

A photograph of a small stream flowing over mossy rocks in a lush green forest. The water is clear and shallow, cascading over several large, dark, moss-covered boulders. The surrounding vegetation is dense and vibrant green, with sunlight filtering through the leaves, creating a dappled light effect on the water and rocks. The overall scene is peaceful and natural.

Owasco Lake Watershed Inspection Program

2009 Annual Report

Contact Information

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Acronyms

ACOE	Army Corps of Engineers
BMP	Best Management Practice
CEO	Code Enforcement Officer
HD	Health Department
NOI	Notice of Intent
NYS DEC	New York State Department of Environmental Conservation
NYS DEC ECO	New York State Department of Environmental Conservation Environmental Conservation Officer
OLWIP	Owasco Lake Watershed Inspection Program
SWCD	Soil and Water Conservation District

Lakefront home construction. Sediment and erosion control practices, like the silt fencing used at this site, are an important measure to protecting Owasco Lake.



Overview of 2009

The Owasco Lake Watershed Inspection Program was established to protect the drinking water quality of Owasco Lake. Today, Owasco Lake provides drinking water to approximately 44,000 people, or over 50% of the people of Cayuga County. OLWIP inspects areas throughout the watershed for issues that could be detrimental to the quality of the tributaries and lake, ultimately impacting the drinking water. OLWIP is currently housed at the Cayuga County Soil and Water Conservation District, located in the Natural Resource Center on County House Road in the Town of Sennett.

OLWIP is funded through the water consumers and customers of the City of Auburn and Town of Owasco. In 2008, the City and Town implemented a rate increase of 3 cents per unit or 4 cents per 1,000 gallons. The funds raised through this increase were used to sustain OLWIP. Additional funding was obtained in 2008 and 2009 through the Fred L. Emerson Foundation to hire two Seasonal Watershed Inspectors for twelve weeks during the summer months.

In its second full year, OLWIP completed 815.5 hours in the field investigating water quality issues by vehicle, foot, and boat. There were 718 inspections made, resulting in ten violations of the Owasco Lake Watershed Rules and Regulations. At this time, all ten violations have been abated. Four of the ten violations were agriculturally related and the other six were septic system issues.

Since the program began in August of 2007, the work of the Watershed Inspector and four Seasonal Watershed Inspectors has resulted in a total of 1,889.75 hours spent performing inspections in the watershed, resulting in 1,574 inspections of properties and streams throughout the 208-square mile watershed.

