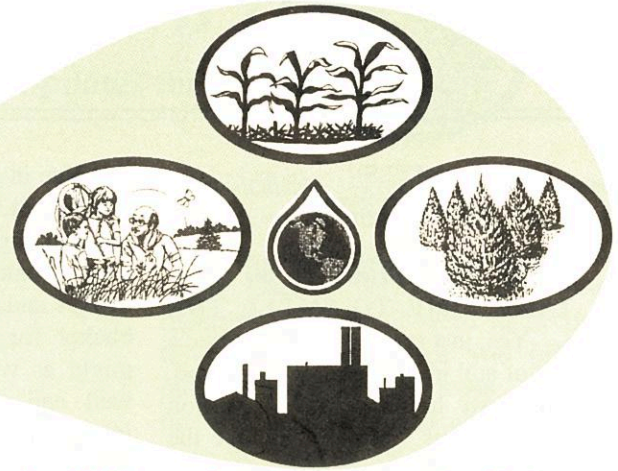
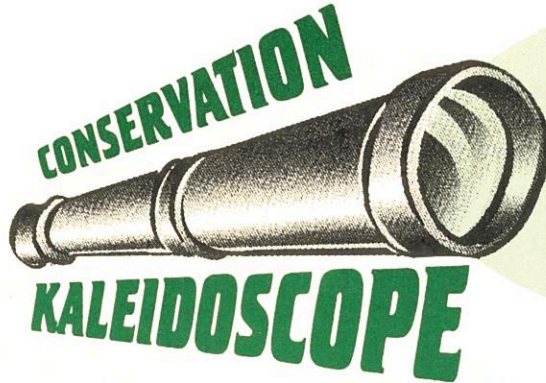




St. Joseph  
County  
Soil & Water  
Conservation  
District



*Today's Visions for Tomorrow's Future*

April/May/June 2007 5605 U.S. 31 South, Suite 4 \*South Bend, IN\* Telephone (574) 291-7444 Ext.3 Editor: Troy Manges  
Volume 9, Issue 2 Website: stjoseph.iaswcd.org Fax (574) 291-0284 Tonia Albright

**Calendar of Events**

**April 6**

Good Friday  
Office Closed



**April 14**

Tree Sale & Pick Up  
8:00 AM - 12:00 Noon

**April 16**

SWCD Monthly Board Meeting  
7:00 AM - Farm Bureau Mtg.  
Room

**May 2**

Compost Seminar  
7:00 - 8:30 PM

**May 21**

SWCD Monthly Board Meeting  
7:00 AM - Farm Bureau Mtg.  
Room

**May 28**

Memorial Day  
Office Closed

**June 18**

SWCD Monthly Board Meeting  
7:00 AM - Farm Bureau Mtg.  
Room



**TREE SALE  
&  
PICK UP**

Saturday  
April 14, 2007  
8:00 A.M. - 12:00 Noon  
St. Joseph County  
4-H Fairgrounds  
Swine Barn



**Wildlife Food Plot Seed**

Sorghum and Sunflower seed is available for the planting of wildlife food plots.

Call the office for more information.



**WIN  
"THE EARTH MACHINE"  
COMPOSTER**

A Compost Seminar will be held on Wednesday, May 2nd, 2007 from 7:00 p.m. - 8:30 p.m.

Everyone in attendance at the compost seminar will have the opportunity to win "The Earth Machine" Composter.

Please call the office for reservations or for more information at :  
574-291-7444, ext. 3.



The Compost Seminar is sponsored by the St. Joseph County SWCD & Solid Waste Management District.

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# THE NATURAL EDUCATOR

## IT'S SPRINGTIME

### TOP TEN THINGS TO DO

**10. TAKE TIME TO SMELL THE SOIL.** Yes, just reach down and place a little bit of soil in the palm of your hand. You are now holding over 6 million living organisms. Most of us take the soil for granted, but it is alive, and lets face it, it keeps us alive. Oh yeah, you may want to stop and smell the flowers as well.

**9. PICK UP TRASH ALONG THE ROAD.** April is the perfect time to do a litter clean-up along your local road. The litter is easy to see and get to. By doing this it will bring a smile to your face every time you drive home. Remember, please be safe.

