St. Joseph County Soil & Water Conservation District

CONSERVATION KALEIDOSCOPE

Today's Visions for Tomorrow's Future

Oct/Nov/Dec 2008 | Volume 10, Issue 4 | 5605 U.S. 31 South, Ste. 4 South Bend, IN | Website: stjoseph.iaswcd.org | Telephone (574) 291-7444 Ext.3 | Fax (574) 291-0284 | Editor: Troy Manges | Editor: Sara McClaran

EVENT CALENDAR

OCTOBER

13 - Columbus Day
14 - Compost Workshop at 7:00 p.m.
20 - SWCD Board Meeting at 7:00 a.m.
31 - Halloween

NOVEMBER

2 - Daylight Savings Time Ends
Fall Back
4 - Election Day
11 - Veterans Day
Office Closed
15 - America Recycles Day
17 - SWCD Board Meeting at 7:00 p.m.
27 - Thanksgiving Holiday
Office Closed

DECEMBER

15 - SWCD Board Meeting at 7:00 p.m.
22 - First Day of Winter
25 - Christmas Holiday
Office Closed
31 - New Years Eve

The St. Joseph County
Soil & Water Conservation District
cordially invites you to our

49th ANNUAL MEETING

Join us at the
Scottish Rite
427 N. Main Street, South Bend, IN 46601

Friday, January 30, 2009
6:30 - 9:30 p.m.

The cost is $10.00 per person which includes an extravagant Polish Buffet & Dessert Bar:
Broasted Chicken & Polish Sausage, Kluski Noodles, Mashed Potatoes & Country Gravy, Sweet & Sour Cabbage, Seasoned Green Beans, Skillet Biscuits & Honey Butter
21 Assorted Desserts

Please R.S.V.P. by Friday, January 16, 2009

Guest Speaker: Tom Turpin

Tom Turpin is a Purdue University Professor of Entomology and Cooperative Extension Service Entomologist. Turpin created "Bug Bowl" in 1990 to demonstrate insect mobility to his students; the annual event, now part of Purdue Spring Fest, attracts more than 25,000 people as well as worldwide media attention. A popular speaker, he gives presentations on a variety of agricultural-related topics to audiences of all ages and has been featured in national magazines, on network television shows, and talk and call-in radio programs. A dedicated teacher, he has received numerous teaching honors, including Purdue's top undergraduate teaching award. In 2008 Turpin was named the recipient of the Hovde Award for service to the people of Indiana. He is the author of numerous scientific papers, a textbook, and a popular book about insects called "Flies in the Face of Fashion, Mites Make Right, and Other Bugdacious Tales."

TREE SALE

Order forms for the 2009 Tree Sale will be mailed during the first week of October. If you have not received an order form and would like to, please contact the office at (574) 291-7444 ext.3.

What's Inside . . .

AQUATIC CSI

Have you ever wondered about the health of our streams and rivers here in St. Joseph County. Well maybe you need to put on your science hat and do a little investigating. You do not need a lot of equipment, just a pair of waders and a net. When asked about what lives in the water, most of us think about fish, turtles, ducks, geese and the like. But if you want to know about the health of a waterway, think bugs, specifically benthic macro invertebrates or macros for short.

These are organisms that can be seen with the naked eye (macro), do not have backbones (invertebrate) and live on the bottom of the stream (benthos). We have found that some of these little critters can withstand pollution quite well. The rat-tailed maggot loves to live in the ponds at the waste water treatment plant. If you find nothing but these in a stream, it is not a good sign. On the other hand, stonefly and mayfly larvae cannot survive in polluted water and if you find these guys, it is an indicator of excellent water quality. The one thing to remember is that bad water indicator species can live in good water, but good water indicator species cannot live in bad water. In other words if you find a rat-tailed maggot, do not panic. Instead keep looking, you may be surprised.

The one good thing about macros is that they give you a long term history of the water. Chemical tests are important but they are just a snapshot in time. You can chemical test one day and have terrible results but the next day get great results. But the macros tell the history. Their population does not fluctuate on a day to day basis, this is why they are so important.

Getting Started...

Waders help, but you can collect from the shore.
A **Minnow Net** like those found at a bait shop is best, but even the cheap little butterfly nets will work, just not for long.