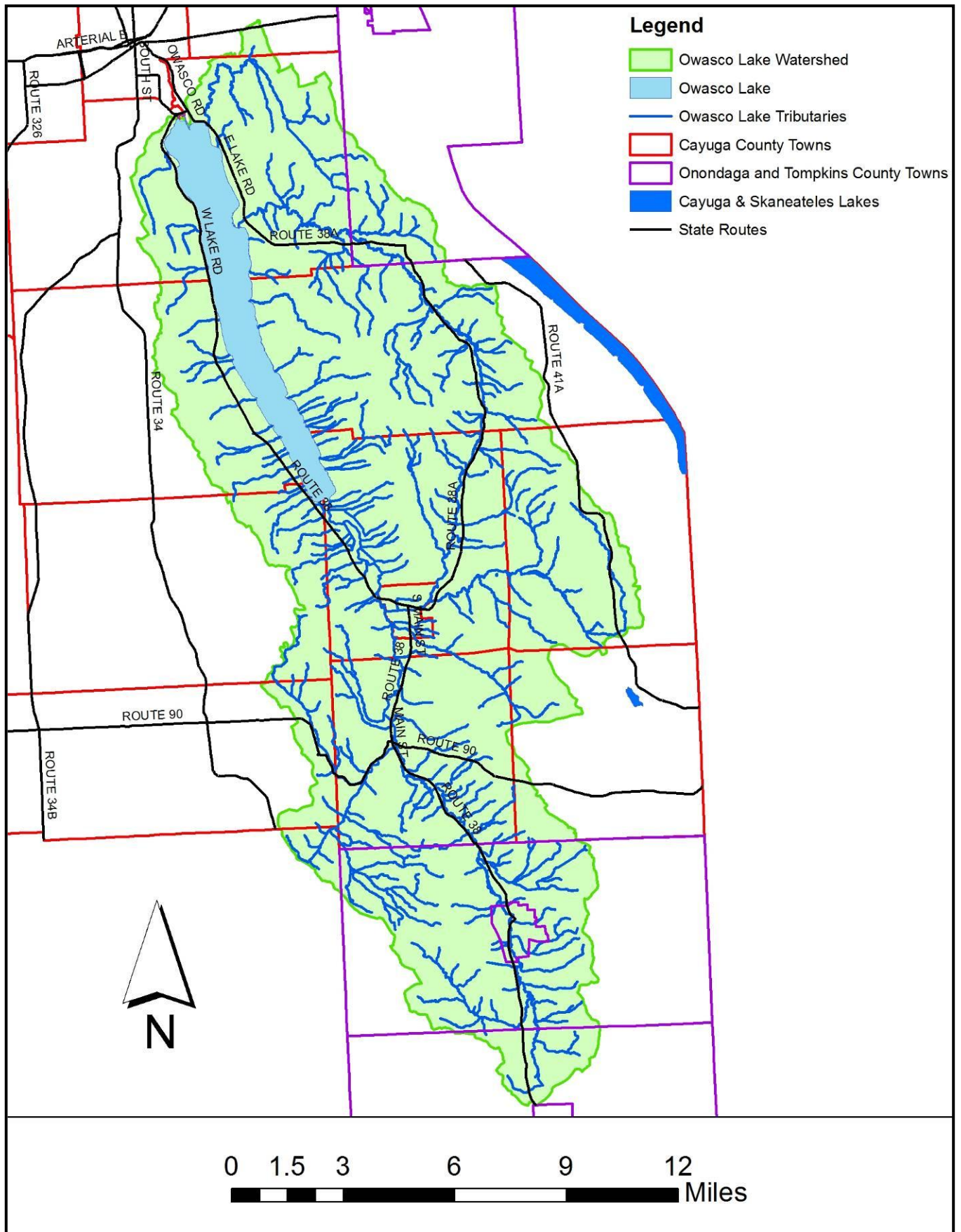
The pages that follow outline the work completed by OLWIP in 2009. The first two sections give more detail of the ten violations of the Owasco Lake Watershed Rules and Regulations. Other work included the monitoring of twelve lakefront land clearings and construction of homes and retaining walls, as well as seventeen other land clearing and construction activities throughout the watershed. Violations of stormwater and wetland regulations were referred to the appropriate enforcement agencies (NYS DEC and ACOE). There is also a listing of other watershed activities completed, as well as specific tasks accomplished with the help of the Seasonal Watershed Inspectors, including the results of the Boater Survey completed at the Emerson Park boat launch.

In 2009, there were approximately 4,060 septic systems within the Owasco Lake Watershed (Cayuga County – 2,990; Tompkins County – 1,000; Onondaga County – 70).



Picture taken during stream survey, performed with the help of the Seasonal Watershed Inspectors. This is a picture of tributary #24, located on the south-east side of Owasco Lake in the Town of Moravia.

Map of the Owasco Lake Watershed



Agriculture

Watershed Rules and Regulations Violations	4
Watershed Rules and Regulations Violations Abated	4

