2013 Shiawassee Conservation District Annual Report

# Every Acre Counts

# Your Land, Your Water, Your Michigan



USDOT

Albaugh Named Conservation Farmer of The Year See Page 9





Natural Resources Conservation Service staff, pictured left to right. Back: Tina Tuller, NRCS District Conservationist; Jay Korson, SCD Agricultural Technician; Tom Wert, SCD Agricultural Technician; Danielle Santana, SCD Farm Bill

Program Assistant; Donna Kanan, SCD Conservation Specialist; Greg Lienau, NRCS Soil Conservation Technician. Front: Andrea Wendt SCD Watershed Technician; Melissa Higbee, SCD District Manager; Katelyn Salowitz, NRCS Soil Conservationist.

Shiawassee Conservation District Board of Directors, pictured left to right. Larry Lee, Treasurer; Duane Leach, Vice Chair; Tom Braid, Chair; Josh Crambell, Director; Glen Nethaway, Director.

#### **District Accomplishments** in 2013

The year 2013 was very successful and exciting for the District, both in providing awareness of conservation issues and in applying effective conservation practices on the land, as well as receiving additional dollars through grants to get that done.

Last year, the Conservation District assisted NRCS in bringing in \$2,163,833 in cost share, through Farm Bill funding for conservation practices implemented on 62,163 acres throughout Shiawassee County. The Conservation District brought in an additional \$546,000 to Shiawassee County to help preserve and protect our county's natural resources.

In ongoing efforts to create awareness and promote informed usage of our natural resources, the District hosted several workshops in 2013. In January, participants learned everything from the basics of keeping bees to methods for producing honey using kitchen utensils at the Districts Beekeeping Workshop. Soil Health was a theme throughout 2013, beginning with a Soil Health & Cover Crop Workshop held in February. Attendees of this workshop were given an overview of how soil health and cover crops play an important role in increasing crop productivity and profitability while improving the environment. Also in February, the District hosted a Precision Ag Workshop discussing how an innovative technology based management system can work for local farmers.

For the sixth year, the District partnered with the Shiawassee YMCA to educate campers about conservation and our natural resources during their 10 week youth summer camp program. For the 2013 season, the District received a USDA Sustainable Agriculture Research and Education (SARE) grant to coordinate a vegetable garden with the YMCA camp. To complement the garden, the District held weekly sessions focusing on healthy soils and conservation methods as a means to produce healthy foods for living a healthy lifestyle. This exciting program and strong partnership will continue through the 2014 Camp Shiawassee season.

In September, the Shiawassee Conservation District partnered with the Natural Resources Conservation Service and the Shiawassee County Farm Bureau to showcase and promote Farm Bill conservation programs that have

been used to address local natural resource concerns tion legacy and included a well closure demonstration and fueling facility tour. Soil health was again a theme with participants witnessing a dramatic soil stability demonstration, took a tour of cover crop test plots and viewed a soil pit. Also included was a visit from the USDA National Soil Erosion Research Lab with their Rainfall Simulator to demonstrate the improvement gypsum makes to soil infiltration. The tour ended at the Shiawassee County Fairgrounds with a picnic lunch.

The District staff is available to provide conservation presentations to organizations and schools. The presentations are tailored to meet any need, age and subject. Highlights of the 2013 Environmental Education Program include the Shiawassee County FFA Agricultural Tour reaching 200 students, several classroom presentations reaching more than 600 students, Shiawassee County Farm Bureau Project RED (Rural Education Day) reaching 500 students and producer meetings reaching over 300 farmers and landowners.

Continued on Page 4







Shiawassee Conservation District 1900 S. Morrice Road Owosso, MI 48867 (989) 723-8263 ext. 3 www.shiawasseeccd.org





Fueling Facilities can be cost shared through the Environmental Quality Incentives Program (EQIP). They are permanently located aboveground and designed to provide safe storage of on-farm oil products. In order to be eligible for cost share, your current fuel storage must present an environmental resource concern. For EQIP, the maximum tank size is 1,100 gallons, and each facility is allowed up to 3 tanks. In 2013, 2 Fueling Facilities were installed in Shiawassee County through EQIP.



Each winter, the District hosts a Winter Workshop Series that is open to the public. Pictured is Leo Stevens, Beekeeper and owner of S & L Honey. Leo was one of the knowledgeable presenters at the Beekeeping workshop held in February. Other workshops included topics such as soil health, cover crops and precision Ag.

## The "Old Ways" Are Not Good When It Comes To Water Quality

Back in the "old days," the standard method of liquid

days," the waste disposal was to inof liquid stall a pipe from the house



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Edward Jones Making sense of investing to the closest water body and let it all go downhill. After discovering that this method of wastewater disposal pollutes our waterways, causes disease and can be lethal to humans and animals, newer methods were created. However, some homes still abide by this method of wastewater disposal.

An illicit discharge may sound intimidating, but, simply put, it means polluted water that is dumped directly into a storm drain, ditch, or stream. When a pipe carries wastewater from a building into a storm sewer or ditch without a permit, it is called an illicit connection.

In the case of an illicit connection, polluted water empties into a ditch or storm sewer without being treated. Typical pollutants found coming from illicit connections include raw sewage, heavy metals, oil and grease, solids, detergents, chlorine, and nutrients. Raw sewage contains fecal bacteria and toxic compounds, such as heavy metals; both pose serious risks to public health and harm aquatic life.

Several signs indicate when an illicit discharge has occurred. There may be a change in the appearance of the stream. The water might be cloudy, discolored, or have an oily or soapy sheen. There may be a foul odor, excessive algae growth or even dead fish.

Suspicious pipes emptying onto the ground or directly into storm sewers or streams are also a good indication of an illicit connection. These pipes may be coming from floor drains, sinks, dishwashers, washing machines, or other sources of wastewater in buildings. This is surprisingly common in older homes, and sometimes the homeowner is not even aware of these connections.

One way to identify illicit discharge pipes is size. A storm sewer pipe is generally larger than 6 inches in diameter, although roof drains and sump pump pipes may be smaller. Dry weather discharges are another way to identify an illicit discharge. During dry weather, negative impacts can be intensified because the discharge is not diluted before it reaches the water.

It is important to note the difference between an illicit discharge and a failing septic system. An illicit discharge is a pipe directly dumping wastewater from your home to a ditch or storm drain. A failing septic system occurs when a once functioning septic system no longer effectively treats wastewater from a home. In this instance, home wastewater goes untreated.

