

Conservation Today For Tomorrow

Issue 2
Number 2

Education Edition

Fall, 2006
Lafayette, Indiana

Have You Seen a Fish on Your Street?



Above are two storm drain markers the Tippecanoe SWCD and the Tippecanoe County Partnership for Water Quality are using to promote stormwater education.

The title may be misleading but it is true! Through the course of the last year the Tippecanoe Soil and Water Conservation District has been labeling storm drains with storm drain labels. There are two different types of labels we use as shown in the pictures above.

The purpose of the storm drain label is an education tool to remind people that whatever goes into a storm drain is carried away to the nearest waterbody and not a wastewater treatment plant. This is an important fact to know because many people believe that the water is treated first before it flows back into the environment. This is not true.

The water that falls into the storm drains is not clean water. As the water falls from the sky it picks up minute dust particles. When the raindrop falls to the ground it may land on many different surfaces including pavement, rooftops, bare soil, etc. As the water runs off these surfaces, it will pick up and carry away impurities such as gasoline, grime, and soil particles.

With all of these impurities attached to the water as it flows into the storm drain, it is safe to assume that the water is not healthy

for living organisms when it falls out of a pipe into the nearest body of water. This has a direct effect on the organisms that live in the waters of Tippecanoe County. By polluting their environment with waste and other forms of nonpoint source pollution the water quality will continue to decline.

It is important to have an education program in place to remind the community the purpose of storm drains; to take away stormwater from the surface and move it to underground pipes or ditches so that the water will not flood the streets.

With the community assisting with the marking of the storm drains, the Tippecanoe SWCD has been able to label over 800 storm drains this year. This could not have been achieved without the assistance of our remarkable volunteers who have spent many hours on hot summer days and cooler fall afternoons walking from drain to drain to stress the importance of stormwater education to the public.

If you would like to assist us in the spring, please contact the District at 765-474-9992, ext 3.

Mini Detrash the Wabash Event a Success

On October 14th representatives from the Banks of the Wabash, Wildcat Creek Foundation, Master Naturalist Program, and Tippecanoe Soil and Water Conservation District participated in a Wabash River floodplain area clean up on the beautiful grounds of Fort Ouiatenon.

The Sunday after the Feast of the Hunter's Moon yielded a crisp morning as Cecily Schneider with the Banks of the Wabash handed out gloves and trash bags to the participants. Hot chocolate was provided in the morning followed by a pot luck lunch in the afternoon.

Because of the proximity of the Fort to the Wabash River, it is important to maintain the grounds after such an event. The area is often flooded in the Spring and Fall. The dedicated people who came out that morning understood that debris left over from the Feast may travel to the Wabash and float downstream to our neighbors. They should not be responsible for our trash.

It was a great opportunity to see people who care about the river come together for a good cause. The group collected twelve bags of trash after pulling out the recyclable material including aluminum. Other objects found included tent poles, plastic tarps, clothing, a portable fire ring, broken shovels, and countless other items that did not belong in the natural environment.

The groups would like to thank the Purdue Crew for their initial sweep of the Fort's grounds. They did a great job and left no stone unturned. Our groups had to really search for the debris we found.

-Don Emmert, Water Quality Educator

Field Borders Provide Many Benefits



Photo USDA NRCS

A fine example of a field border

Several Tippecanoe County farmers are using a conservation practice called “field borders”. Field borders are strips of permanent vegetation established at the edge of a field or around the outside of the field. They are highly effective conservation practices in many ways. They reduce erosion from wind and water especially where the end rows in a row crop field are on a downward slope. A permanent grass or legume strip holds the soil in place and keeps it on the farm and out of road ditches and waterways. When the field border is on the downhill side of the field, it serves as a filter strip, removing sediment, nutrients and pesticides from the runoff water.

