

## A Newsletter for the Watersheds of the Genesee River & the Rochester Embayment

### Volunteers Clean Up *Tons* of Trash along the Genesee River and Lake Ontario

by Margit Brazda Poirier

What is there to do on a sunny, crisp, Saturday morning in September? You can participate in the Annual International Coastal Clean Up event! Every year for the past 15 years, beaches, shorelines, and river banks are cleaned up by volunteers all over the world. Our local event took place on Saturday, September 15 when 222 volunteers picked up litter along the shorelines of the Genesee River and Lake Ontario.

Together the volunteers collected and disposed of approximately two tons of trash (4000 lbs.!) from four locations: Durand Eastman Beach, Genesee Valley Park, Seth Green fishing site, and Turning Point Park. Volunteers worked in teams to pick up litter and also record the types and amount of trash found. This data is entered into a national database that you can access at: [www.alsnyc.org](http://www.alsnyc.org).

The most common items found at all four sites were cigarette butts, food wrappers and bags, and bottle caps/lids. Some of the more unusual items found include a motorcycle in the Genesee River, a television set, a Weber grill (with the hot dog still in it!), and a 5 lb. bag of pota-

toes. Some trash items were very specific to certain sites, such as diapers at Durand Beach and fishing line at Seth Green.



After the hard work was finished, volunteers attended the celebratory "trash bash" at Durand Eastman Park for lunch, games and raffle drawings. In addition, the teams that collected the most trash, most unusual trash, and smelliest trash won

prizes.

How does all this trash get to our shorelines?

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## Summer 2001 Yields an Unwanted Crop of Algae

by Margy Peet

The problem of rotting algae along the Lake Ontario shoreline has often been a concern to shoreline residents and communities, but many believe that summer 2001 was one of the worst years in memory. While the number of days that Ontario Beach in Monroe County was temporarily closed due to algae was less than in other summers, the number of days with the stench and unattractive appearance of rotting algae seemed to be greater than usual. The problem in 2001 was common along the south shore of Lake Ontario and in other lakes such as Conesus.



*Algae often collects along the Lake Ontario shoreline during the summer months.*

### What factors contribute to the presence of algae along the Lake Ontario shoreline?

There may be as many as eight contributing factors.

- **Phosphorus** is the “limiting” nutrient necessary for algae growth. While the amount of phosphorus in the deep parts of the lake has been declining in past years, the amount along the shoreline seems to remain elevated. This is likely due to the phosphorus contained in stormwater that washes off rooftops and pavement. The runoff makes its way to the Lake via streams and rivers.
- **Zebra mussels** became established in the Great Lakes in the 1980s. The mussels filter

large quantities of water in order to consume phytoplankton (microscopic plant life) as food. Mussels transfer phosphorus to the deeper waters of the Lake via their waste matter. This process may make more phosphorus available for algae growth.

**Water clarity** has increased as a result of the consumption of phytoplankton by zebra mussels. Increased water clarity increases the depth to which sunlight penetrates and may allow algae to grow where there are rocks in deeper areas of the Lake.

**Hard surfaces** such as rocks on the bottom of Lake Ontario, serve as natural attachment sites for the growth of algae species such as *Ulothrix*, *Spyrogyra*, and *Cladophora* if light reaches the rocks.

**Physical disturbances** detach the algae, which then wash into shore. Such disturbances include wave action from storms, upwellings from water temperature variations, and cutting action of sharp zebra mussel shells.

**Warm water temperature** increases the growth rate of algae. It also causes algae to decompose more quickly. When algae decomposes before it reaches the shoreline, it changes to a “pea soup” consistency.

Prevailing northwest **winds** and west-to-east **currents** in Lake Ontario carry algae into shoreline areas. (Occasional south winds may result in removal of material from the shoreline.)

Natural and manmade shoreline **depressions** and **extensions** (such as piers) trap large quantities of algae.

**Why are there “bad” years and “good” years?** Warmer summers and number, direction, and intensity of storms may contribute to conditions in any one year. Zebra mussel infestation, deeper light penetration, and climate change may also be factors.