The Shiawassee Conservation District currently is offering cost-share to repair failing septic systems in limited areas of Shiawassee County. Also available is the free and confidential Home\*A\*Syst home risk assessment program. These programs are made possible through a nonpoint source pollution prevention grant from the Michigan Department of Environmental Quality. For more information, please contact the Conservation District.



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#### **District Accomplishments in 2013 Continued from Page 2**

The District's tree sale fundraisers are an important part of their community outreach and funding source. The District sells a selection of bare root trees, shrubs and wildflower seeds that are utilized for a variety of purposes including conservation practices, reforestation, wildlife habitat and landscaping. In 2013, over 15,500 trees and shrubs were distributed to area residents. The funds earned from our tree sales provide the District the ability to leverage match dollars for grants to address our county's natural resource concerns.

The District's no-till equipment rental program is also an essential part of putting conservation practices on the land. No-till farming protects water and soil by minimizing disturbance of the ground when planting into the residue left by the previous year's crop. There were over 1,700 no-till acres planted using the District's no-till farming equipment in 2013.

The Conservation District is committed to providing the most current technical assistance to Shiawassee County residents. In 2013, the District delivered the following technical assistance through the Michigan Agriculture Environmental Assistance Program (MAEAP) grant with the Michigan Department of Agriculture and Rural Development. This year, 48 Farm\*A\*Systs, 42 Crop\*A\*Systs and 13 Livestock\*A\*Systs were completed with farmers in Shiawassee, Genesee, Livingston and Oakland counties. Through this effort, 426 on farm risk reductions were addressed.

A total of 26 MAEAP verifications in Shiawassee County were completed in 2013, broken down as follows: 12 farmstead systems, 12 cropping systems, and 2 livestock system. MAEAP verification indicates the farmer has taken steps to address potential environmental risks and is in conformance with the Michigan Right to Farm Law and State/Federal environmental laws.

The District's newest innovative conservation program was in full swing in 2013. The Best Management Practice (BMP) Auction Project is a market-based approach where farmers submit bids in targeted watersheds on conservation practice installations that improve water quality. Bids are then ranked by the amount of water quality improvement generated per dollar and the producers who offer water quality improvements at the lowest prices are contracted first. The District is working with A. Pouyan Nejadhashemi, Ph.D, from Michigan State University on this project. A total of 21 bids were received during 2013 with funding expected for practices in 2014. This project was made possible through a grant from the Great Lakes Commission.

In 2013, the Shiawassee Conservation District began

the next phase of our Mid-Shiawassee River Watershed Restoration Project under a grant from the Michigan Department of Quality. Environmental This project is intended to address non-source pollution causing impairments to water quality that impact human and habitat health. This project will target specific sources of pollution in the watershed through

**Since 1989** 

innovative investigative techniques, cost-share programs, and an educational campaign. The anticipated outcome of this project is to move toward the restoration of impaired designated uses and improve the overall quality of the Shiawassee River Watershed.

To kick off their Mid-Shiawassee River Watershed Restoration Project, the District held a very successful joint waste collection with the Shiawassee County Health Department. An unprecedented 14,353 pounds of electronic waste was dropped off at the E-waste collection hosted by the District and a record 16,310 pounds of hazardous waste was collected at the Household Hazardous Waste (HHW) collection hosted by the Shiawassee County Health Department.

The Shiawassee River Sediment Reduction Project had another highly successful year in 2013. Through this project, the Conservation District repaired the severely eroded outlet of the Townson Drain in Rush Township. Erosion localized in the outlet of this drain has contributed a considerable amount of sediment to the Shiawassee River

and has eroded away the properties of several landowners. Rehabilitation of the Townson Drain incorporated characteristics of a natural stable channel to improve channel stability, significantly reduce erosion rates and improve water quality. This, in turn, will save an estimated 176 tons of soil per year from dumping into the Shiawassee River, which is equivalent to 15 dump trucks full each year. Not only has this substantial project improved water quality, stream stability and habitat for aquatic organisms, but the adjacent landowners will no longer have to worry about how many more feet of their property will be lost due to the stream bank erosion.

The Gypsum Incentive Program offered through

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venting approximately 3,500 tons of soil from leaving farm fields. The results of this program were highlighted on the Shiawassee County Ag Tour with the Rainfall Simulator demonstration at one of the program participant's farm.

The Shiawassee River Sediment Reduction Project is funded by a grant from the Great Lakes Commission Basin Program for Soil Erosion and Sediment Control. The Basin Program is coordinated by the Great Lakes Commission in partnership with the U.S. Department of Agriculture Natural Resources Conservation Service, U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

As the Shiawassee Conservation District moves ahead in 2014, we want to extend a thank you to all who have supported our ongoing efforts to achieve our mission of providing for the care, informed usage, and protection of natural resources. The District will continue to aggressively seek funding for programs to provide innovative assistance to address natural resource conservation.



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## **Campers Plant Vegetable Gardens** at YMCA Camp

Campers attending the Camp Shiawassee YMCA Summer Youth Program planted two vegetable gardens this past summer with the guidance of the Shiawassee Conservation District (SCD). They planted a variety of vegetables including tomatoes, carrots, peppers, broccoli and beans and maintained the gardens throughout the summer. The campers enjoyed a special treat the last week of camp when the Conservation District prepared the vegetables that they grew for their lunch including green peppers, cucumbers, fried squash and zucchini with cheese.

"It is important to understand where the food we eat each day comes from," states Shiawassee Conservation District Watershed Technician Andrea Wendt. "By being the primary caretakers of the gardens, campers were able to see firsthand how seeds mature into plants that produce the foods they eat." It was a focus of this educational program to teach the campers what the connection is to the soil we walk on each day and the food we eat. To complement the gardens, the Conservation District held weekly sessions involving fun activities and games to educate campers on sustainable agriculture and conservation.

The camp gardens and sustainable agriculture education program were made possible through a grant awarded to the Conservation District from USDA's Sustainable Agriculture Research and Education program.

## Benefits of using cover crops while converting to no-till:

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Converting to a continuous no-till system undoubtedly has it challenges, but utilizing cover crops in the transition can ease the process. When beginning to plant cover crops there are many common concerns such as establishment, time and labor requirements, species selection, cost and management. These are valid concerns, but with proper management and advice from local experts and

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6in. 12in. 18in. 24in. 30in. Holes

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literature, the extra work can pay dividends. When switching to continuous no-till soil undergoes a profound change. It changes from being constantly disturbed to a stable state. The biology in soil (microbes, worms, fungi, etc.), not to mention the physical structure of soil, take time to adapt to this change. As with most transitions in life, this doesn't happen overnight, but over

time the change produces substantial positive benefits, that producers agree are worth the wait.