- 1.) *April 23, 2009, Town of Owasco* – Liquid manure spilled during transportation from pit to fields for application. Most of the liquid manure on the road was not in the watershed. NYS DEC handled fines and remediation.
- 2.) *November 25, 2009, Town of Locke* – Noted animals having access to a tributary. Spoke with Cayuga County SWCD staff and learned that the farmer had previously contacted them, interested in upgrades to the farm. Cayuga County SWCD will incorporate this farm into their proposal under the Agricultural Non-Point Source Abatement Grant, due in March, 2010 to seek funding to exclude animals from the tributary, install a rotational grazing system, and other BMPs on the farm.
- 3.) *November 25, 2009, Town of Venice* – Noted animals having access to a tributary. In the process of working with the farmer to implement BMPs to keep animals from having access to the stream. Violation abated pending compliance with implementation of BMPs.
- 4.) *Town of Locke* – Continued to work with farmer to keep animals out of tributary. Animals were kept in other pastures during the summer months, and temporary fence has been placed to keep animals out of stream on winter pasture. The Cayuga County SWCD will place the farm into their proposal under the Agricultural Non-Point Source Abatement Grant due in March, 2010. Grant will ask for funds to install permanent fencing to prevent animals from having access to the stream, establish a rotational grazing system, and other BMPs.



Wet look to the road was caused by liquid manure being spilled from hauler. Area in picture is part of the Seneca River Watershed. Hilltop in the distance is where the Owasco Lake Watershed begins. Very little manure was on the road in the Owasco Lake Watershed.

Updates from 2008

- *Town of Moravia* – Farm noted in 2008 with livestock having access to a tributary of Dresserville Creek. OLWIP directed farmer to Cayuga County SWCD for assistance. Funding was approved and BMPs were installed in 2009. BMPs now keep animals from having any access to the tributary.
- *Town of Niles* - Original incident occurred on July 13, 2008 when a significant amount of sediment ran off a field with no buffer. Through OLWIP, the farmer worked with the Cayuga County SWCD staff to develop a buffer strip to prevent sediment from entering the stream. Buffer strip was planted this spring. Stream was monitored during storm events in 2009 after implementation. No sedimentation to the stream occurred in 2009.
- *Town of Niles* – Original incident occurred on October 27, 2008 when OLWIP spoke with the farmer about excessive mud and manure being in the road. Through OLWIP, the farmer was introduced to programs offered through the Cayuga County SWCD to help correct these issues. Currently, the farmer is in the process of implementing BMPs to address excessive water issues in the barnyard.



Before: Picture from July 13, 2008 storm event showing an extremely turbid stream.

After: Buffer strip (from edge of forest to far left tire track) was planted to protect the stream.

Septic Systems

Watershed Rules and Regulations Violations	6
Watershed Rules and Regulations Violations Abated	6

- 1.) *March 16, 2009, Town of Owasco* – OLWIP noted failing septic system and referred issue to the Cayuga County HD. Worked with landowner to correct issue. Septic system is now properly functioning.
- 2.) *July 14, 2009, Town of Venice* – Received complaint of failing septic system. Spoke with landowner and he was already in the process of having the system fixed. Septic system is now properly functioning.
- 3.) *August 4, 2009, Town of Moravia* – Property owner said he was adding a bedroom with no building permit or Cayuga County HD septic system certification. Referred issue to the Cayuga County HD. Landowner was required to obtain a building permit and install a high level alarm on the holding tank.
- 4.) *August 29, 2009, Town of Venice* – Home demolition and construction of a new home. Cayuga County HD had determined the system to be sub-standard before any work had been completed. CEO issued building permit without completing certification of the septic system by the HD. HD demanded plans for new septic system to meet standards before further construction. Contractor is in the process of installing new system.
- 5.) *August 30, 2009, Town of Niles* – OLWIP had found this septic system to be failing in the summer of 2008. Property was inspected often because of its previous failure and rental status. Found the system to be failing again in 2009 and that vehicles had been driving over the leach lines. Cayuga County HD enforced that an extension be placed on the leach field to accommodate the increased use and barriers installed to prevent damage to leach lines from vehicles driving over them.
- 6.) *October 20, 2009, Town of Owasco* – OLWIP found septic system to be failing. Cayuga County HD has issued violation notice and is enforcing that repairs be made to the system.



Grayish residue on the bank is wastewater breaking out onto the surface of the lawn. This was due to the system receiving too much water and it was unable to properly handle it. Unfortunately, this sewage was leaching into the water in the ditch and being transported to a nearby tributary. This system has been repaired.