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## Conesus Lake Watershed Management Plan: A Vision for the Future

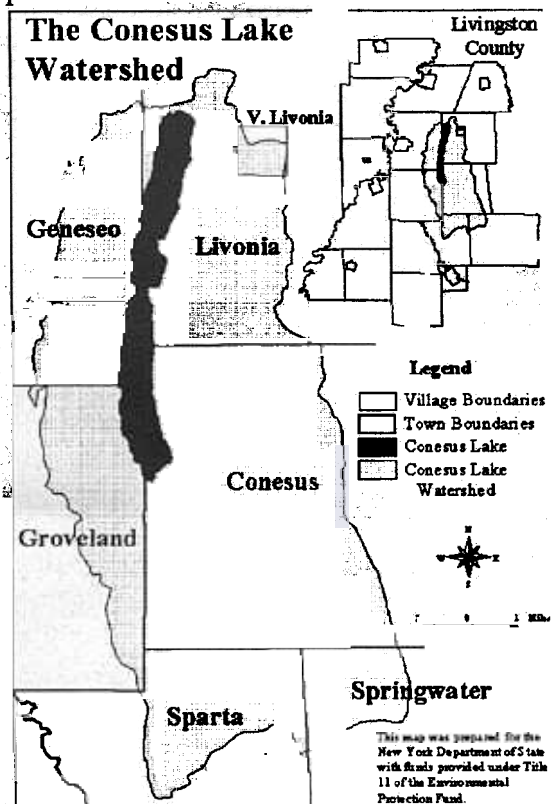
by Heather Hogarty

Long considered the "jewel" of Livingston County, Conesus Lake is the western-most Finger Lake in Upstate New York. It is located south of Rochester along Interstate 390. The Lake serves as the public water supply for the Village of Avon and Village of Geneseo public water systems, providing drinking water to more than 20 percent of the total population of Livingston County.

During the past half-century, however, conditions on the Lake have been gradually deteriorating. Increasing development pressure, the issuance of health advisories to residents, and more stringent federal and state standards for public drinking water supplies have made it crucial that a comprehensive watershed management approach to conserving and protecting Conesus Lake be developed. To that end, the Town of Livonia, on behalf of Livingston County, received an Intermunicipal Waterbody Management Planning Grant for the development of a Conesus Lake Watershed Management Plan. The grant was provided by the New York State Department of State, Division of Coastal Resources. The Project Agreement between the Town and the Department of State was approved in April 1999.

The Conesus Lake Watershed Management Plan Project is focusing local, county, regional and state resources on the protection of Conesus Lake. The first phase of the Project included the development of the *State of Conesus Lake: Watershed Characterization Report*. The Report compiles and documents current water quality and ecological conditions of the Lake and its

watershed. The Report also identifies specific areas of concern and related issues, such as sedimentation and nutrient enrichment. A draft version of the Characterization Report is available for viewing at the Conesus Lake page of the Livingston County Web site ([www.co.livingston.state.ny.us/Conesus.htm](http://www.co.livingston.state.ny.us/Conesus.htm)).



Phase II of the Project is currently underway, and it involves the development of the Conesus Lake Watershed Management Plan. The Plan will address the issues and concerns identified in Phase I of the Project and will offer potential solutions. Four work groups have been formed recently to examine the issues of the watershed in more detail and to recommend solutions for the Plan. The work groups include: Lake Management Issues (aquatic weeds, algae, fish and wildlife), Sanitary Sewer/Septic System and Stormwater Management Issues (sewer system

failure, riparian buffers), Recreational Use Issues (personal water craft regulation, waste disposal facilities), and Road Maintenance Issues (construction, maintenance, and salting).

Some of the problems in the watershed are obvious, and watershed residents have called for action in tandem with the development of the Watershed Management Plan. For example, the Watershed Characterization Report identified erosion as a serious problem that contributes sediment and nutrients to the Lake. To address this issue, a Model Erosion and Sediment Control Law was developed and endorsed by the Conesus Lake Watershed Management Plan

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## Girl Scout Troop 40 Works to Earn Water Drop Patch



Cadettes, ages 12-14, in Troop 40 of the Girl Scouts of the Genesee Valley are learning about water quality, having fun, and earning the Water Drop Patch all at the same time.

