

CROSSECTION



INSIDE THIS ISSUE:

<i>Controlling NPS Pollution</i>	2
<i>Annual Meeting Highlights</i>	2
<i>Using Riparian Setbacks</i>	3
<i>Stream Monitoring Update</i>	3
<i>Stream Monitoring Update</i>	3
<i>Who Wants to be a Conservationist</i>	3
<i>Students attend Tri-County Envirothon</i>	Back page

Special points of interest:

- Learn how communities can help reduce NPS Pollution!
- Annual Meeting highlights and election information!
- Stream Monitoring results are in—see how Lake County stream rate.
- Area students participate in the Tri-County Envirothon.

DID YOU KNOW?

At least 50% of water quality problems in the U.S. result from NPS pollution.

COPING WITH POLLUTED RUNOFF

WHAT COMMUNITIES CAN DO

When it rains, three things can happen to the water. Some of it is evaporated, where it reenters the atmosphere. Some of it seeps into the ground, and recharges our groundwater. However, if the ground is saturated, frozen, or covered with impervious surfaces, precipitation flows over the land, creating stormwater runoff. As the intensity of development increases, so does the generation of nonpoint source water pollution, or polluted runoff. A good indicator of the intensity of development in a given area is the amount of impervious surface. Studies have shown that the greater the impervious surface coverage in a watershed, the greater the potential degradation of that watershed's water systems. Thus, local officials can do much to protect their water resources by considering the location, extent, drainage and maintenance of impervious surfaces on the town, watershed, and individual site levels. Natural resource planning, site design and use of best management practices form an effective three-tiered approach to the problem.

Development affects both the quantity and the quality of stormwater runoff, which in turn has impacts on watercourses. By enhancing and channeling surface drainage in favor of natural drainage systems, impervious surfaces like asphalt, concrete and roofing increase the volume and velocity of the runoff, often resulting in flooding, erosion and permanent alterations in stream form and function. In addition, by blocking the infiltration of water and its associated pollutants into the soil, impervious surfaces interfere with the natural processing of nutrients, sediment, pathogens and other contaminants, resulting in the degradation of surface water quality.

What Communities Can Do

Pavement is an unavoidable fact of modern life. However, there are many options available to the municipality interested in reducing the water quality impacts of existing or future developments.

1. Plan development based on your community's natural resources. Preventing pollution by wise planning is a far less expensive and more effective way to protect your community's waterways.
2. Minimize impacts through site design. The site planning state offers the best chance for local officials, designers and builders to work together to reduce polluted runoff from a site.
3. Mitigate unavoidable impacts by using best management practices (BMP's). These include a whole range of methods designed to prevent, reduce or treat stormwater runoff.

Lake SWCD administers the county's Erosion and Sediment Control regulations. Through these regulations, Lake SWCD reviews site plans to ensure that environmental impacts will be minimized on the construction site. Lake SWCD is able to keep track of construction sites in Lake County, and help them reduce or eliminate any sediment load that may enter a nearby waterway. Site inspections are done regularly to ensure the proper BMP's are being implemented, and used correctly.

It is important for communities to remember that enforcement and education is necessary in order to protect our natural resources. Citizens must learn what can be done on a watershed basis to protect the resources that we have in Lake County. ♦

STATE AUTHORITIES TO CONTROL NONPOINT SOURCE POLLUTION

by Greg Nanette, Coastal Nonpoint Program Coordinator, ODNR

Nonpoint source (NPS) pollution by definition isn't easily traced to a specific effluent outfall or "point." Whereas point sources such as waste water treatment plants or manufacturing facilities are relatively easy to regulate with specific permit requirements under the National Pollution Discharge Elimination System (NPDES), NPS pollution is not as effectively controlled by regulation. The best way to minimize NPS pollution is by building awareness throughout the general public, and encouraging adoption of less polluting behaviors through education and incentives.

However, there are situations when the NPS pollution is severe enough to warrant government action, or a water body is of such significance that governments adopt protective statutes. The specific options for regulatory action are as varied as are the sources of NPS pollution. The following is a sample of state authorities that can be used to address NPS pollution:

Agricultural Pollution Abatement Program [Ohio Revised Code (ORC) 1511.02, 1511.08; Ohio Administrative Code (OAC) 1501:15-5] The program provides cost-share monies from the state to assist landowners in installing needed practices, and ODNR Division of Soil and Water Conservation is provided authority to enforce correction of pollution problems, usually initiated through a complaint process.

Stream Litter Law [ORC 1531; OAC 1501:31] ODNR Division of Wildlife has broad authority to issue regulations that protect wildlife by requiring permits or penalties for activities that threaten or kill aquatic wildlife.

Source Water Protection Programs [ORC 743.25] Enforcement action can be initiated under Ohio's safe drinking water laws, which allows municipalities to protect, through regulation, the water quality of streams that are used for drinking or domestic purposes by that municipality.

Water Quality Standards [ORC 6111; OAC 3745] Enforcement action can be initiated by Ohio EPA to correct violation of Ohio's Water Quality Standards.