Field borders also provide food and cover for wildlife and serve as a home for beneficial insects, especially pollinators. They can also help as a way to manage harmful insects in a crop field. Beneficial wildlife makes their homes in the field border and move out into the crop fields to harvest harmful insects and other plant pests.

-Linda Eastman, Rural Conservation Committee

Did You Know?

H₂O is the chemical symbol for water.

There are two hydrogen atoms attached to one oxygen atom making one molecule of water.

Water is the only substance in the world that can be a solid, liquid, or gas.

The element most commonly used in water purification is chlorine.

It takes 47, 674 gallons of water to produce one Sunday Newspaper (including water to grow the trees for paper).

A gallon of water weighs 8.34 lbs.

Each day the sun evaporates 1,000,000,000 (a trillion) tons of water.

It takes 1,851 gallons of water to refine one barrel of crude oil.

Bones are 25% water.

An acre of corn will give off 4,000 gallons of water per day in evaporation.

Sediment is the most common water pollutant in Indiana.

The only water we will ever have is what we have now!

Water Quality Logo Contest

The Tippecanoe County Partnership for Water Quality Logo Contest is open to Purdue University, Ivy Tech, high school, middle school, and home schooled students to design the logo that will be on the storm drain markers, brochures, and other information concerning the county's stormwater. We are accepting submissions in the form of pen, ink, and computer generated logos.

The winner of the contest will receive a \$500 prize. The contest ends December 1st, 2006.

The new logo will replace the standard logo of the fish on the front page of this newsletter. The partnership wants to see how creative you can be.

Rules for the 2006 Tippecanoe Phase II Project Team Logo Contest

- 1) ALL submissions must be received by the Tippecanoe Soil and Water Conservation District no later than 4:30 pm, Friday, December 1st.
- 2) All submissions must be computer generated OR drawn with pencil or ink. Please no pastels, paintings, water colors, etc.
- 3) If submitting a color drawing, please accompany a second identical drawing that is strictly black and white (for printing purposes).
- 4) All submissions must be on CD, disk, OR white paper measuring 8 ½" x 11".
- 5) All submissions will become the property of the Tippecanoe County Partnership for Water Quality.
- 6) Limit of 2 submissions per person.

7) All submissions will have an accompanying paper with the artist's name and contact information (address and phone number so we may contact you if you are the winner of the contest).

The **Tippecanoe County Partnership for Water Quality** appreciates your dedication to increasing awareness of stormwater in the community. Thank you to all who participate in the contest.

You may drop off or mail submissions to:

**Tippecanoe Soil and Water Conservation District
c/o Don Emmert
1812 Troxel Drive
Lafayette, IN 47909**

Sustainable Communities...Development and Conservation

Working Hand-In-Hand

Conservation is moving from the country to backyards across Indiana. Everyone is interested in natural resource protection. The Tippecanoe County Soil and Water Conservation District (SWCD), and our cooperating partners, can not only help rural land users with natural resource concerns but also has valuable information for developers, builders, homeowners, neighborhood associations, municipalities, and others.

Over ninety-five percent of the land in Indiana is privately owned. Therefore, the quality of our water is largely determined by private landowners and how they treat the land. Farmers are utilizing conservation plans to help apply practices to meet production objectives while protecting soil, water, air, plants and animal resources. In addition, the homeowners in town or in the suburbs may want to do the same, although need assistance in doing so.

Whether you live in the rural, urban, or suburban areas of Tippecanoe County, natural resources play a significant role in your everyday life. Humans and wildlife need clean water to drink, bathe in, play in, live near, etc. Without the SWCD, our surface waters are at a greater risk. Everyday pollutants enter our waterways and come in many different colors, shapes and sizes. Pollutants can include soil erosion, excess fertilizers, herbicides, insecticides, bacteria, E-coli, leaking fluids from our automobiles, machinery and trash. The SWCD recognizes these risks and works hard to inform the people of Tippecanoe County about the dangers of these pollutants entering our waterways when it rains or when the snow melts. Along with this education, the SWCD also wants to help people solve these problems on the ground. Farmers across the U.S. have many resources available to them for technical and financial assistance when it comes to conservation. However, the urban sector does not.

