

# CROSSSECTION



## BEHIND THE SCENES

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### Special points of interest:

- Water quality in your backyard
- New stream crossing signs
- Patch project for youth groups
- Stream-friendly construction practices
- SWCD employee certifications

### According to the US EPA:

- The average price per gallon of water in the US is 25 cents.
- The average US citizen uses 50 gallons of water each day.
- Nationwide, about 3.5 billion dollars are spent annually to operate our water systems.

Some days the Soil and Water office is a flurry of activity. People are making maps, preparing mailings, reviewing site plans, updating the web page, or responding to inquiries. Some days the office is strangely quiet and most of the rooms are dark. Employees are at meetings, training sessions, construction sites, schools or streams. In the course of a day, each employee might be working on several different projects. This quarter, join us in taking a look at some of the various programs we are currently involved with here at the office.

## HEADWATER STREAM EVALUATION

CHAD EDGAR, URBAN STREAM SPECIALIST

The District is inventorying habitat quality in all of the headwater streams located in Lake County. Headwater streams, the unnamed tributaries to the larger streams, make up over 80% of the stream miles in Ohio. That's a lot of habitat and stream function, which is often overlooked during land development. The loss of headwater streams in a watershed will ultimately create more flooding and water quality issues in downstream rivers.

This project was started in 1999 to acquire baseline information on these special habitats and share the findings with local communities and

developers. Since then, District staff and interns have visited over 600 streams out of an estimated 1500 headwater streams in Lake County. We have learned that Lake County is very rich in headwater stream habitats, with some watersheds having almost 40% of the streams falling into the highest category of stream quality. The statewide average is 10% according to the Ohio EPA. These streams, which have less than 1 square mile drainage area, are evaluated based on physical attributes (width/depth/substrate), chemical water quality (temperature/oxygen/salinity/pH), and biology (fish/salamanders/frogs/invertebrates). The tool we use to inventory these streams is called the HHEI, Headwater Habitat Evaluation Index, and was developed by the Ohio EPA. All of this information is compiled in a database where we can look at trends and issues throughout the county. The program has been such a success that our staff was



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## REESTABLISHING STREAMBANK VEGETATION AFTER CONSTRUCTION

The forty-eight subplot Noble Ridge Subdivision located off Ravenna Road in Concord Township is strategically tucked away amongst five primary headwater streams that flow through stable ravines carrying cool, clean water to Gordon Creek. The most biologically diverse headwater stream at the site was crossed at two stable locations. Extreme caution by the developers of the project, Driftwood Properties and the contractor, Hallmark Excavating was employed during construction. Proper erosion controls were effectively implemented to prevent unnecessary sediment loading in the stream.

Once the two culvert crossings were constructed the upstream and downstream impacted sections of the stream were restored and stabilized. Boulders and cobble were re-introduced into the stream to create riffles and pools for aquatic habitat. The minimal amount of sediment discharged to the stream was naturally flushed from the gravel and cobble streambed and deposited in flood plain areas downstream. Due to the careful construction and minimal impact by the contractor this biologically diverse stream was able to quickly return to a stable state.

However, one key component to its health was missing. The riparian corridor that had existed prior to construction had to be removed to install the roadway and utilities. The shade that helped keep stream temperatures cool and dissolved oxygen levels high was missing. The root structures along the edge of the stream banks that held the soil in place and provided habitat to streamside wildlife were also missing. In order to reestablish the riparian corridor of this stream Driftwood Properties and Hallmark Excavating planted 650 saplings of American Sycamore, Red Osier Dogwood and Banker's Dwarf Willow at each of the

stream crossings of the site. Sycamores were planted in order to provide shading of the stream over time. They will grow to over 100 feet tall. The Red Osier Dogwood and Banker's Dwarf Willow were planted along the top and side slopes of the stream bank so that their fibrous root systems lock the soils in place, preventing unnatural erosion as well as providing additional shade, overhanging vegetation and habitat to both aquatic and terrestrial wildlife.

This is the level of stewardship that can lead to the protection of our County's natural resources. The District thanks Driftwood Properties and Hallmark Excavating for their efforts and example of conservation leadership. You too can play a role in the stewardship of the County's streams. If you have questions or need additional information regarding your stream resource contact us at the District for



## THREE LAKE SWCD STAFF EARN CPESC CERTIFICATION

Matt Scharver, Brett Rodstrom and Dan Donaldson have completed the necessary course work and testing to become Certified Professionals in Erosion and Sediment Control (CPESC). The certification was developed by the



Soil and Water Conservation Society and the International Erosion and Sediment Control Association. The USDA Natural Resource Conservation Service and the US and State Environmental Protection Agencies endorse the CPESC program.