NPDES Stormwater Phase II: The Phase II Stormwater Program administered by Ohio EPA actually makes stormwater runoff a "point source." Local jurisdictions as well as institutions like hospitals and universities within areas of concentrated population must develop stormwater management plans and apply for an NPDES permit from Ohio EPA to control pollution from stormwater outfalls.

For more information about Ohio's enforceable authorities to address NPS pollution, you may download the Ohio Coastal Nonpoint Pollution Control Program Plan from the following website: www.dnr.state.oh.us/odnr/soil+water/coastalnonpointprogram.htm ♦

Because of impervious surfaces such as pavement and rooftops, a typical city block generates 9 times more runoff than a woodland area of the same size.

Conservation Awards 2002

Conservation Easements – *The Homans Family—Madison Twp.; Tony and Kathleen Usaj—Madison Twp.; and William and Virginia Rosenkrans—Madison Twp.*

Significant Environmental Legislation – *City of Kirtland*

Volunteer of the Year – *Ron Leskovec*

2002 ANNUAL MEETING HIGHLIGHTS



Lake SWCD would like to thank all those who attended our 56th Annual Meeting on October 3, 2002. Without your support, the night would not have been so successful.

The Annual Meeting was hosted by Lake Metroparks at Pine Ridge Country Club. The delicious dinner was followed by an intriguing presentation by Kirk Lombardy of The National Weather Service in Cleveland. Through Kirk's presentation, guests went home with a better understanding of Lake County's seasonal climatology.

Two board supervisors were elected as well, incumbent Richard Baker of Madison, and newly elected Dwayne Bailey of Mentor-on-the-Lake. Congratulations to both, whose terms will begin in January, 2003. Several awards were given to recognize the cooperation and implementation of conservation acts throughout Lake County. The night was topped off with a door prize extravaganza. ♦

A special thanks to our generous door-prize donors: *Agora Gardens, APR Tool, Aqua Doc, Backyard Feeding Station (Madison & Painesville), Border's Books, C.M. Brown Nursery, Champion Garden Center, Cottage Gardens, Do It Best Hardware (Madison), Joughin Hardware, Kirtland Feed Co., Klyn Nurseries, Losely Nursery, Mackenzie Nursery Supply, Martin's Nursery, M.E. Enterprises, Mentor-on-the-Lake Garden Club, Niedzialek Farm & Crafts, Ohio Wine Producers Association, Painesville Elevator Co., Roemer Nursery, Secor Nursery, Shreve Nursery, Springlake Nursery, West's Orchard, Yardmaster*

RIPARIAN SETBACKS—MAINTAINING AND IMPROVING SURFACE WATER QUALITY

by Chad Edgar, Urban Stream Specialist

The input of nutrients, sediment, and other dissolved chemicals from urban and suburban areas can severely degrade the quality of our backyard streams. Non-point source pollutants have long been recognized as the leading cause of water quality issues. The use of riparian setbacks can greatly reduce the amount of NPS pollutants reaching streams. A riparian setback is a designated width, derived from years of scientific study, along the stream. No buildings can be constructed in the setback and the clearing of vegetation is often prohibited. The width of a setback is dependant upon many factors, most importantly soil types, topography, size of watershed, and the goal of the setback.

The most effective riparian setbacks are those that are left in native woody vegetation. This riparian forest is very effective in filtering sheet flow, water that does not soak into the ground and flows across the surface, before it reaches the stream. The forest floor is very porous and will soak up much of the water with the associated nutrient loads and dissolved chemicals. Any suspended sediment will be deposited prior to reaching the stream, and adds to the already fertile woodland soils.

Riparian setbacks are also very useful during flood events. These areas act as reservoirs for floodwaters and will have the same filtering effect on floodwater. In addition to protecting the stream from urban run-off, riparian forests have many other benefits. The tree canopy can provide much needed shade to streams, as cold water is necessary for many of the organisms found in streams. Additionally, colder water tends to hold more oxygen. Leaf litter is also an important food source for many of the macroinvertebrates found in headwater streams. Riparian forests by nature are very diverse and therefore create habitat

(Continued on page 4)

EDUCATION UPDATE...

STREAM MONITORING MADNESS!

Despite the hot, dry summer we had this year, our Watershed Watch results were overwhelmingly **excellent**. A total of 464 students and teachers, from 11 different Lake County schools, were able to participate this fall in monitoring 12 sites in the Chagrin and Grand River Watersheds. I would like to welcome our newest school to join the Watershed Watch team—Peaceful Children Montessori School in Kirtland! Other schools that participate include Hobart M.S., Riverside H.S., LaMuth M.S., Wickliffe M.S., Phillips Osborne, Gilmour Academy, St. Mary's Painesville, Cornerstone Christian Academy, Madison M.S., and Andrews. The overall assessment at each of the sites was **excellent!**

Students were lucky to find some different fish species such as Rainbow Darters, Fantail Darters, Central Stonerollers, Stonecat Madtoms, and Johnny Darters, as well as some fish and salamander eggs. In addition, many of the groups collected some rather large Dobsonfly Larvae! Many of these species require higher water quality, indicating to us that these streams are fairly healthy. We didn't observe any significant sediment flowing in the streams, nor did we observe any unusual discoloration of the water. You can access results from all the sites tested on our web site at: <http://www.lakecountyohio.org/soil/monitoringdata.htm>. ♦



Students pick through their sample and try to identify the macroinvertebrates they caught.