The important concept to remember is that the lands on which producers use to grow our food is part of a natural system that has been thrown into an unnatural situation. By incorporating cover crops into a continuous no-till system a producer can begin to mimic the natural system that has thrived for millennia here on Earth.

Initially in the transition, producers may lose some yield from their fields, between 5 and 10 percent. This yield loss can come in part from a loss of oxygen to the soil (which stimulates bacteria and microbes to break down organic matter and release nutrients to plants). However, over time, soil health begins to improve as the biologic life in soil stabilizes and nutrients are restored to the soil. At this time, competition for nitrogen also occurs due to the increase in soil productivity, and more nitrogen is stored in soil in the form of organic matter and humus.

By adding cover crops to the system we can see an increase in nitrogen Continued on Page 7

SCD Watershed Technician Andrea Wendt spoke to Corunna Middle School students about groundwater and water quality. The District is available to speak to classrooms

### HIRING A CONSULTING FORESTER

and organizations of all ages on conservation issues.

A consulting forester (consultant) is a professional forester with a forestry degree from an accredited university program. A consultant's principal business activity is to provide forestry advice to the public on a fee or contractual basis. Consultants do not have financial interests in a timber purchasing or procurement entity. Consultants are usually self-employed or work for another consultancy with a handful of other employees. Their main focus is on the private forest owner who hires them. In Michigan, there are about 120 foresters that are well distributed throughout the state and available in every county.

A consulting forester can offer a wide range of services. Forest owners may question the need to spend money for the services of a forestry consultant. However, most forest owners who do so are glad that they did because the experience of a consultant complements the knowledge of a forest owner. Forest practices and management strategies are based upon ecological principals and the goals of the forest owner. A consultant will be able to guide a forest owner through the many technical and financial aspects that accompany forest lands and the decisions that go along with it.

Few forest owners rank revenue high among their priorities but they do have a vision for the future and a wish list of reasons for owning property. A consultant can help an owner achieve these goals and offer various strategies based on the capacity of the land and forest. Typically, a consultant will sit down with the landowner and work out a plan for the long range management of the forest. This plan will be based on the landowner's goals and objectives. A consultant will work with you to understand

Continued on Page 13





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Shiawassee Conservation District Vice Chair Duane Leach speaks to youth about watersheds and surface water quality by demonstrating the District's Watershed Model. The Watershed Model dramatically illustrates what happens to surface water when it rains, and is one of many tools the District uses in its educational programs.



SCD Directors Josh Crambell and Glen Nethaway work together to package seedling for the District's 2013 Spring Tree Sale. This year, the District is offering 38 varieties of trees and shrubs including seedlings, transplants and 3-6 foot trees. Orders are being accepted now for the 2014 Spring Tree Sale and will be ready for pick up at the Shiawassee County Fairgrounds on April 17th and 18th.



The District enjoys visiting with the YMCA Day Camp students each week throughout the summer to engage them in hands-on conservation education. These students are showing off the worms they found while learning about healthy soils.

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	Norway Spruce	9-15"	\$4.00	\$7.00	\$15.00	\$25.00	\$45.00	\$160.00	\$290.00	-			Tree Flag		\$0.25		
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DECI	Red Oak	12-18"	\$10.50	\$19.50	\$45.00	\$70.00							3 lb Granular Shaker Bag		\$25.00		
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-		1	+		" Contact	the Distric	t to place a	special or	der	SUBTOT	AL					Check No.	

Supplies are limited. First orders received will take first priority.

Pick up dates and times Thursday, April 17th, 9am-7pm Friday, April 18th, 9am-4pm Orders can be picked up at the Shiawassee County Fairgrounds Draft Horse Barn 2900 E. Hibbard Rd., Corunna

Payments can be made in cash, check, or credit card (Visa/MasterCard)

Send order form & full payment to: Shiawassee Conservation District 1900 S. Morrice Road Owosso, MI 48867

Phone: 989-723-8263 ext. 3

\* Requires cross pollination - Cross pollination is key to a good fruit crop for many apple and pear varieties. At least two varieties of the same type of fruit are needed. The apples and pears offered in this tree sale are recommended to pollinate each other.

For use wit	h credit card payment	
Card Number - Visa or Mastercard	Exp. Date	Security Code
Authorization Signature	Name as it appears on Credit Ca	rd -

Address - Street / City / State / Zip

We do not guarantee survival. Our liability ceases when seedlings are picked up. It is unlawful for these trees, shrubs and other plants to be resold with the roots attached in accordance with the insect Pest and Plant Disease Act. PA 189 of 1981 as amended.

#### Benefits of using cover crops while converting to no-till: Continued from Page 5

cycling, reduced erosion, improved phosphorus retention, stabilized soil temperatures, reduced compaction, and improved water infiltration, among other things.

Leguminous cover crops fix nitrogen to reduce the need for nitrogen fertilizer. In fact, these cover crops can add up to a credit of 150 pounds/acre of nitrogen to the field in good growing years. Non-legumes can recycle the nitrogen that may have been leftover from the previous crops and bring it into the zone where plants can utilize it in the next season. Furthermore, the nitrogen utilized by the cover crop is not leached further into our waters, this helps to minimize problems like eutrophication and hypoxia throughout the Great Lakes Region.

In systems that don't utilize cover crops, erosion tends to be greater and therefore the possibility of losing phosphorus also increases. Phosphorus attaches to clay particles and with any rainfall event where soil is exposed, soil particles along with phosphorus are lost to waterways. Contrastingly, by utilizing cover crops the soil is covered in rain events and significantly less clay particles are removed from the field into a given water source. In turn, the producer saves money (less fertilizer needs to be purchased because



more is left in the field).

Many producers like to open their fields up in the spring by running a cultivator or other tillage implement over their fields to allow the soil temperature to rise and dry out to allow for earlier planting. This practice does make sense but producers who have done long-term no-till with cover crops have found it is unnecessary because their

#### Shiawassee Conservation District Annual Report • Sunday, March 9, 2014 Page 7 soils are warm early too because of cover crops. Cover crops act as a thermostat for the soil. They help to regulate soil temperature by

keeping the soil warmer in colder weather and cooler in extreme heat. When transitioning to no-till, soils are often wet and cold. It is difficult for wet soil to warm up because minimal pathways exist for air to filter through the soil allowing it to dry out and warm up. However, cover crops' roots create channels that allow water and air to move through soils which ultimately allows cold water to filter out of soils and air to move through soil, drying out soils and increasing soil temperatures. Additionally, cover crops help to heat the soil by increasing the organic matter content. Over time, this addition of organic matter changes soils that were light brown to brown to dark brown and black. The dark brown/black residue absorbs sunlight and ultimately helps to warm the soil. Furthermore, this newly formed organic matter is full of life, and the living organisms produce heat, also contributing to the warming of the soil.