As a result, in late 2004, the Tippecanoe SWCD created a Business Plan for 2005-2010 focusing on locally



Common ravine erosion found throughout Tippecanoe County

identified natural resource concerns and envisioned Tippecanoe County with stable soils, healthy forests and riparian buffers, clean streams and water resources, productive farms, and sustainable communities. One specific goal identified is the provision of a full-time urban conservation technical support program to assist in this vision.

In achieving this goal there needs to be the support of the community for this type of program. Therefore, the SWCD is reaching out to all citizens of Tippecanoe County and asking for feedback. The purpose of the new position would be to provide technical services for urban soil and water resource planning that result in erosion control and sediment reduction in the county, in addition to providing information and education assistance. In countless federal and state studies throughout the last 10 years, urban runoff has been identified as one of the leading sources of water quality impairments in the surface waters of the U.S. Government studies have shown that up to 70% of the pollution in our streams, rivers and lakes is carried there by stormwater. In particular, the Indiana Department of Environmental Management's (IDEM) water-quality studies indicate soil erosion (AKA sediment) is the leading cause of water pollution by volume in Indiana. The SWCD wants to be able to respond to erosion and sedimentation complaints of concerned citizens and provide technical

assistance to developers and landowners in solving soil and water concerns.

In addition, the SWCD recognizes that one of the first steps to solving pollution problems is to tackle the problem before it even occurs. For this reason the SWCD would also like to have someone available to receive and review development plans along with all subdivision requests for the Area Plan Commission and to provide natural resource recommendations, soils, and wetland information as requested. With Tippecanoe County experiencing growth, there needs to be an urban technical assistance program in place to talk about development issues and soil and water conservation with planners. In working together, zoning and subdivision ordinances can be amended to include conservation which can minimize pollution runoff and improve wildlife habitat. We have bald eagles nests, great blue heron rookeries, federally endangered whooping cranes, unique mussels in the Wabash, and a great variety of habitats. It is very important that development doesn't degrade the unique resources that contribute to our wildlife diversity.

Finally, municipalities are struggling to meet all the non-funded mandates required by the Environmental Protection Agency's clean water acts.

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Soil and Water Conservation Programs in the Classroom

Do you have a need for a soil and water conservation program in your curriculum this year? The District can alter programs to meet your specific grade level. Water is used everyday by everyone and learning how to respect and conserve it is a major priority of the Soil and Water Conservation District's Education Committee. With many opportunities for both indoor and outdoor hands-on activities, the District seeks your interest throughout the year. For a full listing of available programs please visit our website. Here are a few of our most popular programs:

Kindergarten, First Grade: FREDDIE THE FISH:

Students listen to a story while watching a demonstration about Freddie the Fish and his journey down the Wabash River. Students learn first hand what happens to the river when Freddie encounters water pollution. Students learn how their actions along with those of others affect water quality and ways that they can help prevent water pollution.

Second, Third Grade: INCREDIBLE JOURNEY:

Students become water molecules and simulate the movement of water within the water cycle. By rolling a cube, students visit places water can move throughout the Earth. Students will also identify the physical states of water as it moves through the water cycle. A beaded water cycle bracelet records each student's journey.

Fourth Grade: SUM OF THE PARTS:

Students demonstrate how everyone contributes to the pollution of a river as it flows through a watershed. Through a hands on activity, students will learn how to distinguish between point source and nonpoint source and recognize everyone contributes to and is responsible for a river or lake's water quality.

Fifth, Sixth Grade: ENVIROSCAPE:

Using the Enviroscope Nonpoint Source Pollution Model, students learn about watersheds and water pollution. The three dimensional model landscape illustrates residential, recreational, agricultural, and industrial areas and how they represent possible sources of water pollution. Students see first hand how their actions and those of others may affect our water quality. The Enviroscope model can also be used to emphasize pollution prevention with a follow-up demonstration on best management practices.

