced. In addition, large tire piles are a risk if they catch fire and release thick black smoke and other pollutants through runoff during fire extinguishing efforts. Farms have a difficult time finding safe options to dispose of worn-out ag tires to comply with new NYS DEC waste tire regulations since most landfills and tire recyclers do not accept them due to the size and thickness of the tires. NYS DEC regulations prohibit burial or burning of tires. The Skaneateles Lake Watershed Ag Program (SLWAP) partnered with the Onondaga County Soil & Water Conservation District was able to identify a facility in Niagara Falls, New York that processes large ag tires.



*Telescopic handlers loading tires into semi-trailer*

This summer with cooperation of local farms, we were able to load and ship to be processed nine semi-trailer loads of waste ag tires totaling 154 tons. That is equivalent to over 10,600 auto and pickup truck tires! Semi-trailers require extra high lift equipment to load the tires over the 13.5-foot-high sidewalls. The large ag tires are loaded first, then smaller ag tires are loaded to fill in the void spaces around the large ag tires to complete the trailer loads. Waste tires will be shredded into chips of various sizes and used for energy or other uses. We believe the extra effort to remove these ag tires and comply with NYS DEC regulations will provide lasting environmental benefits to the watershed and community.

For more information on waste ag tire recycling, contact the SLWAP & Onondaga County Soil & Water Conservation District office location at 6680 Onondaga Lake Parkway, Liverpool at (315) 457-0325.



*Farm tire loading operations in progress (left)*



*Windrow of tires ready for loading (right)*

# Watershed Tributary Restoration Projects Showcased on Skaneateles Lake

Onondaga Soil and Water Conservation District & Skaneateles Lake Association

**Shotwell Brook** - The Skaneateles Lake Watershed Agricultural Program (SLWAP) recently completed the Shotwell Brook stream restoration project in the Town of Skaneateles. Intense storm events have historically resulted in high volume turbid discharges at the tributary outlet resulting in sediment plumes affecting a City of Syracuse drinking water intake. The project involved the enhancement of a riparian wetland by creating four shallow pocket wetlands along 600 feet of Shotwell Brook. A rock cross vane was installed at the upstream end of the project to maintain stream grade in the upper reach and direct discharges above bank-full flow into the enhanced floodplain/wetland, allowing for temporary storage and attenuation of peak flows. Creating an expansive floodplain provides enhanced benefits for the watershed such as carbon sequestration, downstream flood mitigation, and water quality improvements, including: sediment trapping, nutrient removal and chemical detoxification.

The project was a collaboration between U.S. Fish & Wildlife Service, SLWAP and Onondaga County Soil & Water Conservation District. A huge thank you to Gian Dodici of the U.S. Fish & Wildlife Service for his key role in project design and consultation, to Kurt Warren, site contractor, who completed the project before the deadline and under budget, the City of Syracuse and NYS Climate Resilient Farming Grant for funding, and to the landowner Louisa Cohan of Harrison's Farm for allowing this project to be constructed on their property. This project is another demonstration of several agencies working together to improve water quality and help keep Skaneateles Lake clean!



*Shotwell Brook stream restoration project in the Town of Skaneateles*



*Pocket wetlands created for the Shotwell Brook stream restoration project*



*L2R - Olivia Green & Jim Howe with The Nature Conservancy; Joanie Mahoney - SUNY-ESF President; Zach Maslyn - Skaneateles Country Club General Manager; Gian Dodici - US Fish & Wildlife Service; Tim Johnson- Anchor QEA Engineers; Paul Torrisi - SLA Board President - planting an Elderberry Bush*

**Dowling Creek** - The Skaneateles Lake Association (SLA) co-hosted a planting event on November 19th, 2021 with the Skaneateles Country Club (SCC) and partners involved in making improvements to Dowling Creek, a tributary to Skaneateles Lake. The planting event was a celebration in supporting lake protection through the stream project that included The Nature Conservancy, the US Fish & Wildlife Service, Anchor QEA Engineers, and SUNY-ESF.

Along with the construction phase that helped take energy out of the stream flow that can contribute to erosion, the planting phase of the project will help take up nutrients before entering the lake. SUNY-ESF and its Restoration Science Center was brought into the project to help with the planting design. Plants selected for the project will help support more diversity in wildlife and provide root structure that will help retain soil and prevent additional sedimentation in the lake.

SLA project partners included: The Nature Conservancy, who provided staff to develop initial designs with the US Fish & Wildlife; Anchor QEA Engineers, who helped finalize designs; SUNY-ESF, who provided expertise and plants to enhance the stream habitat; and the Skaneateles Country Club who, along with SLA, provided staff and financial support and is the host site for the project. For more information, visit [skaneateleslake.org](http://skaneateleslake.org).

# Skaneateles Lake Education Program: A Year in Review

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In 2021, the Skaneateles Lake Education Program held several virtual programs on Zoom.

## **Hemlock Woolly Adelgid (HWA) Planning and Management in Skaneateles**

*Monday, March 1st, 2021*

This talk by Caroline Marschner of the New York State Hemlock Initiative kicked off programming for the year. Carri presented basic information on hemlocks and HWA, and focused on the management strategies available and tools for planning a response to HWA on your property. She also covered the biological control research for HWA at Cornell University.