Compaction issues are a common problem in tillage systems. However, there are numerous ways to overcome this potential concern. By switching to no-till with continuous cover crops soil organisms (plants and fungi) have the chance to begin forming glomalin, created from the production of plant root sugars and proteins from fungi, that help to form micro and macro-aggregates. These aggregates lead to stable, productive soil structure that allow roots to move through soils and have access to water and air channels that are crucial for maximum plant growth and breaking up hardpans in soil. This crucial relationship between plants and fungi are a large part of the long term solution to compaction issues that plague producers. Utilizing GPS programs to minimize trips across the field with heavy machinery also prove successful in mitigating and reducing compaction.

Cover crops in a no-till system or any system will also improve water holding capacity and increase infiltration. One pound of soil organic matter can hold 18 to 20 pounds of water. Tilled bare soils can hold 1.5 to 1.7 inches of water but soils with continuous vegetation can hold 4.2 to 4.5 inches of water. In the recent drought year of 2012, producers that had cover crops had crop yields that far exceeded their competitors who had bare tilled soil. In an NRCS survey of producers in the hardest hit drought regions of the Corn Belt, those who used cover crops the previous season and/or seasons before had yields

Words of advice for starting to use cover crops in any system:

 Start small. Start on a small amount of acres to help reduce risk. · Choose wisely. Select

cover crops that are easy to grow and kill, productive, and priced moderately. Plan ahead. Consider your

rotation and how you will manage your cover crop. · Don't skimp. Follow your

plan, plant on time and at the correct rates. Consider another option in case problems arise.

 Stay sharp. Make sure your implements are ready to handle the system (like your planter).

Be creative. Keep an open mind and don't be afraid to experiment and/or ask for help.

11 percent higher on average than their counterparts who did not use cover crops and a 14.3 percent higher yield on average for soybeans. As one survey respondent said, "Soil health is key. Cover crops are better than steel."

Converting to no-till has it challenges, but it is obvious that by utilizing cover crops in the process the transition can be eased, hopefully with minimal losses of yield or none at all. By combining cover crops with no-till, the maximum benefits of higher yields over time, reduced nutrient loss, less erosion, greater water infiltration and holding capacity, higher organic matter content, moderated soil temperatures, and reduced pest pressure from weeds, diseases, and insects by means of greater biological diversity can be realized.

If you have questions about converting to no-till or cover crops and potential cost-share funding to help offset the conversion cost, please contact the Shiawassee Conservation District and NRCS at the Owosso Service Center or call (989) 723-8263 ext 3.

Information taken from the USDA-NRCS Michigan Technical Note: Using Cover Crops to Convert to No-Till: June 2010 and the 2012-2013 Cover Crop Survey in cooperation with the North Central SARE and the Conservation Technology Information Center.



We're privileged to have had the opportunity to achieve the following:

1. An uninterrupted history for conducting real estate auctions for over forty (40) years with a proven specialty focus of selling farmland. 2. The sale of over 50,000 acres of land in Central Michigan and the

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Before and after the rehabilitation of Townson Drain

#### SHIAWASSEE CONSERVATION DISTRICT ADVANCES SHIAWASSEE RIVER IMPROVEMENTS

Since its establishment in 1948, the Shiawassee Conservation District has been involved in the restoration of the Shiawassee River. The Conservation District has been the leader in an extensive cooperative watershed-scale partnership aimed toward restoring the Shiawassee River. This effort gained momentum in the year 2000 when the District received a watershed planning grant. Since then, the District's conservation efforts have increased and multiplied, resulting in significant decisions and positive changes with many more advancements planned for years to come benefitting the Shiawassee River.

The fall of 2013, the Conservation District completed yet another erosion control project in the Shiawassee River Watershed. This time, the District addressed the severely eroding Townson Drain that deposits all of its water (and everything contained within the water) directly into the Shiawassee River. The District completed this highly successful project by responding to natural resource concerns of landowners, working closely with a wide array of partners, and by conducting a thorough inventory of the watershed.

The task of restoring water quality in the Shiawassee River is immense. The Shiawassee River is 110 miles long and drains over 742,000 acres to the Saginaw Bay with nearly 200,000 people depending on the watershed for their livelihood. To help plan for the enormous task of water quality restoration in the Shiawassee River, the Shiawassee Conservation District wrote the Mid-Shiawassee River Watershed Management Plan, approved by the Michigan Department of Environmental Quality (DEQ) in 2002. The District utilized an extensive list of local partners to compile the plan, ensuring that all watershed stakeholders take ownership of restoring the Shiawassee River. This comprehensive document focused on three unique sub-watersheds located entirely in Shiawassee County and is intended to be a practical tool with specific recommendations of practices to improve and sustain water quality. By the end of 2008, the District had used this plan to secure funding to implement to best management practices, annually preventing 838 tons of sediment, 1,075 lbs. of phosphorous and 2,497 lbs. of nitrogen from entering the Shiawassee River. In addition, the District heightened awareness of issues affecting the watershed through education, including workshops, literature, and a historical perspective of the river.

A watershed management plan is intended to be a "living document." As conditions change over time in a watershed, the plan must be reexamined and revised to reflect goals that have been achieved or not met. In 2009, the District set out to update the 2002 approved Mid-Shiawassee River Watershed Management Plan. The updated plan includes a larger coverage area and new monitoring information, and meets updated requirements set forth by U.S. Environmental Protection Agency. To examine conditions of the expanded watershed, the Shiawassee Conservation District conducted a detailed stream survey, walking 81.5 miles of drains and ditches. A steering committee composed of watershed stakeholders directed the District in revising the implementation and sustainability strategies. The updated Watershed Management Plan was approved by DEQ in 2011 and was instrumental in the Shiawassee Conservation District receiving a grant from the Great Lakes Basin Program for Soil Erosion and Sediment Control coordinated by the Great Lakes Commission (GLC) in 2010. This grant brought \$536,000 to Shiawassee County to focus on sites identified in the

concerns of land loss due to erosion. "I was concerned about the potential loss of a large oak tree which was being undercut by erosion and about the additional erosion which would result if the tree was to fall," said Mr. Smith. He continues on to say, "I have learned so much throughout this project working with the dedicated staff at the Shiawassee Conservation District. I appreciate all of their hard work and commitment throughout the entire process, as well their

entire process, as well their willingness to keep myself and other landowners who were personally affected by the construction updated of the progress."