Seventh, Eighth Grade: H₂OLYMPICS:

Students compete in "Water Olympics" to investigate the properties of water. Students participate in three events by performing simple experiments that demonstrate adhesion and cohesion. Events include the pole vault, balance beam and backstroke. Students will be able to demonstrate the chemical bonding properties of water while also relating these properties to daily activities.

Ninth, Tenth Grade: BIOLOGICAL WATER QUALITY MONITORING:

Students are introduced to water quality by performing biological water monitoring. Students learn about various macroinvertebrates and how scientists use these aquatic insects to test our waterways. By examining and identifying these insects, students decide if the water quality is excellent, good, fair or poor.

Eleventh, Twelveth CHEMICAL WATER MONITORING:

Students are introduced to water quality by performing simple chemical water monitoring procedures. Students use the LaMotte Standard GREEN kits in order to perform chemical tests of a waterway. These chemical tests include dissolved oxygen, pH, temperature, turbidity, phosphates, and nitrates. By examining the chemical test results, students decide if the water quality is excellent, good, fair, or poor.

ALL: STORM DRAIN STENCILING:

Students learn about nonpoint source pollution and watersheds by marking storm drains in their communities. This activity reminds the community not to dump waste into our storm drains, as it eventually drains to our waterways. Students use stencils that read "Dump No Waste, Drains to River" to paint this permanent reminder to the community. This is a great community service activity for afterschool clubs!

Contact Don Emmert for more information about having a presentation in your classroom. Please do not hesitate to e-mail or call the office if you have any questions about the available programs. I look forward to hearing from school teachers, home school teachers, scout troop leaders, after-school program directors, and more.



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www.tippecanoeswcd.org

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Sustainable Communities...

The SWCD would assist local municipalities in meeting these mandates by helping coordinate with other agencies and funding. Currently, the SWCD reviews pollution prevention plans for municipal projects on a part-time basis. If a full-time program was in place, more emphasis could be placed on plan review recommendations and supporting issues with the stormwater programs while providing an outside opinion during contentious review and enforcement situations.

If you'd like to offer feedback regarding this important work, please contact the SWCD office at 765-474-9992, extension 3 or visit the website at www.tippecanoeswcd.org and complete our *Survey of Urban Conservation Needs and Services*. We will utilize the results in our efforts to provide Tippecanoe County's urban/suburban communities with improved conservation support.

As we move forward, you have our promise that we will continue with our current course of action that gives equal weight to the immediate and the long-term, as well as to the local and far-reaching impacts of our actions on the natural environment. Thank you in advance for your support! -**Tandy Easler, Erosion Control Technician**

Indiana's Conservation Reserve Enhancement Program (CREP)

by Jerod Chew, assistant director, ISDA Division of Soil Conservation

Landowners throughout the Tippecanoe, Upper White and Pigeon/Highland River watersheds have been signing up for conservation practices such as Riparian Buffers, Filter Strips, Wetland Restoration and more through Indiana's first Conservation Reserve Enhancement Program (CREP).

The Indiana CREP is a partnership between the USDA and State of Indiana with additional support from The Nature Conservancy. The program targets the enrollment of 7,000 acres of land in the Pigeon-Highland, Tippecanoe and Upper White River watersheds where sediments, nutrients, pesticides and herbicides run off from agricultural land. Eligible landowners who enroll in CREP may receive various state and federal incentives to install conservation practices. CREP incentives are based on the practice/s chosen by the landowner to install, as well as the soil type. In the Tippecanoe and Upper White River watersheds, easement and contract extension options also are available.

For further information regarding the Indiana CREP, visit the Web site at the link <http://www.in.gov/isda/soil/programs/crep/index.html>.