**8. GO ON A PHOTO SAFARI.** The Department of Natural Resources ([www.IN.gov/dnr](http://www.IN.gov/dnr)) puts out a viewing guide of all the places in the state for excellent wildlife viewing. You will be amazed at how many areas are close by.

**7. GO CANOEING.**

We live on a fantastic river for canoeing. It is much cleaner than



most people give it credit for (see ecoli results). The St. Joseph County Parks have a great canoe rental service from the 3rd week in May until the end of October. I recommend the Keller Park to St. Patrick's Park run. It will only take about 2 hours. It's easy, fun and you will be amazed at the scenery.

**6. VISIT A LOCAL PARK.**

St. Joseph County is blessed with a wide variety of parks. Bird watching, fishing, hiking, frisbee golf and so much more can be found, pretty much in your backyard. Take the family to a new park every week.

**5. GO FISHING WITHOUT A POLE.**

It is remarkable all the things

that live in our ponds and streams. Use a small net, like an aquarium or butterfly net and dig around the vegetation and scrape sunken logs. Take along a white bucket and drop your findings into the bucket for better viewing. OK, you might as well take a pole with you as well and try for some of the larger inhabitants.

**4. PLAN A COMMUNITY CLEAN UP DAY.**

It makes no sense at all to have all the fun yourself. Get everyone involved.

**3. VOLUNTEER.**

There are many conservation organizations who need a hand. The South Bend/Elkhart Audubon Society ([www.sbeaudubon.org](http://www.sbeaudubon.org)) and The Nature Conservancy have many work days ([www.nature.org](http://www.nature.org)). There is also the Izaak Walton League, Michiana Steelheaders and many more that would all love to have you spend a little time outdoors helping them, help all of us.

**2. PLANT A TREE, A FLOWER, ANYTHING GREEN.**

What more needs to be said. Plants clean our air, give us oxygen, provide food, beauty, habitat for wildlife and so much more. So plant one, please.

**1. GET OUTSIDE.**

Whether it is just sitting on the porch, trail blazing through a forest or sticking your head into a wetland, get yourself and your kids outside. I know it is difficult at times but we must continue to nurture our relationship with our planet. It is the only one we have and we can not live without it. By getting yourself and your family outside, you will help your health, your mind and your soul.



### WHAT IS E-COLI

The Escherichia bacterium (e-coli) was first identified in 1885. It is found naturally throughout the world and

comes in many different strains. Huge numbers are found in animal guts, including humans, and they help with digestion. When they escape the digestion tract they can cause urinary and abdominal problems and some strains can cause food poisoning. **When we find e-coli in our water it means that it is polluted with fecal matter, neither of which, is good for your health.**

### THREE YEAR VOLUNTEER E-COLI STUDY ON THE ST. JOSEPH RIVER

The St. Joseph County SWCD has participated in a study of different ways for volunteers to study e-coli counts in our water. Using a variety of methods, the results have been quite interesting.



**First -** Do not go into the water after a major rain event. Both Mishawaka and South Bend have combined sewage overflows, so besides normal run off during major rain events, raw sewage can be dumped into the river. E-coli counts jump during this time and stay high for about 48 hours. The good news is that both cities are working on this problem, it is just going to take time and a whole lot of money.

**Second - THE GOOD NEWS -** The river is actually much cleaner than we think. Except for major rain events, result counts were fairly low, especially considering the size of the river and development on the river. Also, on a side note, we have Mayflies living in the river and they only live in clean water.

If you would like to find out how you can become a volunteer water quality tester, visit [www.hoosieriverwatch.com](http://www.hoosieriverwatch.com) or call our office.





# WOODLAND TIMES

## Forestry News Updates for St. Joseph County

### Tree Pick-up and Extra Trees Sales

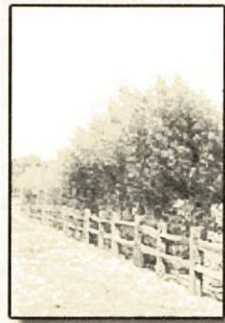
The tree pick-up for the 21<sup>st</sup> Annual Tree Sale Program is set for Saturday April 14, 2007 from 8 AM to 12 PM at the Swine Barn at the St. Joseph County 4-H Fairgrounds. If you missed the order deadline, you still have a chance to purchase some trees to plant on your property. We will have extra trees for sale at the same time as the tree pick-up. At printing time, we have extras of all the tree species listed on the tree sales flyer. We look forward to seeing you at the Swine Barn on April 14, 2007.