The Girl Scout Council of the Nation's Capital and the U.S. Environmental Protection Agency jointly developed the Water Drop Patch Project. The purpose of the project is to encourage girls to become watershed and wetlands stewards, to educate others about protecting water resources, and to gain an interest in science.

As part of fulfilling requirements to earn the Water Drop Patch, girls in Troop 40 participate in Community Water Watch (CWW) stream monitoring (see this issue, page 7). They "adopted" a segment of Red Creek in the Town of Henrietta and, since their training in September 2000, have monitored it quarterly.

Troop 40 is also helping to publicize the CWW program. The girls wrote a letter to the Girl Scout Council of the Genesee Valley to explain how other troops can get involved. They also marched in the Memorial Day parade in Henrietta this year, carrying a banner that said "Water Watch – Troop 40."

Troop leaders, Mary McCombs and Kim Rengert describe the girls' reaction to the Project as enthusiastic. Mary says they have learned a lot about the quality of their stream, are interested in the science, and appreciate the beauty of the stream. Kim adds that the girls really feel like they are environmental stewards. They are proud that, at their young age, they can contribute to the community.

The Water Drop Patch Project Web site (<http://www.epa.gov/adopt/patch.html>) offers easy-to-read information about watersheds and wetlands. It describes interesting activities for Brownie, Junior, Cadette and Senior Scouts, such as stream monitoring, "household" pollution, beach/stream cleanup, storm drain stencil-

ing, and backyard conservation. It lists the requirements that Girl Scouts at each level must fulfill to earn the patch. There is a helpful glossary and a list of other resources. The information and activities would be interesting, not just to Girl Scouts, but to any children and to adults.



*Girl Scouts in Troop 40 identify macroinvertebrates from Red Creek.*



*Troop 40 marched in the Henrietta Memorial Day parade.*

## Tips for Improving Your Lawn while Protecting Water Quality

by Sharon Rosenblum

Having a nice lawn does not mean you have to spend a lot of time or money, nor do you have to use a lot of chemicals or fertilizers. The Great Lawns/Great Lakes Program was developed to help homeowners know how to care for their lawns. You too can have a nice lawn that is friendly to the environment.

Let's take a minute to look at how your lawn mower is your first line of defense against weeds and disease. Take your first step to improved lawn care this winter by having your lawn mower serviced. Adjust mower blades to cut at a height of 2½ - 3", and sharpen your mower blades *each* year.

Adjusting mower blades to cut at a height of 2½ - 3" will mean your grass will be taller. Taller grass will stimulate deeper root growth and will be better able to shade out any germinating weed seeds that are present. Deeper roots help maintain plant health and the ability to survive drought. Weed seeds, like all plants, need water, nutrients and light to grow. Taller grass will deprive weed seeds of light and they will die before they can become established.

Raising the height of your mower blades will also mean you can mow less often when you follow the 1/3 Rule this summer: cut no more than 1/3 of the grass foliage each time you mow. This is how it works: If you cut your grass at a height of 3 inches, you will not have to mow again until the grass grows to be almost 4½ inches high. However, if you cut your grass at a height of only 2 inches, you will have to mow again when the grass grows a mere 1 inch.

Sharpening your mower blades each year will guarantee that you are cutting rather than shredding or tearing the grass leaves when you mow. A nice clean cut will cause less damage to the leaf blade and expose less leaf surface area as an entry for disease and as an exit site for the loss of water. The grass will also look better since

torn grass tips will leave the lawn with a brown overcast look.

For more lawn care tips call the Garden Helpline at 473-5335:

- April – October: Monday-Friday, 9:00 a.m. – noon
- November – March: Monday, Wednesday, Friday, 9:00 a.m. – noon

REMEMBER: Healthy turf can withstand insects and disease, and crowd out weeds.