The affected portion of the Townson Drain is not classified as a county drain, therefore the ambitious task of erosion stabilization would have been the responsibility of the adjacent landowners, rather than the county. Realizing the burden this would have placed on the landowners, the District wrote and received the grant from the GLC to repair the eroding drain. "The extensive stream bank repairs would not have been possible without the efforts of the Shiawassee Conservation District," said Shiawassee County Drain Commissioner, Tony Newman. "I have partnered with the District on several other projects, and their dedication to protecting Shiawassee County's natural resources with best management practices and providing education is outstanding."

Rehabilitation of the Townson Drain was accomplished by incorporat-



watershed management plan to address erosion issues and help improve the water quality of the Shiawassee River.

The Townson Drains extensive erosion was one problem site addressed through this grant. The Townson Drain flows through and drains agricultural land before it outlets through a residential area, and then empties into the Shiawassee River. Erosion localized in the outlet portion of the drain has contributed a considerable amount of sediment to the Shiawassee River and has eroded away the properties of several landowners. The Shiawassee Conservation District became aware of the urgent nature of the issue when landowner Kevin Smith approached the District with his ing characteristics of a natural stable channel to improve channel stability significantly reduce erosion rates and improve water quality. This, in turn, saves an estimated 176 tons of soil per year from dumping into the Shiawassee River, which is equivalent to 15 dump trucks full each year. Improved water quality and stream stability of the Townson Drain provides excellent habitat for aquatic organisms in the drain itself and the Shiawassee River. Furthermore, the adjacent landowners will no longer have to worry about how many more feet of their property will be

Continued on Page 10



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#### **'Conservation Farmer of the Year'** By Melissa Shepard, staff writer

The Shiawassee Conservation District has awarded the 2013 Conservation Farmer of the Year to Tom Albaugh. Tom said on Thursday morning, Feb. 13, "It is an honor to be recognized and I want everyone to know that the Shiawassee Conservation District is a very enthusiastic bunch of people and we are lucky to have them." Albaugh will be honored at the Shiawassee Conservation District Annual Meeting Thursday, March 20.

Tom farms around 1,800 acres throughout Owosso, Middlebury, Sciota, Bennington and Fairfield townships.

The original farm has been in the family since 1954 when his parents bought it. He comes from many generations of farmers and has worked on the farm all his life. His brother-in-law, Chris Calkins, works full time to help him on the farm, but occasionally he gets some help from his wife, Renae, his brother, David, and some family and



friends.

The Albaugh farm produces a crop rotation of corn, soybeans, wheat and alfalfa. He sells hay as a cash crop and during the winter months he does some mechanic work on tractors for his neighbors. Tom worked for a John Deere dealer for 10 years directly out of high school. The farm had dairy cows for 25 years but the family ended the dairy operations in 2000.

Albaugh says that they do mostly no-till and minimal tillage farming. No-till farming is a way of growing crops from year to year without disturbing the soil through tillage. It increases the amount of water that infiltrates into the soil and





THE ALBAUGH FARM, about a quarter mile south of M-21 on Baldwin Road in Owosso, has been in the family since 1954.

increases organic matter retention and cycling of nutrients in the soil.

He also mentioned that they do some cover crop farming and a fair bit of alfalfa. Cover crops are grown between regular grain crop production periods specifically to protect and improve the soil. Tom states that they farm a fair amount of highly erodible land so they have to maintain a system of conservation practices that keep erosion rates substantially down, thus reducing soil loss.

Tom worked closely with the Shiawassee Conservation District to become MAEAP (Michigan Agriculture Environmental Assurance Program) verified in 2012 for both the farmstead and cropping system. MAEAP is a com-

![](_page_8_Picture_16.jpeg)

Tom Albaugh, the recipient of the Shiawassee Conservation Districts 2013 Conservation Farmer of the Year Award, became MAEAP verified in 2012 in both cropping and farmstead systems.

prehensive, proactive and voluntary agricultural pollution prevention program. The producer goes through a farm and/or crop assessment to show that they are following good management practices at both the farmstead and in the field. These practices are based on the Michigan Right to Farm GAAMPs (Generally Accepted Agricultural Management Practices). The GAAMP practices are based on available technology and scientific research to promote sound environmental stewardship.

The Albaugh farm uses crop rotations including high residue crops in his management system. Rotating crops can reduce fertilizer needs by incorporating legumes into the system such as soybeans and alfalfa; which replaces some of the nitrogen removed by corn and other **Continued on Page 15** 

#### THE MICHIGAN AGRICULTURE ENVIRONMENTAL ASSURANCE PROGRAM Promoting Stewardship, Protecting the Environment

The Michigan Agriculture Environmental Assurance Program (MAEAP) is administered by the Michigan Department of Agriculture and Rural Development (MDARD) and assists farmers to evaluate their entire operation and make sustainable management decisions that balance society's needs, the environment and economics. Its successful public/private partnership has set MAEAP apart from other programs and is honored statewide as a valuable program as well as recognized nationally as one of the top 150 conservation programs in the United States.

To become MAEAP verified, farmers must complete three comprehensive steps: education seminars, a thorough onfarm risk assessment, and development and implementation

![](_page_8_Picture_23.jpeg)

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Page 10 Shiawassee Conservation District Annual Report • Sunday, March 9, 2014

![](_page_9_Picture_1.jpeg)

Shiawassee Conservation District hosts high school conservation and agricultural career day

195 high school agri-science students joined the Shiawassee Conservation District and Natural Resources Conservation Service last October to tour three farms. Each stop included a tour of conservation practices, with a focus on career opportunities in the agricultural field. The morning ended at Baker College Welcome Center for lunch and an overview of the opportunities that Baker College has to offer those interested in pursuing an agricultural career.

![](_page_9_Picture_6.jpeg)

An unprecedented 14,364 pounds of electronic waste was dropped off at the E-waste collection hosted by the Shiawassee Conservation District and a record 16,310 pounds of hazardous waste was collected at the Household Hazardous Waste (HHW) collection hosted by the Shiawassee County Health Department last October. E-Waste can contain toxic substances such as mercury,

lead, cadmium and arsenic. Broken and unwanted electronics dropped off at the collection included televisions, computers, VCRs, power tools, vacuums, curling irons, hair dryers, sump pumps, batteries, and various media. Pictured is the Shiawassee Conservation District and the recycling company, Comprenew staff in front on the two semitrailers filled with E-waste.