### Informative Tree Seminar Held February 6, 2007

The St. Joseph County Soil and Water Conservation District (SWCD) held a tree seminar on February 6, 2007. Wayne Stanger, of Stanger Trees presented information on Tree Selection and Tree Planting and Care. Wayne developed a checklist that we believe will help individuals select trees and provide helpful planting tips.



**Tree Selection** - The first thing you need to do is determine the purpose of the tree that you want to plant. Will the tree be planted as part of the landscaping around a house or barn? Do you want to develop a tree plantation? Are you looking to attract a specific animal or bird by providing good wildlife habitat around your property? Is a windbreak, snow fence or property boundary more of the purpose for the trees you are selecting to plant?

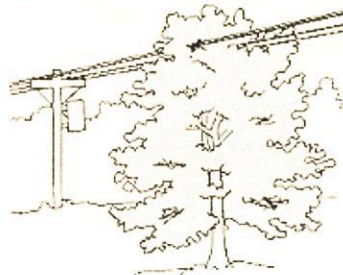


*(Trees planted for a windbreak.)*

Or do you want to enjoy the tree through recreation for instance taking walks through the woods or pushing your kids or grandkids on a swing hanging from a limb of that old Oak tree? You may also decide that the purpose for the tree or trees that you plant is a combination of these. You just need to make sure that the purpose for the tree fits the tree that you want to plant.

Next, there are two type of factors to consider, Physical and Environmental. Let us take a look at the physical factors first.

**Physical Factors** - Physical factors include things like overhead wires. The tree can grow into the power lines causing power outages and phone line damage.



*(Not a good place to have planted this tree.)*

Also, make sure you know where any underground utilities, such as electrical, gas, septic, cable, telephone, tiles and/or irrigation lines, are located. Tree roots spread out a long ways and can cut or break most of

these utilities. Tree roots have also been known to plug up a tile line as it gets the water out of the tile. This could lead to an expensive home repair if a basement were to become flooded because a tree you planted plugged a tile with its' roots. Another factor is the location of where the tree is to be planted. You need to make sure that the tree has plenty of room to grow. It would not be a good idea to plant an Oak tree 10 feet from your house because it can have a crown spread from 35 to 60 feet depending on the Oak species.



*(This tree was planted too close to the house.)*

A final physical factor is the amount of shade the tree will be growing in. Some trees need full sun to grow well and others do better in partial or full shade. Make sure you pick the tree that will do best in relation to the amount of sun it will receive.

**Environmental Factors** - When selecting trees you need to take into account the hardiness zone that you live in. In northern Indiana we are in zone 5, which means that we should plant trees for that zone. This means that you should not transplant a tree from South Carolina and expect it to survive the winter temperatures we have in Indiana. Another factor to consider is soil type. Knowing the soil type will help determine the type of tree to plant because you will be able to tell if the site is well drained or wet, and the depth and structure of the soil. A deep loamy soil is better to plant in than a clay soil that may





# WOODLAND TIMES

## Forestry News Updates for St. Joseph County

have a hard plow layer a few inches below the surface. The tree roots will be able to spread out much easier in the loamy soil than in the clay soil. A sandy soil is usually well drained and would not be the best suited site to plant a tree that likes wet areas.

Tree pests are another factor to consider. If you are replacing a tree that was damaged or destroyed by a pest, make sure that the new tree is not also susceptible to that same pest.



Finally, air pollution needs to be taken into account. This can be in the form of salt spray from snow plows keeping the streets clean in the winter. Make sure that the tree you plant next to the road is able to handle the salt in the winter.

The most important thing you can do is to plan ahead when you are looking to purchase trees. Know the site where you want to plant the tree and take into account the factors listed above. Make sure that the trees you select are best suited for the site conditions. Here are a couple of websites you can visit to find out information about trees you are wanting to plant: [www.in.gov/dnr/forestry/nursery/](http://www.in.gov/dnr/forestry/nursery/) and [www.dnr.state.oh.us/forestry/Education/ohiotrees/](http://www.dnr.state.oh.us/forestry/Education/ohiotrees/).

### Tree Planting Tips

Here are a few tree planting tips that will help improve the trees chance of survival. We will be mainly focusing on bare root seedlings; however, many of these tips will be helpful for planting balled and burlapped trees as well.