Tire tracks in the picture show where the vehicle had driven over leach lines of the septic system. Muddy appearance to the tracks is actually wastewater reaching the ground surface, an indicator that the system was failing.

Stormwater

Lakefront Construction

- 1.) *May 6, 2009, Town of Scipio* – New home construction. Working with landowner to stabilize disturbed areas around the site and offer solutions to other drainage issues.
- 2.) *May 21, 2009, Town of Fleming* – Construction of new home. Worked with property owner to have silt fencing properly placed between the construction site and the lakeshore.



Before: On initial visit after silt fencing was placed, OLWIP found silt fencing was improperly installed. Silt fencing should be towed into the ground to prevent sediment from moving from the disturbed area to the waterbody during storm events or snowmelt.

After: Silt fencing properly towed in and installed.

- 3.) *June 12, 2009, Town of Owasco* – Received a complaint of construction near the lakeshore. Worked with contractor to have silt fencing placed around the entire lakefront. Lawn was established before silt fencing was removed.
- 4.) *June 23, 2009, Town of Scipio* – Shoreline construction of retaining wall from lakeshore to top of bank. OLWIP monitored throughout construction. Contractor used sediment and erosion control practices to minimize impact.



Before: Picture taken from boat in 2008 shows vegetated bank in front of home.

After: Picture in 2009 shows expansive retaining wall. Picture was taken during construction of the wall.

- 5.) *July 14, 2009, Town of Scipio* – Land clearing near lake. Spoke with the landowner who stated he was clearing out a tree that had fallen over. No further work was done at the site.
- 6.) *July 30, 2009, Town of Owasco* – Remodel and addition of a lakefront home. Worked with the landowner to install silt fencing between construction and lakefront. The lawn and retaining wall were completed and the site stabilized.
- 7.) *August 29, 2009, Town of Venice* – Home demolition and construction of new home. Silt fencing not properly placed. Large soil stockpile had been pushed into the stream. Spoke with the contractor and area was stabilized.



Before: Spoils pile of sediment had been pushed over existing retaining wall, just above a tributary of Owasco Lake. With no protection over spoils pile, movement of soil into the stream could have been significant during a storm event.

After: Working with the contractor, the retaining wall was completed and disturbed areas around the home were seeded and mulched to stabilize the site.

- 8.) *August 29, 2009, Town of Scipio* – Land clearing at lakefront property for future home construction. Worked with the landowner to be sure that all proper paperwork is filed before construction of house.
- 9.) *September 2, 2009, Town of Scipio* – Remodeling of lakefront home. Worked with landowner to keep property stabilized and remove construction debris from the lake.
- 10.) *September 9, 2009, Town of Niles* – Attached garage addition to home. Had received proper approvals for construction and the disturbed area around the house had been stabilized.
- 11.) *Town of Scipio* – Originally began working with the landowner in 2008. Cayuga County SWCD staff worked with the landowner and contractor to devise a plan to stabilize the cleared bank near the lakefront. Stormwater catch basin has been installed and is helping to keep water away from cleared bank, significantly decreasing erosion issues. Contractor is in the process of installing a retaining wall, sloping the bank, and stabilizing with vegetation.
- 12.) *Town of Scipio* - House construction originally began in 2008. Construction of house and stabilization of lawn completed in early summer.

Critical Area Landing Clearing and Development

- 1.) *January 21, 2009, Village of Moravia* – Land clearing at property near an ACOE regulated wetland. Referred situation to the ACOE for enforcement and remediation.
- 2.) *March 17, 2009, Town of Fleming* – Stockpile of soil had been deposited above Veness Brook during construction of driveway for a home. Spoke with landowner and had pile moved back from edge of the stream and placed silt fencing between the disturbed area and the stream.