![](_page_9_Picture_9.jpeg)

Conservation District for continuing to protect Michigan's valuable natural resources. Paid for by the Committee to Elect Ben Glardon for State Representative, P.O. Box 1746, Owosso, MI 48867.

![](_page_9_Picture_11.jpeg)

![](_page_9_Picture_12.jpeg)

![](_page_9_Picture_13.jpeg)

lost due to the stream bank erosion. "I appreciate the dedication that the Shiawassee Conservation District has for protecting Shiawassee County's natural resources," said Representative Ben Glardon. "Their commitment to the Shiawassee River helps to improve Shiawassee County's economy and the quality of life of its residents."

The Townson Drain project is the latest endeavor completed as part of the Shiawassee Conservation District's Mid-Shiawassee River Watershed Restoration Project, but it isn't the last. This project is a noteworthy step towards one of the District's goals of improving the overall water quality of the Shiawassee River. The Townson Drain project will be featured during the Shiawassee Conservation District's 64th Annual Meeting on March 20, 2014. Contact the District for further information

on this project or the Shiawassee Conservation District Annual Meeting.

![](_page_9_Picture_17.jpeg)

![](_page_9_Picture_18.jpeg)

houses!

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![](_page_10_Picture_0.jpeg)

Page 12 Shiawassee Conservation District Annual Report • Sunday, March 9, 2014

#### THE MICHIGAN AGRICULTURE

**ENVIRONMENTAL ASSURANCE PROGRAM** 

**Continued from Page 9** 

of an action plan addressing potential environmental risks. The Shiawassee Conservation District conducts on-farm risk assessments for all commodities and can provide the tools needed to address any potential environmental risks. In addition to technical and educational assistance, the District offers the educational seminars necessary to become verified and retain verification on a continuous basis. MDARD conducts an on-farm inspection to verify program requirements related to applicable state and federal environmental regulations, including GAAMPs. To retain MAEAP verification, a farm must repeat all three steps including MDARD inspection every three years.

#### **MAEAP Connects Farms & Communities**

Agriculture plays a vital role in Michigan communities, and MAEAP-verification strengthens relationships between farmers and their neighbors. Farmers who closely examine their operation's potential impact on water, soil and air understand the impact that their practices can have on their neighbors concerned about odor, environment and the landscape.

#### **MAEAP Protects Natural Resources**

Farming is an environmentally intense practice and the MAEAP-verification process ensures farmers are making choices that balance production and environmental demands. MAEAP-verified farmers are committed to farming practices that protect Michigan's natural resources by taking measures to protect air, soil, water and other environmental factors.

#### The Shiawassee Conservation District Plays a Vital Role in MAEAP

The Shiawassee Conservation District is a vital link in the administration of MAEAP. A farmstead cannot become MAEAP verified without addressing all environmental risks. The District's Technicians work closely with local farmers to identify all environmental risks on the farmstead by completing a variety of confidential and voluntary detailed assessments. Once risks are identified, the District assists the farmer with technical assistance and conservation planning in order to address all the risks on the farmstead. The District is the local link to Farm Bill programs.

#### Forward Thinking, Planning and Research

MAEAP is based on scientifically supported standards that allow farms to address environmental concerns while remaining economically viable. As knowledge of the economy and our place in the environment progress, so does MAEAP - its progressive planning continually strengthens Michigan's agriculture and natural resources. **MAEAP Facts** 

• Annually, an average of 5,000 Michigan farmers attend an educational session geared toward environmental stewardship and MAEAP verification.

• To date, over 10,000 Michigan farms have started the verification process.

• Over 1,000 MAEAP verifications have been completed. • Annually, over \$1,200,000 is spent for practice implementation by farmers working toward MAEAP verification. · MDARD has verified that responsible manure applica-

![](_page_11_Picture_16.jpeg)

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![](_page_11_Picture_18.jpeg)

tion and other conservation practices are the rule on over half a million acres of MI farmland.

• The erosion-reducing aspects of MAEAP verification have kept over 200,000 tons of farming soil where it belongs: in farm fields...EACH YEAR. That's 18,164 - 10 yard dump trucks of soil not reaching streams and lakes - every year.

• Annual Phosphorus reduction through MAEAP is over 340,451 pounds PER YEAR...enough to grow almost 85,104 TONS of algae in lakes and streams.

• Phosphorus & Nitrogen reduced on MAEAP farms could have grown enough algae to cover over 85% of Higgins Lake at approx. 1/4" in depth. (Higgins Lake is the 11th largest lake in Michigan)

• Over 240,000 acres receiving pesticides have approved pest management plans.

• Almost 6,000 acres of filter strips have been installed and almost 1,300 gullies have been stabilized, improving water quality.

Shiawassee County boasts 55 MAEAP verified farms, with many more currently working towards verification. MAEAP verification can be a long process, often with significant work and expense to upgrade facilities and practices. A producer's participation and commitment to MAEAP demonstrates their commitment to protecting Shiawassee County's natural resources and the positive reputation of Michigan agriculture. Contact the Shiawassee Conservation District for more information regarding MAEAP and becoming MAEAP verified.

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![](_page_11_Picture_28.jpeg)

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![](_page_12_Picture_7.jpeg)

![](_page_12_Picture_8.jpeg)

![](_page_12_Picture_9.jpeg)

![](_page_12_Picture_10.jpeg)

Grassed Waterways are designed to fix gullies that have formed in the crop field from a concentrated flow of rain water. They are shaped and seeded so the water is spread out over a larger vegetated area. Grassed Waterways can be cost shared through the Environmental Quality Incentives Program (EQIP). In 2013, one Grassed Waterway was installed in Shiawassee County through EQIP on 0.6 acres.

#### **HIRING A CONSULTING FORESTER Continued from Page 5**

and articulate your ownership goals and reasons for owning forest property. An experienced consultant will have the technical knowledge to implement particular forestry practices or timber sales, within the constraints of forest owner goals and property limitations. A consultant will collect information about you and your forest, and then offer options based on that knowledge. Most consultants will begin with a written management plan to help chart the directions the owner wishes to follow.

Harvests provide revenue as well as environmental services, habitat enhancement, and visual outcomes. The idea of a timber sale is daunting to many. Having an experienced consultant working on your behalf to implement a management plan developed with your forest goals in mind greatly reduces the risk of adverse results, encourages regeneration, increases the likelihood of reaching expectations, and usually nets greater benefits. In addition, the money invested to hire a consultant often increases timber sale income.