White tub or Bucket

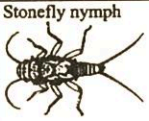
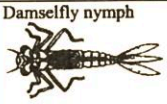
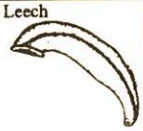
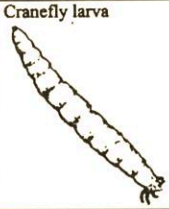
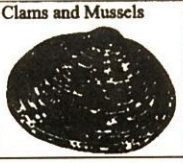
Remember aquatic life lives in a variety of habitats...take the net and scoop along the bank, especially undercut banks. If you have waders walk upstream through riffles with the net behind you. Make sure the net keeps contact with the bottom. Place the material from the net into the tub and just watch, it is amazing what you will find. Don't forget to pick up rocks and sticks in the water and check them out as well.

And if you really want to get involved check out the volunteer water testing organization, Hoosier Riverwatch at www.hoosierriverwatch.com

This is also a great web site to check out the health of Indiana streams and rivers by reviewing the data submitted by the volunteers.

A final note: The macros tell us that the St. Joseph River is good, not excellent but definitely not as bad as people think. Juday Creek is excellent and the Kankakee River is good. So we have work to do but we are making improvements in the health of our water.

A final, final note: All of our water ways do have a problem with ecoli, especially after a major rain.

Intolerant	Moderately Tolerant	Fairly Tolerant	Tolerant
Stonefly nymph 	Damselfly nymph 	Midge larva 	Aquatic worms 
Mayfly nymph 	Dragonfly nymph 	Leech 	Blood Midge larva 
Caddisfly larva 	Aquatic Sowbug 	Blackfly larva 	Left-Handed Snail 
Dobsonfly larva (Hellgrammite) 	Scud 	Planaria (flatworm) 	Rat-Tailed maggot 
Water Penny Beetle larva 	Crayfish 		
Riffle Beetle- adult and larva 	Cranefly larva 		
	Clams and Mussels 		

The Right Tree for the Right Place

~ Excerpt from The National Arbor Day Foundation®
Tree City USA® Bulletin

Living Snow Fences

Strategically placed rows of trees and shrubs can help control blowing snow. This not only contributes to public safety, it can reduce snow removal costs. According to the Laramie County Conservation District in Wyoming, replacing traditional slatted fences with living snow fence has saved taxpayers up to $4,933 per mile per year. In Laramie County alone, its 53 living snow fences are saving roughly $74,000 tax dollars every year! By controlling where snow piles up, it is also possible to increase spring soil moisture on lawns, ball fields and other areas of grass. By using trees and shrubs preferred by birds or other desirable wildlife, yet another benefit can be added.

Windbreaks

Windbreaks traditionally have done their work on America's Great Plains .Over 90,000 miles of trees protect more than 6 million acres of cropland. In communities, the same techniques can be used to protect homes, institutions and recreation areas. Trees add comfort by diverting the wind. They also lower fuel bills in the winter and make turf irrigation more efficient by reducing evaporation in the summer.

Space

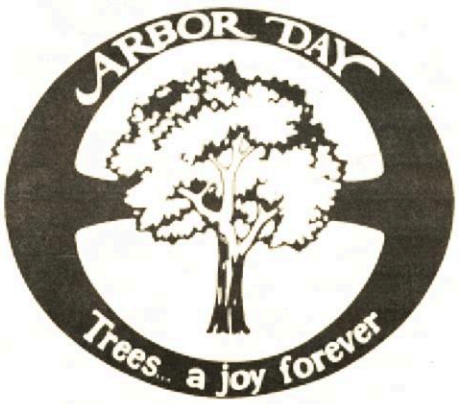
Available space is probably the consideration most overlooked or misunderstood when deciding what tree to plant. Before you plant, it is important to know what the tree will look like as it nears maturity. Consider its height, crown spread, and root space.

Visual Screening

Trees can earn many times their cost by changing the visual qualities of a property. Whether it is improving the appearance of commercial property or screening out an undesirable view from a residence, even a single row of conifers can make a big difference. With a little more landscaping, the ugly can actually be made beautiful.

Sound Barriers

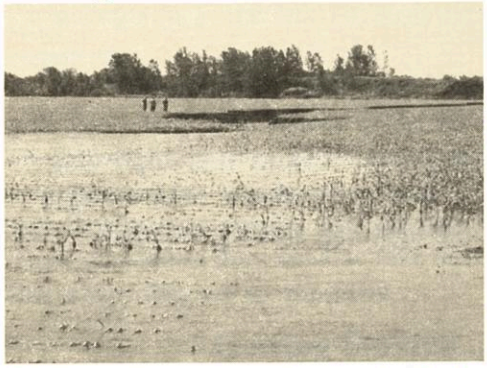
Strips of densely-planted trees and shrubs will not completely remove the annoyance of city noise, but they can significantly reduce it. Leaves are especially effective in absorbing high frequencies which are the sounds that human ears find most bothersome Robert W. Miller's *Urban Forestry* (Prenctice Hall) provides summaries of research showing that even narrow belts of trees can reduce noise by 3—5 decibels. Combining trees with land forms such as mounds has resulted in reduction by as much as 15 decibels. When combined with solid noise barriers, trees not only help muffle objectionable sounds, they reduce the visual harshness of walls and fences. Trees also improve the sound environment by "masking" unpleasant noise. The rustling of aspen leaves, for example, outside a window or beside a porch can actually replace other noise and make the setting more enjoyable.