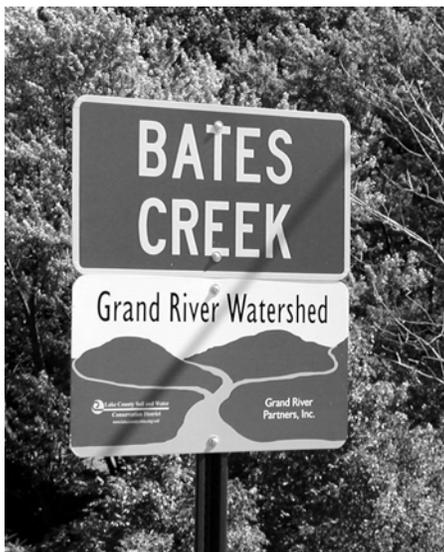
To be eligible for CPESC certification, applicants must pass a written examinations designed to determine proficiency in the principles, practices, and the laws related to erosion and sediment control. Applicants must also must also show the ability to observe, evaluate and synthesize information, and propose reasonable and effective measures to address real world situations. CPESCs are also required to have 6 years professional work experience as well as college degrees in a related area.

CPESCs are required to follow the CPESC Code of Ethics and maintain their professional growth by acquiring 20 hours per year of continuing education sessions.

Congratulations to Matt, Brett and Dan!

## MORE STREAM SIGNS ON THE WAY

BRETT RODSTROM, STORMWATER SPECIALIST



In August of 2003, the Lake SWCD, in conjunction with the Lake County Stormwater Management Department and several participating conservation organizations developed a stream sign program to identify some of the headwater streams of the larger rivers and drainage basins in Lake County. A total of 20 sites were chosen

throughout the county to display the stream name as well as the watershed each stream belongs to. Signs were sponsored by organizations such as Grand River Partners, Friends of Arcola Creek, The Chagrin River Land Conservancy, Lake Metroparks, the Holden Arboretum and many others. These signs were distributed throughout Lake County in both townships and municipalities.

Because of the overwhelming support of the first phase of this project, the District has decided to install a second and final round of these signs for 2004. About half of the signs targeted for the second phase have already been sponsored by previous or new conservation organizations active in Lake County. The second round of signs, which is expected to include between 20-25 sites, is scheduled to be installed in August of 2004.

For more information about this project, the sponsors, and contributing organizations, log on to our web site at [www.lakecountyohio.org/soil](http://www.lakecountyohio.org/soil). Be sure to look for the signs on your travels throughout Lake County.



## NEO PIPE ANNOUNCES STREAM STEWARDS PATCH PROGRAM

Northeast Ohio Public Involvement Public Education group (NEO PIPE) has created a patch program that focuses on stormwater issues and non-point source pollution (NPS). The Stream Stewards patch program is geared toward youth groups and individuals who have an interest in the natural world and their surroundings. The activities can be adjusted to a wide range of ages, and there are ways for everyone to get involved. To become a Stream Steward, each individual completes four activities, one from each category; Discovery, Research, Outreach, and Public Education. They are then eligible to become a Stream Steward and identify themselves with a patch.



NEO PIPE was created in November of 2002 in response to the new NPDES stormwater regulations set forth by the U. S. Environmental Protection Agency. Representatives from several communities and agencies throughout Northeast Ohio have banded together to form a regional education effort. Two of the six minimum control measures for NPS involve public education and public participation. NEO PIPE is working on several regional projects to help increase awareness of non-point source pollution issues and to get volunteers involved in their neighborhoods. For more information on the Stream Stewards program contact Beth Landers at Lake SWCD.

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### HEADWATER

asked by the Ohio EPA to travel across the state and let other SWCDs and consultants learn about our work.

If you are curious about the habitat quality in your community or property, visit our website at: <http://www.lakecountyohio.org/soil> and click on 'What's New.' All of the results to date have been made into maps of the area. What's in your backyard?

If you have any questions about headwater streams habitat or function, please contact Chad Edgar at the Lake County Soil and Water Conservation District.

Watershed Watch will take to the rivers again May 10-28. Twenty-two classes representing 11 different schools will monitor macroinvertebrate populations in the Grand and Chagrin rivers.