- 3.) *March 24, 2009, Town of Owasco* – Complaint about logging activities near lake. Neighbor feared they were cutting down a significant number of trees. Spoke with the landowner. He had cleared some dead snags and removed approximately six other trees. No other trees have been removed.
- 4.) *April 7, 2009, Town of Owasco* – Disturbance of less than one acre. Silt fencing had already been installed to protect the tributary on the property. Site has re-vegetated itself.
- 5.) *April 30, 2009, Town of Owasco* – House construction in close proximity to a NYS DEC and ACOE regulated wetland. Worked with the contractor to properly place silt fencing to protect wetland. House has been completed and yard stabilized.
- 6.) *May 12, 2009, Town of Locke* – Gravel mining at property. Spoke with NYS DEC personnel handling permitting for the property to be sure that all requirements are being followed.
- 7.) *May 12, 2009, Town of Scipio* – Worked with landowner to have an area adjacent to the stream stabilized.
- 8.) *May 14, 2009, Town of Locke* – Large disturbance, greater than one acre. Referred to NYS DEC ECOs. Area was stabilized.
- 9.) *May 14, 2009, Town of Moravia* – Large disturbance, greater than one acre. Referred to NYS DEC ECOs. Area was stabilized.
- 10.) *June 2, 2009, Village of Moravia* – Land clearing of greater than one acre. Cleared property was greater than 3 acres and bordered a tributary of the Owasco Inlet. Monitored the site for NYS DEC. Landowner has applied for permits for a small housing development.
- 11.) *August 11, 2009, Town of Niles* – Landowner had expanded lawn area, but had not completed the project. Worked with landowner to have disturbed area stabilized.
- 12.) *August 29, 2009, Town of Owasco* – Monitored new home construction in development. Disturbed area borders an ACOE regulated wetland. Silt fencing was installed to protect the wetland.
- 13.) *September 21, 2009, Town of Fleming* – Unstabilized lawn after new home construction. Worked with landowner to complete grading and stabilization of the lawn.
- 14.) *October 15, 2009, Town of Moravia* – New home construction. Worked with landowner to complete stabilization of property. Concern that property disturbance was greater than one acre, but upon OLWIP investigation, land clearing was less than one acre.
- 15.) *October 20, 2009, Town of Owasco* – Clearing near NYS DEC and ACOE regulated wetland. Landowner had been doing some clearing to build a pond, but had decided against it.
- 16.) *October 20, 2009, Town of Owasco* – New home construction. Worked with CEO to stabilize lawn area and protection of the stormwater drain implemented.
- 17.) *November 25, 2009, Town of Fleming* – Construction of house had more than 1 acre of land cleared and no sediment and erosion control practices between the disturbed area and Veness Brook. NYS DEC enforced that the landowner has been asked to file an NOI and to place silt fencing along the stream before construction can continue.



Other Watershed Concerns

- *April 8, 2009, Town of Fleming* – Large pile of furniture and other discarded items along the lakeshore. Town was able to have the pile removed before it was burned.
- *July 10, 2009, Town of Venice* – Concerned about previous flooding due to removal of a beaver dam from a NYS DEC and ACOE regulated wetland. No sign of beavers or other wetland violations.
- *October 10, 2009, Town of Owasco* – Land clearing along Sucker Brook. Cayuga County Highway Department removed a beaver dam and spread the spoils along the bank. Cayuga County SCWD hydroseeded area to stabilize the bare soil.
- *October 20, 2009, Town of Owasco* – Noted excessive algal growth in stormwater catch basin which directly outlets to Dutch Hollow Brook. Water samples were taken and results were recently received. Will be working with landowners that could be contributing.



Green residue within ditch is algae. Excessive nutrients are being deposited, causing the algae to grow.



Discarded vehicles and garbage at dump site in the Town of Locke.

- *November 12, 2009, Town of Locke* – Working with Town of Locke officials on dumping of trash at a vacant lot. Cayuga County Solid Waste Management office is working with OLWIP and the Town of Locke to have discarded oil drums and Freon appliances removed, as well as the several hundred tires on the site.
- *Town of Scipio* - Working with lakefront property owners to maintain stream BMP previously installed by the Cayuga County SWCD.
- Researched lakefront rental properties available and inspected for issues such as septic system failures, refuse, or other concerns.
- Worked with local municipalities to have bare ditches hydroseeded by the Cayuga County SWCD to prevent erosion.