NRCS Natural Resources Conservation Service

Conservation Practices "Weathered the Storm"

INDIANAPOLIS, July 23, 2008—If you traveled rural roads in southern or west central Indiana during the last month, you had plenty of chances to see fields and roads that were flooded, bridges and culverts that were washed out, and other damage caused by the heavy rains and flooding in early and mid-June. You might not have noticed the many conservation practices that were not washed out, but held and did their job to filter sediment and nutrients in the water running across them.



Conservation practices include grass waterways winding through crop fields to prevent gullies and erosion, grass buffer strips along streams and creeks to filter nutrients as water flows across the land, terraces installed in steep terrain, and no-till farming practices that reduce erosion. State Conservationist Jane Hardisty of the Natural Resources Conservation Service said, "We are pleased at the minimal damage we are seeing to properly installed practices, but we do want farmers who had damage to conservation practices to let us know so we can evaluate their sites and provide technical assistance."

"We requested and now have received $1 million in funding for doing repairs to conservation practices installed under the Environmental Quality Incentives Program (EQIP), and another $15,000 for those installed under the Wildlife Habitat Incentives Program (WHIP). These dollars are available for producers who need them, and we want producers with damages to those conservation practices to contact us at the local USDA Service Center."

One example of conservation practices protecting the land during the floods is seen on no-till fields. "No-till fields sustained less erosion and scouring than conventionally tilled fields in the same area," said NRCS State Agronomist Barry Fisher. "By having less disturbed soil and more crop residue protection, these fields were able to better weather the storms."

William Elliott, NRCS technical services team leader in Greencastle, coordinates engineering field work in 10 counties in west-central Indiana, one of the heaviest rainfall areas. He anticipated his team would be seeing and hearing about a number of conservation practices damaged by heavy flows of runoff or rainfall that could not be absorbed by the soil. "While we were waiting for waters to recede, I developed a spreadsheet to track damaged practices, but so far have had only two conservation practices reported as damaged. With as much damage as we have seen on roads and bridges, I am a little surprised, but so far we just aren't seeing that kind of damage on conservation practices."

Darrell Nicholson is the district conservationist in Decatur County where there was significant flooding that caused scouring in some farm fields and deposition of debris and sand in others. Nicholson said, "Generally our designed practices held extremely well. Especially grassed waterways and filter strips withstood flooding and remained stable. I have not heard of one grade stabilization structure that failed in the big flows."

For more information on dollars available for damaged conservation practices, please contact NRCS at the nearest USDA Service Center.

Improving wildlife potential in your wooded areas: Edge feathering may be an option!

When we talk with different people, a common interest is to attract wildlife habitat to their properties by planting trees. Many people do not understand that only planting trees (and not including other vegetation) will not provide a diverse habitat for wildlife. Often in the field you will find cropland with an abrupt change to woodland. Usually these conditions are not very conducive to attracting a variety of species. Transitional areas, like wood edges, create excellent conditions to attract animals. The key is to have a diverse composition of vegetation. This will assist you in making the land more attractive for critters like rabbits, quail, pheasants, and certain songbirds. To achieve this type of habitat, we recommend utilizing edge feathering. Edge feathering will help you create these transitional areas by thinning trees along the existing woods or planting field borders with species of grasses, shrubs and small trees. Usually these areas are between 30 to 50 feet wide. Another recommendation to help properly manage wildlife is to pile brush in the understory of wooded areas. It is also a good practice to leave older or dead standing trees in order to allow songbirds or squirrels to have access to holes in the bark. This allows for faster turnover in species repopulation.

Summary & Tips:

- In most natural situations, edge consists of a gradual transition from one habitat type to another over a horizontal distance.
- Edges consist of a mixture of plants and animals from two or more adjoining habitats producing an edge-effect.
- Abrupt edge has very little width, making wildlife that nest there more susceptible to predation and nest parasitism.
- The width of edge habitat that should be maintained will depend on factors such as topography of the land and adjoining land uses.
- A clean edge that is kept mowed right up to the edge of the woods may lack diverse wildlife.