The best time to plant trees is in the spring. You can start planting in the spring when the frost is out of the ground until June 1<sup>st</sup>. This gives the trees the best chance to grow since they will be coming out of dormancy and beginning to grow.

Make sure to keep the roots moist and the plant in a cool place until you can plant them. If you leave the trees out in the sun with the roots exposed, the roots can dry out and the tree can die. This is an important step to giving your trees the best chance for survival.

Determine which planting method you will be using: Hand planting or mechanical planting. Make sure you plant the tree in a properly sized hole to prevent "J" rooting. "J" roots will grow up towards the surface and once there can die when the roots are exposed to air and dry out.



*("J" Roots - Do not plant your tree like this!)*

Make sure you are planting the tree at the proper depth. The tree should be planted so that the area on the trunk that starts to flare out is at ground level. If you plant the tree too deep, you can suffocate the tree because the roots are too deep.

Keep the tree straight when backfilling the hole to allow the tree to grow straight. The tree can develop a bend in it as it grows if it is not planted properly. This could lead to a weak spot in the tree which could cause problems as the tree grows.

Good root to soil contact is important to give the tree the best chance for

getting the nutrients out of the soil it needs to grow. To help with making sure that there is good contact between the two is to water the tree at planting time. This will help remove any air pockets that could dry out the roots in the soil.

These are just a few tips for tree selection and planting that will help you have a successful tree planting. If you have any questions please contact the St. Joseph County SWCD at (574) 291-7444, ext. 3.



### NEW ADDITION TO THE ST. JOSEPH COUNTY SWCD

As many of you may know, the SWCD recently hired a new employee for the position of MS4 Conservationist. Fortunately for me, I was the lucky candidate chosen. Please allow me to introduce myself.

My name is Jenny Davis. My background in the environmental field includes a B.S. degree in Environmental Science from Indiana University, research experience in hydrology and stormwater quality, and work experience in hydrogeology. Given my background and an unyielding interest in stormwater quality and hydrology, the MS4 Conservationist position is truly perfect for me.

This being said, I look forward to assisting developers and contractors, and especially to educating the public about MS4 issues. I am thankful for having been given this opportunity, and cannot wait to meet everyone.





## FIELD NOTES

### NEW ENERGY FOR CONSERVATION IN AGRICULTURE



Nearly every citizen is feeling the effects of higher energy costs. The agriculture sector is no exception. It has been said that adversity breeds opportunity. Well, it would seem that this could hold true, as the crunch we feel from higher fuel prices now has dropped a basket of renewable energy opportunities at our door. Can we take advantage of these bountiful offerings without risk to our resources, and will production be sustainable? We have the technology. At no time have farmers had greater potential to improve their efficiency while having far reaching accomplishments in improving Soil, Water and Air Quality. By selecting and mastering the right system we can capture this potential.

The nation needs more production from our working lands than ever. We aren't suggesting a major conversion of land should take place. In fact, marginal land and sensitive areas should remain protected by permanent cover. Indiana's Conservation Partnership offers assistance in the wise use of energy, just as we have always done for other natural resources. The Natural Resources Conservation Service (NRCS) offers a wide range of conservation practices which can reduce energy consumption while systematically delivering improvements to soil quality and soil health.

Conservation tillage should be the foundation of these conservation systems. No practice in all of

agriculture has greater potential to reduce energy consumption while systematically delivering improvements to soil quality and soil health.

Producers can now compare and analyze the potential economic and energy impacts of various conservation systems with just a few mouse clicks using one of the new NRCS Energy tools. Getting to them is easy:

<http://www.nrcs.usda.gov/technical/energy/index.html>.

Operating them is easier. They've been nicknamed, "Three Click Tools."

Plug in your location, fuel price, crops and...3 clicks later, the Tillage Estimator gives you a snap shot of the economic and energy savings potential for your farm, county, or even state.

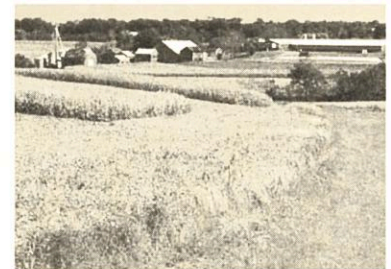
The time is now for knowledge based conservation. Through the implementation of an Energy Conservation System, producers become better managers. A USDA study has shown a savings of 30 minutes/acre/year to prepare and plant a crop for no-till. That 30 minutes per acre becomes 50 extra work days a year for our 1000 acre farmer to devote to: marketing, management, attend No-Till conferences, farm additional acres, or better yet family time. Why are conservation farmers better managers? It's because they can be!