WHO WANTS TO BE A CONSERVATIONIST?

Test your own knowledge of environmental issues by playing "Who Wants to be a Conservationist?" Quiz classmates, colleagues, fellow employees, and your family! Look for the correct answers inside this newsletter! Look on our website for brief explanations!

- At what temperature (in degrees C) does water boil?

A. 100	C. 212
B. 32	D. 0
- The flat land that borders a river and is covered by water when the river floods is called what?

A. ditch	C. floodplain
B. low land	D. island
- A curve or bend in a river is also known as what?

A. turn	C. channel
B. sand bar	D. meander
- Small round lakes in glaciated areas are called what?

A. kettle lakes	C. oxbow lakes
B. bogs	D. fen lake
- The process in soil in which water leaches or soaks back into the groundwater supply is known as what?

A. renewal	C. drainage
B. recharge	D. withdrawal
- True or false, groundwater flows in vast underground lakes and streams.

A. True	B. False
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- What is the name for the zone of water saturation below the ground?

A. wet zone	C. water table
B. aquifer	D. flood zone
- What are smaller streams which flow into a larger stream called?

A. ditches	C. branch
B. eddy	D. tributary
- An area of land that drains into a particular body of water is called a what?

A. watershed	C. floodplain
B. delta	D. source
- What type of soil is most likely to allow groundwater contamination?

A. clay	C. sandy
B. silt	D. loam



TRI-COUNTY ENVIROTHON IS A SUCCESS!

On October 8, 2002, over 250 high school students from Lake, Geauga and Ashtabula county schools participated in the 2002 Tri-County Envirothon at Swine Creek Reservation. This event is sponsored by Lake, Ashtabula, and Geauga Soil and Water Conservation Districts, in cooperation with Geauga Park District. The Envirothon is designed to test high school students' knowledge of natural resources in five categories: **soils, wildlife, forestry, aquatics, and current environmental issues.** Students compete through team problem-solving activities and field tests throughout the day, as well as have contact with natural resource professionals. The Envirothon also provides a chance for students to learn more about career opportunities in fields related to natural resources and the environment. The overall theme this year was "*Agricultural Land Preservation and Conservation.*"

The Tri-County Envirothon is meant to be a training opportunity in preparation for the Regional Envirothon which will be held in May 2003 in Huron County. A big thank you to the schools that participated, the resource specialists and volunteers for taking time out of their schedule to help make this day a success, and to the Geauga Park District for the use in their facility! ♦

RIPARIAN SETBACKS...

(Continued from page 3)

for numerous species of wildlife. When riparian setbacks are connected to other large woodlots they serve as excellent travel corridors. The root system of trees is also a natural defense in fighting streambank erosion. Perhaps the best reason for having riparian setbacks on your property, less yard work!

For more information on riparian areas contact the Lake SWCD or visit the following websites. ♦

www.crjc.org/riparianbuffers.htm

www.riparianbuffers.umd.edu/fact/FS724.html

LAKE COUNTY SOIL & WATER CONSERVATION DISTRICT

125 E. Erie St., Painesville, OH 44077

•440-350-2730 (main number) •FAX 440-350-2601

Toll-free •298-3334 ext. 2730 Madison/Perry

•918-2730 Cleveland/Western Lake County

•1-800-899-LAKE outside Lake County only

Office Hours: Mon.-Fri. 7:30 am-4:00 pm

•**E-mail: soil@lakecountyohio.org**

•**Web site: www.lakecountyohio.org/soil**

AL BONNIS, District Conservationist, NRCS	350-2730
PAM BROWN, District Secretary/Treasurer	350-2730
DAN DONALDSON, District Administrator	350-2030
CHAD EDGAR, Urban Stream Specialist	350-2032
AMY KNISELY, Education/Information Coordinator	350-2033
JOHN NIEDZIALEK, Western Reserve RC&D Coordinator	350-2034
BRETT RODSTROM, Urban Resource Technician	350-2092
MATTHEW SCHARVER, Resource Protection Tech.	350-2031

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- American Farmland Trust
- Lake County Farm Bureau
- Nursery Growers of Lake County, Inc.
- National Association of Conservation Districts
- Ohio Federation of Soil & Water Conservation Districts

AN EQUAL OPPORTUNITY EMPLOYER

All Lake SWCD and USDA programs and services are available without regard to race, age, gender, national origin, political beliefs, color, religion, disability, sexual orientation, or marital or family status.

The public is invited to attend Lake SWCD's monthly Board meetings, held the fourth Wednesday of each month at 7:00 pm at 125 East Erie St., Painesville. Meeting announcements appear under the public agenda in the Plain Dealer and News-Herald. Please call in advance to let us know you will be attending.

Lake County Soil & Water
Conservation District
125 East Erie St., Painesville, OH 44077

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