### 2002 Schedule of Lawn Care Presentations by Sharon Rosenblum – Open to the Public (as of December 5, 2001)

- Jan. 15, Henrietta Dept. of Public Works (DPW) training classroom, 405 Calkins Rd., 7:00-8:30 pm
- Jan. 30, Cornell Cooperative Extension (CCE), 249 Highland Ave., 7:00-8:30 pm
- Feb. 5, Brighton, Brookside School senior lounge, 220 Idlewood Rd., 7:00-8:30 pm
- Feb. 16, Greece Town Library, Community Room, Two Vince Tofany Blvd., 2:00-3:30 pm
- Feb. 20, Henrietta DPW training classroom, 405 Calkins Rd., 7:00-8:30 pm
- Feb. 26, CCE, 249 Highland Ave., 7:00-8:30 pm
- Feb. 28, Rush Town Hall, 5977 E. Henrietta Rd., 7:00-8:30 pm

*Ms. Rosenblum is the Great Lawns/Great Lakes Program Coordinator. Her phone number is 461-1000, ext. 244.*

## Our Fragile World

At the Seneca Park Zoo

Dates: May 3-4 from 10 am to 4 pm

Theme: A Cleaner, Greener Community

Activities for children and adults, entertainment, exhibits. Call 336-7202 for information.

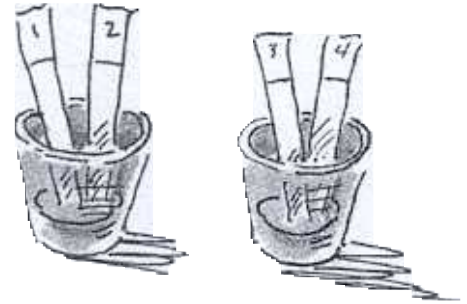
## THE FUN PAGE

### Rising to the Top

**Materials:** Pitcher of water, plastic cups, variety of paper samples (such as stationary, newsprint, tablet or sketch paper, one or more brands of paper towel), scissors, ruler, pencil, magnifying glass, drinking glass, red food color, celery stalk with leaves

#### Directions:

Gather four different kinds of paper. From each type of paper, cut a strip 1 inch wide by 5 inches long. Put a line across each of the strips at the four-inch mark (the “finish line”). Number the strips 1 to 4 above this line. These are your racing strips.



2. Fill 2 identical cups with one inch of water. In a minute, you and a helper will place and hold 2 racing strips in each cup at the same time and watch the water race to the finish line. But first make a guess. On which piece of paper will the water cross the line first? Second? Third? Last?

3. On your mark, get set, flow!

4. What were the results? Can you explain how and why the water moves faster on some paper and slower on others? Use a magnifying glass to look for clues. (If you used white paper, it helps to hold the paper against a dark background.)

*If you look closely at the paper, you will see that it is made up of fibers. In between the fibers are air spaces. The water is attracted to these spaces (**adhesion**) and pulls itself (**cohesion**) into them, moving up the strip (see Fun Page, Watershed, Summer '01). The paper with the largest air spaces should provide the most surface area for the water. It is the most **porous** and the water should move through it fastest. The combination of adhesion and cohesion to move the water up the strip of paper is called **capillary action**. Capillary action is one factor that causes water to rise in plants from the roots up through extremely narrow tubes (**capillaries**). It is also why cotton and other materials soak up liquids.*

5. Use the celery stalk to observe how a plant uses capillary action. Ask an adult to cut off about 2 inches of the stalk above the base. Put a few inches of water in a glass. Add enough red food color to make a deeply colored solution. Immerse the celery stalk into the colored solution. In a day, you will see the colored water rising in the stalk. Capillary action is one reason why this happens.

*As plants draw water into their roots they take in nutrients. Plants also take in pollutants when they draw water from their environment. Plants in a wetland can capture and hold, sometimes even use and change, many pollutants. This helps to protect adjacent water bodies (streams, ponds, lakes) that could be degraded by these pollutants.*

Adapted from *Project Seasons: Hands-on activities for discovering the wonders of the world* (Shelburne Farms, 1995). Used with permission. Contact Shelburne Farms at (802) 985-8686. Other resources are Elizabeth Lawlor, *In Water and Wetlands* (2000), and *Wow! The Wonders of Wetlands: An Educator's Guide* (Environmental Concern; The Watercourse; 1995).