Concrete was poured for this Heavy Use Area Protec-

tion (HUAP). HUAPs are installed in areas that are erod-

ing due to farm animals or farm machinery. These areas

need to be protected by either concrete or gravel to con-

trol the erosion that is taking place. In 2013, 5 HUAPs

were installed.

Timber sale methods and contracts have their own processes and language. Marketing the trees to the best loggers takes experience. Loggers also have a range of abilities and equipment configurations. A practiced eye to administer and monitor the sale will help avoid misunderstandings and protect against damage to trees that remain. Income tax implications are significant and should be accommodated in timber sale design.

Selecting a consulting forester should be done carefully. Reputable and well-recognized consultants tend to work with reputable logging contractors and other service providers. When selecting your consultant, request information on education and years of experience. Inquire if the consultant is an independent business operator or part of a larger firm. Various qualifications will be more or less important to different forest owners. Each owner needs

> to determine which consultant has the best fit. Don't be afraid to ask a consultant about their fees. Consultant fees are usually deductible from timber sale income.

> Most forest owners are happy with their decision to hire a consultant. The ranks of forestry consultants are growing across Michigan, indicating an increased demand for their services and that forest owners are satisfied with those services. Nearly all of Michigan is covered by at least one forestry consultant. For a list of forestry consultants in Michigan or for more information, contact the Shiawassee Conservation District.

![](_page_12_Picture_20.jpeg)

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![](_page_12_Picture_23.jpeg)

![](_page_12_Picture_25.jpeg)

## **Alternative Types of Septic Systems**

Households that are not serviced by public sewers depend on on-site systems to treat their wastewater. The most common type of on-site wastewater treatment system is a conventional septic system. In a conventional septic system, wastewater flows through a sewer pipe out of your house and into a septic tank. In the tank, lighter solids such as grease, hair, and soap float to top forming a scum layer. Heavier solids settle to the bottom to form a layer of sludge. The remaining solids are stored in the tank until they are pumped out. The liquid waste flows out of the tank and into the soil absorption field, or drainfield. The drainfield is composed of perforated plastic pipes laid in gravel-filled trenches in the ground. The liquid waste is fed into pipes by gravity where pathogens are filtered out by soil. The soil must be a suitable type and deep enough to treat the wastewater before it reaches groundwater.

Well-drained, medium-textured soils such as loams are best able to treat wastewater. If soil or site conditions are not suitable for a conventional drainfield, an alternative system might be used. A common alternative is the mound system. In a mound system, the drainfield is elevated with a layer of sand to provide additional soil depth for treatment. Septic tank effluent is delivered to the mound with a pump in a dosing tank placed after the septic tank. Mound system maintenance requirements are the same for a conventional system. Regular pumping, avoiding soil compaction of the mound, and wise water usage are recommended to keep the system functioning properly.

Sand filters are a type of aerobic wastewater treatment system that has layers of sand and gravel to treat wastewater before it is distributed into the soil. The sand filter physically treats the water and acts as a biological filter with microorganisms, highly adapted to decomposing wastewater, living on the sand grains. Sand filters have been used where conventional septic tank/absorption field systems have failed. They are a good option for sites with high groundwater, shallow bedrock, poor soils, or other restrictions.

Aerobic systems are similar to conventional septic systems in that they both use natural processes to treat wastewater. However, unlike septic anaerobic treatment, the aerobic treatment process requires oxygen. Aerobic treatment units use a mechanism to inject and circulate air inside the treatment tank. This mechanism requires electricity to operate. For this reason, aerobic systems cost more to operate and need more routine maintenance than most septic systems. However, when properly operated and maintained, aerobic systems can provide a high quality wastewater treatment alternative to septic systems. Aerobic tanks are used in place of septic tanks in areas that do not have adequate soil area or depth for a drainfield.

Regardless of the type of system used, it is important to maintain your wastewater treatment system to ensure wastewater is effectively treated. Over the next two years, the Shiawassee Conservation District will be working through a grant to address failing septic systems in Shiawassee County by working with homeowners to make positive changes in their homes.

As a part of the Conservation District grant, we are now offering cost-share to pump septic tanks in limited areas of Shiawassee County. Also available is the Home\*A\*Syst risk

assessment tool. The Home\*A\*Syst is a free, confidential home risk assessment to identify risks to health or pollution threats to the environment. Completing a Home\*A\*Syst gives the homeowner the peace of mind to know that they are making their home a safer environment for their family. To schedule your free home risk assessment or for more information, contact the Shiawassee Conservation District at (989) 723-8263, ext. 3.

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## YARD WASTE IS POLLUTION TOO!

About 200 pounds of yard waste is produced by each person annually and the disposal of this waste is major concern. Yard waste includes grass clippings, leaves, tree and shrub trimmings, organic mulch, and other plant materials. Grass makes up about half the yard waste produced and leaves and brush about a quarter. Yard waste that is not properly managed has the potential to degrade lakes and streams.

How does yard waste become a pollutant in streams and lakes? It may enter surface water by being carried away by rain or melting snow. As this runoff water flows, it carries with it anything that is in its path and deposits it directly into surface water through a storm drain or ditch. This runoff water is not treated, so pollutants that enter the storm drain or ditch also enter the stream.

Yard waste that is intentionally dumped intensifies water degradation. Under natural conditions, nutrients enter surface water and encourage sustainable levels of plant growth. Yard waste added to streams increases unnatural amounts of nutrients, which encourage algae and aquatic weeds. Only 0.1 pound of phosphorus from yard waste is enough to produce 30 to 50 pounds of algae and weed growth. As algae and weeds die, they decay and take away much needed oxygen from fish and other aquatic organisms. Decaying algae, weeds, and yard waste also produce strong odors, toxic conditions and unsightly surface scums, giving rise to health concerns and reduced recreational opportunities such as swimming and fishing.

One easy and effective way to manage grass clippings for water quality is to leave them to return nutrients to the soil. Grasscycling is the natural recycling of grass clip-Continued on Page 15

![](_page_13_Picture_26.jpeg)

![](_page_13_Picture_27.jpeg)

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04 S = 1

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![](_page_13_Picture_38.jpeg)

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In an effort to promote conservation of our natural resources, the Shiawassee Conservation District has a notill drill and corn planter available for rent. For further

#### YARD WASTE IS POLLUTION TOO! Continued from Page 14

pings by leaving them on the lawn when mowing. In order to recycle grass clippings correctly, you must mow your lawn so that grass is never more than 2 to 3 inches tall and remove no more than one-third of the leaf blade each time you mow. If these two practices are followed, you can let your grass clippings remain on the lawn to decompose properly. The clippings return nutrients, retain water, and fertilize your yard naturally.