Before and after of roadside ditch that was hydroseeded by the Cayuga County SWCD in order to reduce erosion, establish vegetation to filter nutrients, and slow the flow of water in the ditch.

Updates from 2008

- In August 2008, OLWIP found excessive amounts of grass clippings deposited on the banks of a tributary. Worked with the landowner to correct. In 2009, there were no grass clippings deposited on the banks.



August 2008 – Note brown and green piles of grass clippings deposited onto the bank of the stream.

August 2009 – No grass clippings have been thrown into the stream.

Public Outreach

Speaking Engagements & Presentations

- New Visions Open Forum (January 9)
- Tompkins County Board of Health on implementing Owasco Lake Watershed Rules and Regulations within Tompkins County (January 13)
- Career Day presentation at Auburn High School (March 31)
- City of Auburn Council Meeting (April 16)
- WAUB Interview with Erik Sorensen (May 8)
- Town of Fleming Board Meeting (May 11)
- Town of Owasco Board Meeting (May 14)
- Panel Discussion with CCC's Green Entrepreneurship class (June 29)
- Lake Day (July 1)
- Town of Scipio Board Meeting (July 8)
- Lakefront Homeowners' Association (August 8)
- Town of Genoa Board Meeting (August 12)
- Emerson Foundation's 5th Generation (August 18)
- Town of Locke Board Meeting (August 20)
- Conservation Field Days with local 6th grade students (September 22, 23)
- WAUB Interview with Erik Sorensen (October 28)
- Presentation to the City of Auburn Manager (December 2)



Owasco Lake Watershed Inspector Jessica Miles uses the watershed model to help 6th graders attending Conservation Field Days understand the concept of a watershed and how human activities on the land effect the quality of our water.

Articles

- Monthly educational articles in The Citizen (local newspaper)
- SWCD Newsletter Article – Giant Hogweed Identification

Other Outreach Opportunities

- Sent “The Beauty and the Beast: The Tale of Two Lakes” DVD to elected officials of Cayuga County municipalities of the watershed (February)
- Continued to work with Lakefront Supervisors Committee
- Funding received through the Fred L. Emerson Foundation to produce “Welcome to the Watershed” road signs and educational yard signs
 - Mapped all existing watershed signs in an effort to determine the best locations throughout the watershed for the new signs
 - Coburn Design completed design for roadside signs and approval for locations is underway
 - Coburn Design completed designs for educational yard signs and these will be used in 2010



Training Opportunities

- Nutrient Management class offered through Cornell Cooperative Extension (January 12)
- Water Quality Symposium (March 10, 11)
- Farmland Protection Workshop through Cornell Cooperative Extension (March 30)
- Conservation Skills Workshops (September 30 – October 2)

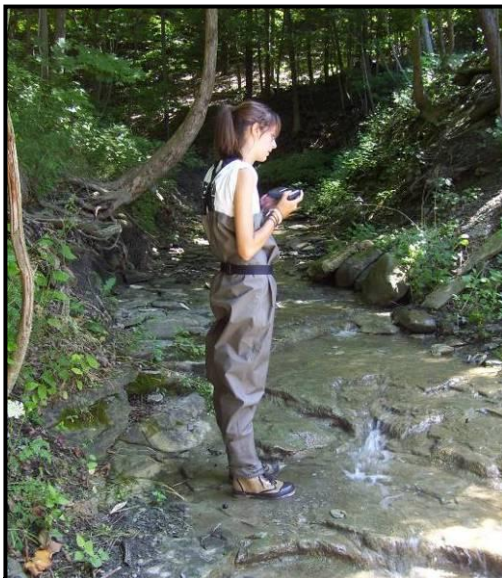
Seasonal Watershed Inspectors

For the summer of 2009, two Seasonal Watershed Inspectors were hired for a 12 week period from June 23 through September 11. The main focus of the Seasonal Watershed Inspectors was to locate water quality concerns within the watershed and report their observations to the Owasco Lake Watershed Inspector. Some specific accomplishments of the Seasonal Inspectors for 2009 included:

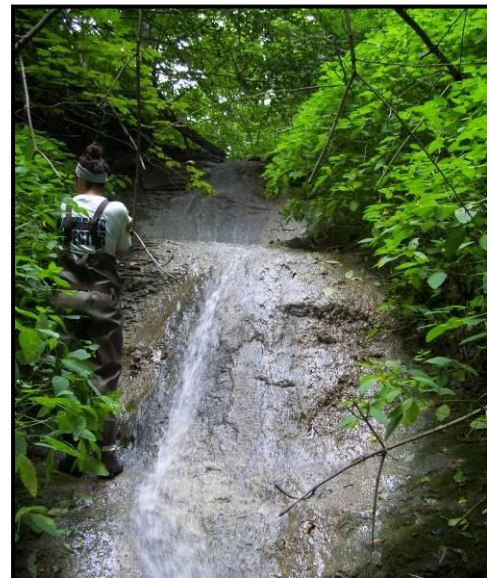
- Completed shoreline survey around the entire lake (25 miles)
 - Particular emphasis placed on yard waste being deposited in the lake and along the lakeshore. Educational materials were dispersed to lakefront property owners.
- Inspected sites during rainstorm events (construction sites, areas prone to stormwater runoff, etc)
- Completed 190+ boater surveys at the Emerson Park boat launch (see Boater Survey section)
- Completed stream survey of 41 feeder streams around the lake. Survey began at the mouth of the stream and examined the first 1,000 feet of the stream. This survey was a continuation of the survey completed in 2008.
- Mapped stormwater sewer drains – Total of 276 drains
 - Brookside Trace, Town of Owasco – 35 drains
 - Hamlet of Owasco – 9 drains
 - Martins Point, Town of Owasco – 20 drains
 - Hamlet of Locke – 38 drains
 - Koenigs Point, Town of Owasco – 20 drains
 - Village of Moravia – 154 drains
- Assisted in locating and inspecting lakefront rental properties
 - Rental properties were inspected at least once per week, usually during and/or after the weekend
- Seven day coverage was completed from early July through Labor Day weekend



Yard waste dumped directly into Owasco Lake in the Town of Fleming.



Seasonal Watershed Inspector Mallory Reedy using GPS device during stream survey



Seasonal Watershed Inspector Casey McManus observing streamside vegetation during stream survey.

Boater Survey

During the summer of 2009, the Seasonal Watershed Inspectors completed 192 surveys of boaters launching watercraft at Emerson Park. The survey was a brief, oral survey asking the following questions:

- 1.) Where are you from (Town, State)?
- 2.) What are you planning to do on the water today?
- 3.) What do you like about Owasco Lake?
- 4.) What other waterbodies do you frequent?