Most will reinvest dollars saved in energy, equipment and labor in the

very machinery and technology upgrades that will take them even further in efficiency, and conservation implementation.

New opportunities will emerge for local agricultural businesses and services. Economic growth for the agriculture industry is secured.



We can bundle the right combination of NRCS practices into an "Energy Conservation System" that does more than save energy. Energy Conservation Systems also sequester Carbon in the soil. Practices like no-till, cover crops, conservation buffers and nutrient management lead to significant improvement in the soil, water and air quality while building soil organic matter. As Organic Carbon increases in the soil, total soil Nitrogen content also builds. Consider this your Nitrogen bank account. Every pound saved in the soil is literally one that didn't go down the tube to destinations unknown. There's no better contamination filter than carbon, so we all benefit when we install the conservation practices that improve the earth's filtration system. "Healthy Soil = Healthy Earth." We have the ability.

NRCS Energy Conservation Systems are good for the economy...they are great for the environment...and best of all they are doable!

The time is now, if we are to capture the potential!

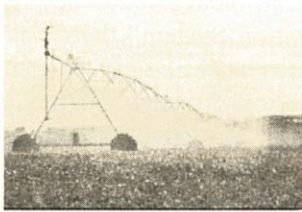




## FIELD NOTES

### HELP FOR IRRIGATORS AND PRODUCERS WHO MANAGE DRAINAGE WATER

INDIANAPOLIS, February 7, 2007 - USDA's Natural Resources Conservation Service (NRCS) is offering a new opportunity to Indiana producers who use irrigation systems, or are willing to manage their drainage water. Beginning this year, the agency has a special allocation in the name of Ground and Surface Water Conservation, and through the Environmental Quality Incentives Program (EQIP), and can offer financial assistance for improving irrigation system efficiency and establishing a Drainage Water Management system.



"We think this will be attractive to Indiana farmers who use irrigation for high level production, specialty crops, organic crops, vineyards, orchards and other situations," says Xavier Montoya, (Acting) State Conservationist for NRCS. "This is a way for us to help irrigators make their systems more efficient. In the long run, this can reduce the amount of water pumped from the aquifer, plus reduce energy use and operating costs."

NRCS has also posted an Energy Estimator for Irrigation systems on line at <http://ipat.sc.egov.usda.gov/>. It is a quick and easy way for producers to evaluate their irrigation system, and see where alternatives can save energy and money.

"This initiative can also help producers who want to manage

drainage water. Drainage Water Management reduces the potential for sediments, nutrients and other chemicals from leaving the farm and entering waterways," says Montoya. Drainage Water Management is a relatively new approach to managing tile system water with a water control structure to control the water table in a field. With the capability of managing the water table, water can be retained on the field when drainage is not needed (for example in the winter). Studies show that total amounts of nitrogen leaving a field utilizing Drainage Water Management are lower than when the tile system continues to drain. There is also the possibility that during dry periods, producers can retain sub-surface water so that more moisture is available to the crop during the growing season, thus reducing the need for additional irrigation, as well as controlling outflow of nutrients and sediments.

Producers can apply now under EQIP Ground and Surface Water Conservation. To find out more, contact NRCS at 574-291-7444, ext. 3.



### SOIL SURVEY COMPLETED

January 19, 2007, 105 years of Indiana soil survey work was completed when the digital soils for Warren County, Indiana was posted to the Soil Data Warehouse, on the internet. This brings digital soils coverage for Indiana to 100%. The 1902, Posey County, Indiana soil survey report was the first published soil survey in Indiana.

In addition to the traditional use by farmers, ranchers and conservation planners, soil survey information now has many other uses. Homeowners, realtors, county officials, universities, students, consultants, among others, are finding the information useful.



For those with access to a computer, digital soils information for all 92 Indiana counties is now available, anytime, anywhere, through the Soil Data Mart at:

<http://soildatamart.nrcs.usda.gov/>.

And the Web Soil Survey at:

[websoilsurvey.nrcs.usda.gov/](http://websoilsurvey.nrcs.usda.gov/).