Another method of managing yard waste is to compost. Composting is an especially effective way to turn grass

![](_page_14_Picture_6.jpeg)

information, contact the Shiawassee Conservation District at (989) 723-8263, ext. 3.

clippings, kitchen waste, and fall leaves into nutrient-rich

soil for next year's garden. To compost, mix "brown"

items, such as leaves and soil, with "green" items such as kitchen waste and grass clippings in a container large

enough to hold heat yet small enough to admit air to its

center. Mixing the materials for six months to a year will

produce compost that can be used to add nutrients to the

Properly managing yard waste will prevent unnecessary

degradation of lakes and streams and improve the overall

health of your landscape. For more information, please

contact the Shiawassee Conservation District.

soil in the landscape and gardens.

![](_page_14_Picture_9.jpeg)

Concrete was poured in front of an Agrichemical Handling Facility to control erosion that could take place from the farm traffic entering the building. When installing conservation practices we must address all possible resource concerns within the project.

![](_page_14_Picture_11.jpeg)

Manure is starting to be placed inside of this Waste Storage Facility (WSF). Waste Storage Facilities are constructed to store manure to reduce runoff into nearby surface water or groundwater. It can then be spread on agricultural land when crops can utilize it and when runoff is less of a concern. WSFs are a cost sharable practice through the Environmental Quality Incentives Program. Two Waste Storage Facilities were installed in Shiawassee County in 2013.

![](_page_14_Picture_13.jpeg)

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![](_page_14_Picture_17.jpeg)

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![](_page_14_Picture_21.jpeg)

![](_page_14_Picture_23.jpeg)

#### 'Conservation Farmer of the Year' Continued from Page 9

grain crops. The practice of crop rotation also prevents soil erosion, protects water quality, naturally breaks the cycle of weeds, insects and diseases and adds diversity to an operation.

Other conservation techniques used on the Albaugh farm include the use of chemical drift reduction technologies to reduce drift of applied agricultural chemicals, utilizing electronically controlled chemical spray application technology to more precisely apply agricultural pesticides to intended targets, and plant tissue tests are taken to improve nitrogen management. In addition, they use a nitrification inhibitor for spring applications of nitrogen and apply split applications of nitrogen based on a pre-sidedress nitrogen tests on cropland. They also recycle 100 percent of farm lubricants.

Albaugh states that 2013 was a pretty good year for farming, in spite of the weather. He added, "I feel lucky to make a living farming."

Along with his wife, Renae, he has two daughters, Holly and Hannah; two sons Tom Jr. and Keegan; two stepchildren, Mikki and Matt and two grandchildren.

![](_page_14_Picture_29.jpeg)

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## **Prevent Septic System Failure**

Sewage and soapsuds are ruining the carpet and furniture in your basement and foul smelling water is puddled in your yard. This all could have been prevented! Knowing the signs of septic system failure can help save you from costly repairs and avoid a huge mess.

Households that are not served by public sewers usually depend on septic systems to treat and dispose of wastewater. A failing septic system can result in property damage, foul odors, surface and groundwater pollution, disease potential, and costly repairs or replacements.

Signs of septic system failure include, pooled water or muddy soil around your septic system, water backing up into your basement, sinks or toilets backing up when you flush or do laundry, or bright green grass over the drainfield.

Properly caring for your septic system protects a significant investment and prevents potential health and environmental hazards. Here are some of the Do's and Don't of septic system care:

#### Don't:

• Use additives, they are an unnecessary expense that only harm your system.

· Pour cooking grease or oil, coffee grounds, or non-degradable products or harsh chemicals down the drain. Do-

ing so adds additional solids to your septic tank and can clog the drainfield. • Park or drive on your drainfield. Compaction impairs the

drainfield's ability to filter wastewater.

• Plant trees or shrubs too close to your drainfield. The roots can clog the drainfield

• Concentrate water use by using the dishwasher, shower and/or washing machine at the same time. All the extra water can strain your septic system.

Do: • Have your system inspected every three years by a licensed contractor and have the tank pumped as necessary, about every 3-5 years.

• Eliminate or limit garbage disposal use.

• Properly dispose of coffee grounds and food. Composting is a great option!

• Put grease in a container to harden before discarding in the trash.

• Dispose of non-degradable products and chemicals in the trash.

• When planting, space trees and shrubs away from your drainfield.

• Stagger the use of water-generating appliances.

• Become more water efficient by fixing plumbing leaks. • Have your well water tested annually for coliform bacteria.

When your septic system is correctly located, adequately designed, carefully installed and properly maintained, you will have a waste disposal system that is simple, economical, effective, safe and long lasting.

The Conservation District is currently offering cost-share to replace failing septic systems and pump septic tanks in

![](_page_15_Picture_23.jpeg)

hen your joints ache, turn to the bone and joint care specialists at Memorial Healthcare, where our orthopedic surgeons have more than 70 years of surgical experience.

Our minimally invasive knee, hip and shoulder procedures can help you get back to doing what you love, with less pain and minimal scarring.

![](_page_15_Picture_26.jpeg)

#### memorialhealthcare.org

Mid Michigan Orthopedics 989-725-6101.

limited areas of Shiawassee County as part of a nonpoint source pollution prevention grant received from the Department of Environmental Quality. Also available is the Home\*A\*Syst risk assessment tool. The Home\*A\*Syst is a free, confidential assessment to evaluate your home for pollution and health risks. Completing a Home\*A\*Syst gives the homeowner the peace of mind to know that they are making their home a safer environment for their family. To schedule your free home risk assessment or for more information, contact the Shiawassee Conservation District at (989) 723-8263, ext. 3.

Shiawassee Conservation District

![](_page_15_Picture_30.jpeg)

![](_page_15_Picture_31.jpeg)

## Solid Investment!

In today's economy, every day and every dollar is precious. Getting your crop planted and harvested on time may mean the difference between a profitable year or a loss. A properly designed and installed water management (drainage) system can help make this difference. For 37 years we've been working with area farmers to help them increase crop productivity, resulting in increased profitability.

![](_page_15_Picture_34.jpeg)

![](_page_15_Picture_35.jpeg)

"Quality Is Our Number One Priority!" • We will survey • Design system • We will submit a written proposal GPS Mapping for customer

> Call Dennis or Jim for a Free Consultation of Your Water Management Needs.

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