## **Lake Friendly Living Awareness Week**

*Sunday, May 2nd - Saturday, May 8th, 2021*

This week offered free virtual education sessions and resources to all who live in the Finger Lakes region. Experts presented throughout the week on topics that included citizen science, native plants, and shorescaping. The educational sessions were designed to inform and empower watershed residents to make changes to protect the Finger Lakes. This educational week was organized by the Finger Lakes Regional Watershed Alliance, specifically the Lake Friendly Living Coalition of the Finger Lakes, which consists of the many different lake associations in the region.

## **iMapInvasives Training**

*Thursday, June 10th, 2021*

This interactive session offered a refresher of some common invasive species in the Finger Lakes. The session also included a basic training on the web and mobile application versions of iMapInvasives, an online database used to track and report invasive species sightings. This program was offered during New York's annual Invasive Species Awareness Week.

## **Transitioning Your Lawn to a Meadow**

*Wednesday, July 14th, 2021*

People who live around Skaneateles Lake learned more about ways to steward their land, specifically the benefits of transitioning their lawn or a portion of their lawn to a more natural, meadow landscape. Sam Quinn from SUNY ESF's Restoration Science Center spoke about how to create a meadow on your property and shared some beautiful photo examples!

## **Spotted Lanternfly Information Session**

*Wednesday, September 22nd, 2021*

Spotted Lanternfly (SLF) is an invasive pest from Asia that mainly feeds on tree of heaven, but can also feed on plants, including grapevine, hops, maple, walnut, fruit trees and more. Participants learned how to get involved in identifying and reporting SLF.

## **Streams 101 for Skaneateles Lake**

*Wednesday, October 13th, 2021*

Skaneateles Lake has about 150 distinct watercourses that flow into the lake, all of which play a role in the lake's water quality. Homeowners and other stakeholders learned the basics of how stream systems function and the role stream health plays in water quality of the lake. Presented by Carl Schwartz with US Fish and Wildlife.

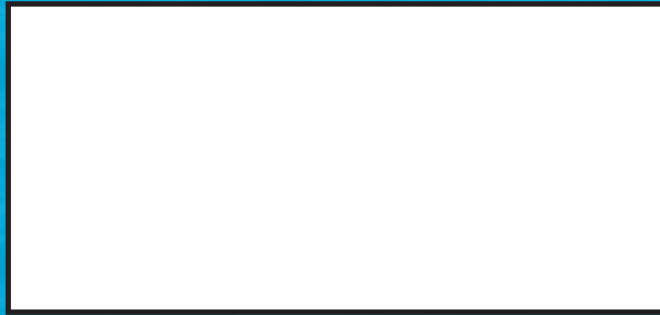
*A huge thank you to all our collaborators this year. We are grateful to work in partnership with you all to protect Skaneateles Lake!*

*Several programs were recorded and the recordings are available on the CCE Onondaga YouTube page at the following link: <https://bit.ly/3Feq9TB>.*

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13057

# Skaneateles Lake Wave Reviews

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### Stay connected!

Join our Water Quality List-serve to receive digital WAVE Reviews, event announcements, and more. Skaneateles Watershed Residents and those looking to protect water quality in their community are encouraged to join.

List serve accessible through this direct link <http://eepurl.com/bQz2XP> or by visiting our website at [www.cceonondaga.org](http://www.cceonondaga.org) and searching for our 'Skaneateles Lake' landing page.

Don't forget to check out the new Skaneateles Lake Watershed website at [www.skanelakeinfo.org](http://www.skanelakeinfo.org)

### Important Municipal Contacts for the Skaneateles Watershed

Cayuga County Health Department 315-253-1405  
Cayuga County Soil & Water Conservation District 315-252-4171  
Cornell Cooperative Extension of Onondaga County 315-424-9485  
Cortland County Health Department 607-753-5036  
Cortland County Soil & Water Conservation District 607-756-5991  
NYS DEC Region 7 Environmental Permits (Onondaga & Cayuga) 315-426-7438  
NYS DEC Region 7 Environmental Permits Sub-office (Cortland) 607-753-3095  
NYS DEC Spill Prevention and Response 800-457-7362  
NYS DEC Region 7 Water & Wastewater (Stormwater, Dam Safety, Flood Control) 315-426-7500  
Onondaga County Health Department 315-435-3252  
Onondaga County Soil & Water Conservation District 315-457-0325  
Skaneateles Lake Watershed Agricultural Program 315-457-0325  
Syracuse Water Department (Skaneateles) 315-448-8366

This newsletter was created by Camille Marcotte of Cornell Cooperative Extension Onondaga County and Rich Abbott, City of Syracuse Water Dept. Special thank you to our partnering contributors!

### Skaneateles Lake Watershed Education Program

Funding for Cornell Cooperative Extension programming in the Skaneateles Lake Watershed is provided by the City of Syracuse Department of Water.

*Cornell Cooperative Extension is an equal opportunity program and employment provider.  
If you need special assistance, please contact our office at 315-424-9485.*



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