For those without a computer, Soil and Water Conservation District offices can provide the same information.

In the past, soils information was available in soil survey reports covering an entire county or in some cases multiple counties. Now, in addition to full county coverage, an "area of interest" may be identified and soils information for only the selected area is included in the map and report that is created on demand.

The soils of Warren County, Indiana were mentioned in the 1873, 5th Annual Report, of the Indiana Department of Geology and Natural Resources. An early soil survey report with a plane table soil map of the county was published in 1914. A modern soil survey report was released in 1990, under Indiana's Accelerated Soil Survey Program. The 1990 report soil map information was then digitized and posted to the Soil Data Warehouse, on the internet.

For more information on Indiana Soils visit <http://www.in.nrcs.usda.gov/mlrall/soils.html>.





# URBAN MEANDERINGS

## VEGETATED SWALES

In order to meet the requirements established by Rule 13, construction project engineers and contractors must take runoff control and stormwater quality into consideration when developing construction plans. More often than not, the thought of runoff control and stormwater quality measures brings to mind pipes, ditches, sewers and other aesthetically unappealing structures (relatively speaking). Fortunately, structures exist that can serve to attract the eyes of passers-by, all the while helping to control runoff and improve stormwater quality. One such structure is the vegetated drainage swale.

### *What is a vegetated swale?*

A vegetated swale is a gently sloping drainage channel, with a dense vegetative lining, that is used to convey stormwater runoff. Swales can occur naturally or be constructed. Should one be lucky enough to encounter a natural swale within a particular construction site boundary, the swale can be utilized as part of the erosion control and stormwater pollution prevention plan associated with that construction site. If a swale is not naturally located within a project site, constructing a swale is a way to incorporate various plant species and aquatic habitat, adding an appeal to the project site.



*Water collects in a roadside swale, resulting in filtration of pollutants from the water.*

Swales are generally lined with vegetation that can range from native

or wetland species of plants to turf grasses.

The type of vegetation selected to line a swale can greatly impact the extent to which it improves water quality and controls runoff.



*Top: A grassy swale with rock check dams slows runoff velocity. Bottom: A turf grass lined swale improves stormwater quality in a subdivision.*

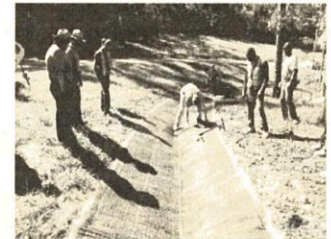
### *How do swales control runoff velocity & improve water quality?*

As with all channels, a swale collects stormwater runoff as the water flows from higher elevations to lower elevations. In all environments, urban or otherwise, the velocity of overland flow is influenced by slope gradient (gravity) and resistance. The greater the gradient and lower the resistance, the greater the velocity of the water. On construction sites, where soil is often left exposed to the elements, increased velocity means increased erosion and a greater risk of off-site sedimentation.

A vegetated swale combats runoff velocity with its gently sloping banks and vegetated channel lining. Vegetation provides resistance to overland flow, both slowing the stormwater and decreasing the risk of erosion. Furthermore, by slowing sediment-laden stormwater, swales force deposition of suspended solids

before the water leaves the site. Finally, short-term pooling within a swale promotes infiltration, which filters out many other pollutants associated with construction activities. However, the use of vegetated swales as a means of stormwater pollution prevention is not only effective during construction; it is also effective when construction has ceased.

Once a site is stabilized, vegetated swales work in the same manner as they do during construction. The only differences between swales working during and after construction are the types of pollutants encountered in the runoff, and their effectiveness as the vegetated lining matures. Mature vegetation, having greater subsurface and above-ground biomass than vegetation yet to be established, is better able to resist overland flow and trap pollutants.



*A swale is constructed on a project site; Turf mats are used to evade erosion until vegetation is established.*

### *In short....*

Incorporating vegetated swales in a construction plan not only improves the attractiveness of a commercial, residential or industrial site after construction, but they also help comply with rules and regulations of Phase II of the NPDES by slowing runoff velocity and promoting deposition and infiltration. Once stormwater velocity and pollutant loads have been diminished, the swale can safely transport the water to a storm sewer for release in a local stream.





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

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Dale Stoner

### 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.

### Honorary Members:

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Al Gostola  
Jerry Knepp  
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