If you have any questions related to wildlife habitat establishment or cost share assistance, please feel free to contact your local NRCS and SWCD office at (574) 291-7444 ext 3

Living in Harmony with Wetlands

Wet Meadows and Agriculture

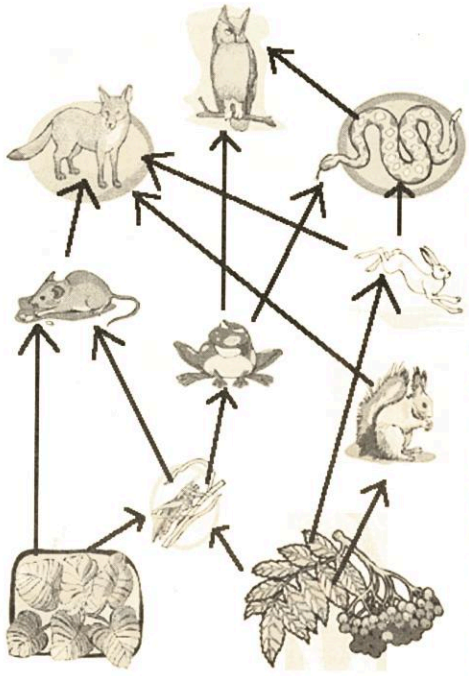
Wet meadows usually have greener or darker vegetation than the surrounding area. Like other wetlands, they help control flooding and pollution, replenish the groundwater, and support unique communities of plants and animals. Agriculture can be an integral part of this type of wetland.

Haying has been a seasonal use of some wet meadows for centuries. The wetland is not disturbed during the early part of the growing season, when the land is too wet to work and many wetland species are raising their young. By late summer, the meadow has become drier, the wetland grasses have matured, most young birds are out of the nest, and it is time to harvest the hay.

Grazing is another use compatible with these wetlands' natural cycles. Deer and elk have always grazed wet meadows, and carefully managed livestock grazing can be just as beneficial to a healthy wetland. Grazing of the wetland vegetation for short periods opens up feeding areas for shorebirds and other marsh species. Then the area is left ungrazed until it has fully recovered, to allow for fall regrowth. The tall, undisturbed wet meadow vegetation provides winter cover for many species, as well as residual cover for early nesting birds.

Small Organisms in the Soil Affect the Environment in Big Ways

Our lives depend on the minuscule creatures living in the soil beneath our feet. These creatures help to purify air and water, decompose plant residues and pollutants. They cycle nutrients so crops and other plants can grow, prevent outbreaks of disease caused by pests, and help to create soil structure so water can be absorbed, pass through, and flow over the soil. The world underground is an intriguing frontier of bizarre organisms and complex interactions. How well these organisms perform important functions is affected by how we manage the land.

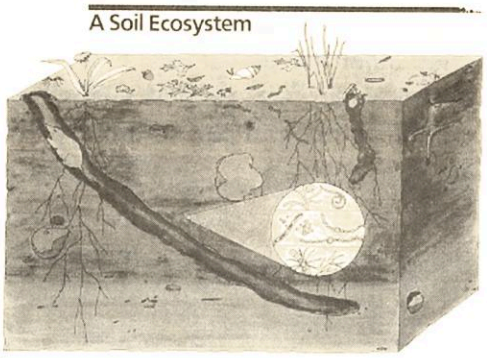


A "food web" is not just the above ground linkages among plants, animals that eat plants, animals that eat plant-eaters, and so on. In fact, animals do not eat most of the plant matter in the world. Decomposers in the soil consume most plant matter. Many important functions of the soil food web, such as nutrient cycling, pesticide decomposition, enhancement of soil structure and pest control are not the result of individual species but of the interaction of many species in the food web.

The carbon cycle illustrates the role the soil food web plays in cycling nutrients through the environment. Through photosynthesis, plants convert atmospheric carbon dioxide into plant matter made of organic carbon compounds, such as carbohydrates, proteins, oils & fibers. The organic compounds enter the soil system when plants and animals die and leave their residue in, or on, the soil. Immediately, soil organisms begin consuming the organic matter, extracting energy and nutrients and releasing water, heat and carbon dioxide back to the atmosphere.