## Community Water Watch Team Recognized by County Executive

At an August press conference in Powder Mills Park, Monroe County Executive Jack Doyle presented the League of Women Voters Community Water Watch (CWW) team with a certificate of appreciation recognizing their exceptional volunteer efforts. CWW is a volunteer stream monitoring program coordinated by the Monroe County Health Department with assistance from the Water Education Collaborative, the New York State Department of Environmental Conservation, Eastman Kodak



partment so that the health of local streams can be tracked and problems identified and corrected.

The League of Women Voters team was one of the first teams to volunteer when the CWW program was established. The team is comprised of Joyce Pearson, Chris Fredette, Ann Jones, and Peela Hooke. Everyone involved with the program has been impressed with the team's dedication, enthusiasm, and team spirit, even when collecting

benthic macroinvertebrates from their stream on a frigid winter day. For more information about the CWW program, contact Todd Stevenson at the Health Department at (585) 274-7638.

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*Summer 2001, from page 2*

**What is being done about the algae?** Many scientists believe there is little we can currently do to effectively manage Lake Ontario algae growth. Efforts are under way to gather clues about the factors contributing to the problem.

The Rochester Institute of Technology Center for Imaging Science is learning more about the locations of algae growth by the use of hyperspectral imaging (see *Watershed*, Winter '99/'00). The results of that study will show where the algae are growing. This information may provide a clue about the importance of one or more of the factors contributing to algae growth.

Dr. Edward Mills of Cornell University has conducted monitoring along the Lake Ontario shoreline to better understand the relationship between phosphorus concentration and plant growth, as measured by chlorophyll concentration. Results of this research indicate a change in the traditional nutrient-chlorophyll relationship in the nearshore, which may play a role in the change in algae growth.

The U.S. Army Corps of Engineers is sponsoring a feasibility study in the Ontario Beach area to identify the best method of improving the environmental quality of the Beach. Several remedial alternatives were identified and compared with respect to cost and effectiveness. As part of the study, the Corps conducted a field demonstration project last summer of three additional alternatives suggested by project reviewers. Data collected indicated that a simple breach and gate system built through the pier would not be effective due to equal or greater water height in the River. The trial results also suggested that a system of pumps would not be sufficient to remove algae from the entire beach area. The use of heavy equipment to move algae to the area of the pumps showed more promise, and will be revisited in a more thorough evaluation during the summer of 2002.

Monroe County is planning a workshop about algae growth causes and potential solutions. For further information, contact Margy Peet, Monroe County Health Department, at (585) 274-8442.

A biannual publication of the Monroe County Department of Health, Bureau of Water Quality Planning. *Watershed* is a forum for water quality agencies and organizations in a six-county area. To request copies or suggest future articles, contact Editors Todd Stevenson at 274-7638 or Carole Beal at 292-3935.

*Conesus Lake, from page 3*

Policy Committee. The model law was forwarded to the municipalities in the watershed for their consideration.

To obtain information on the Conesus Lake Watershed Management Plan, the Watershed Characterization Report, or the Model Erosion and Sediment Control Law, please call the Livingston County Planning Department at (585) 243-7550 or contact us via e-mail at [dwoods@co.livingston.ny.us](mailto:dwoods@co.livingston.ny.us). (See article on the Conesus Lake Watershed Inspection Program in *Watershed*, Summer '99.)

*Volunteers, from page 1*

Some of it may be left there on site, but much of it travels through storm drains before it shows up along the river. So the cigarette butt that a car driver ahead of you just flung to the street could easily end up in a creek or river once the rain washes it down a storm drain.

The event could not have been possible without the great teamwork of the planning committee and our sponsors, which include the Water Education Collaborative at the Rochester Museum and Science Center, City of Rochester, Monroe County, Cornell Cooperative Extension and 4H Earth Girls, Adirondack Mountain Club, Sierra Club, Town of Irondequoit, Starbucks, and Wegmans. And the biggest thanks goes to the volunteers who dedicated their Saturday morning to improving our shorelines.

*Margit Brazda Poirier is the director of the Water Education Collaborative. Her phone number is 271-4552, ext 320#.*



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