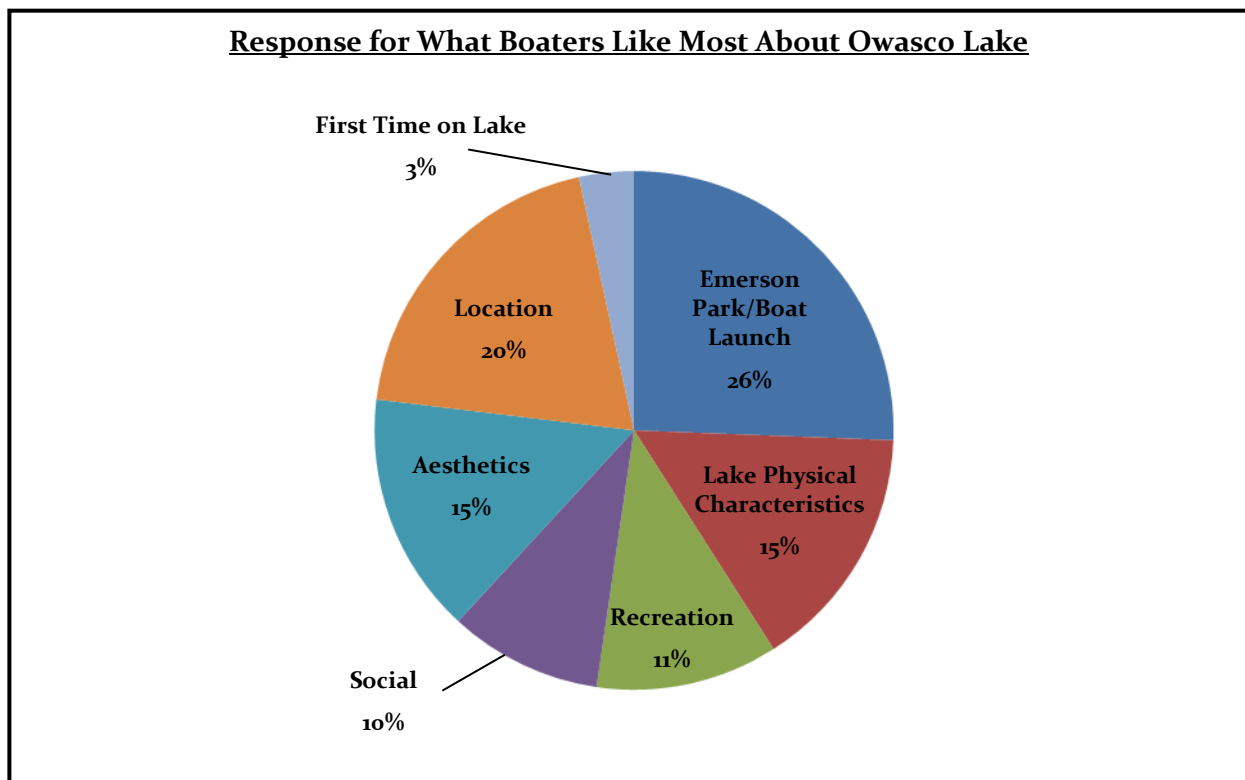
From this survey, we were able to deem information that will be important to the OLWIP in future educational and outreach opportunities.

Results

Location: Of the 192 boaters surveyed, 187 (97.4%) were from New York State. Other states included Pennsylvania (2 people), Connecticut (1), Florida (1), and Massachusetts (1). Of the 187 people from New York State, 106, or 56.7% were residents of Cayuga County. Thirty-eight people (20.3%) were residents of Onondaga County, thirteen (7.0%) were from Broome County, and six people (3.2%) were from Tioga County. The other counties each had five or less people visit. Evaluating the 106 people from Cayuga County, 80 (76.9%) were City of Auburn residents, seven (6.7%) were from the Town of Owasco, and four (3.8 %) were from the Village of Weedsport. Other areas included Port Byron (3), Fleming (2), Moravia (2), Sennett (2), Aurelius (1), Cato (1), Cayuga (1), and Locke (1).

Activities Planned on the Lake: For this question, there were 260 responses because people were able to give more than one answer. All answers were tabulated and weighted the same. Eighty people, or 30.8% said that they would be cruising around Owasco Lake, 46 people (17.7%) said they would be fishing, 36 people (13.8%) said they would be swimming, 30 people (11.5 %) said they would be tubing, and 25 people (9.6%) said they would be sunbathing/relaxing

About Owasco Lake: The below chart outlines the 326 responses given to this question. Again, all answers were tabulated and weighted the same.



What Other Waterbodies Frequented: There were 295 responses with lakes all over the United States and three waterbodies in Canada. Of the 295 responses, 254 were for waterbodies in New York State. Of those 254, 162 responses were for one of the Finger Lakes. Below is a chart showing the breakdown of the Finger Lakes frequented.