A natural consequence of decay is a gradual disappearance of soil organic matter. When residue is added to the soil at a faster rate than soil organisms can convert it to carbon dioxide, carbon will gradually be removed from the atmosphere and stored or "sequestered" in the soil. Cultivation aerates the soil, triggering increased biological activity, rapid decomposition, loss of soil organic matter and the release of carbon dioxide into the atmosphere. Most soil carbon losses occur in the first several years after cultivation begins, as took place in many U.S. soils in the 1800's. Farmers and other conservationists are interested in reversing that effect, and increasing the amount of carbon stored in the soil. Soils with high organic matter content are the most productive, store more water and contribute to a better environment. Reducing tillage can increase the extent of carbon sequestration and the amount of organic matter retained in the soil. This whole process is very important to the current discussions of greenhouse gases and their effect on global temperatures. Soil organisms play a central role in the effort to adjust the balance of global carbon cycles.

A Soil Ecosystem



Visit your local Soil & Water Conservation District office for information on conservation tillage and carbon sequestration.

Welcome *Katie Kurtz...* SWCD's new MS4 Conservationist!

Let me introduce myself. My name is Katie Kurtz. I'm originally from southeastern Ohio, where my family owns and operates an organic farm. But I've been in northern Indiana for the past five years. I graduated from Goshen College in 2007 with a BA in Biology and Environmental Studies. After that I spent a year working at the Indiana Dunes National Lakeshore. Now I live in Elkhart with my husband Brandon.

I'm very happy to have been offered this opportunity to work for the SWCD, and excited to be a part of protecting and conserving our soil and water!

The Effects of Pollution on Water Quality

Sediment clouds water and makes it difficult or impossible for aquatic plants to grow. It can also destroy various types of aquatic habitat and even clog fish gills.

Excess nutrients, like those from fertilizer, car wash fluid or pet waste, can cause algal blooms. When the algal blooms decompose, oxygen is removed from the water, which renders the water uninhabitable for aquatic life forms.

Bacteria and other pathogens can wash into swimming areas and create health hazards. Often times, beaches are closed for this reason.

Litter—cigarette butts, plastic bags, cans, bottles, etc—that washes into a water body can suffocate, disable or even kill aquatic wildlife, such as ducks, turtles, frogs, and fish.

Household toxic wastes like pesticides, insecticides, paint, solvents, and auto fluids can poison aquatic organisms. These substances can also cause illness in terrestrial organisms and people.

Polluted storm water that re-enters our groundwater can adversely effect human health or increase the costs of drinking water treatment.

Why is having clean storm water important?

Storm water is released into either the St. Joseph or the Kankakee River untreated. This means that all of the pollutants picked up by the storm water may end up in the river! Pollutants can destroy habitat and disable aquatic wildlife.

Ten Ways to Help

The following is a list of things you can do to help improve the quality of our local water bodies:

1)Educate yourself about toxic household products—This includes identifying toxic products, using them sparingly or replacing them with less toxic, biodegradable products, and also learning how to properly store and dispose of them.

2)Sweep grass clippings, litter, leaves and sediment off of driveways, sidewalks, and gutters.

3)Use pesticides and fertilizers responsibly—This means using them sparingly and being careful not to over-water, and hence dislodge these chemicals into the water.

4) Vegetate bare spots in your yard — This helps prevent erosion and sediment overload in the water.

5) Direct downspouts away from paved surfaces—Put in a rain garden to capture water from your roof, or simply point the downspout onto your lawn to help decrease the volume and velocity of water discharge into streams and to aid in filtration of chemicals out of the water.

6) Pick up pet wastes to prevent over-fertilization in streams and rivers.

7) Have your car tuned regularly and promptly repair any leaks—Substances leaked onto the streets from automobiles can be carried by storm water into streams.

8) Have your septic system pumped regularly—This will prevent groundwater contamination.

9) Wash your car at a car wash instead of in the driveway—This ensures that wash water goes to a water treatment plant before being discharged in a stream or river.

10) Never dump anything down the storm drains or into streams!

By implementing these ideas into your day to day life, you are ensuring the future of our local water bodies for human recreation and for wildlife habitat.

WHAT IS STORM WATER

Storm water is precipitation, like rainfall, snow or ice-melt, which eventually infiltrates the soil or flows over impervious surfaces as runoff. Storm water runoff in urbanized areas flows over the tops & sides of buildings, over parking lots, roads, other impervious surfaces, into storm sewers, & finally, into local streams & rivers. In St. Joseph County, all storm sewers flow directly to either the St. Joseph River, the Kankakee River, or a tributary to one of these two rivers.

St. Joseph County Soil and Water
Conservation District
5605 U.S. 31 South, Suite 4
South Bend, IN 46614

St. Joseph County Soil And Water Conservation District

MISSION

To provide guidance and education to the youth and adults of St. Joseph County and to administer programs to preserve, protect and improve soil, water, air, plant, and animal resources for future generations.