

Greener Acres



SUMMER EDITION

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Sheboygan County Planning & Conservation Department - Conservation Division

Sheboygan River Agricultural Watershed Project

By Patrick Miles

Conservation organizations will be partnering with landowners and farm operators in Sheboygan County to test a more efficient and effective way to improve water quality in area streams. This new approach, called the Wisconsin Buffer Initiative (WBI),

uses science to target conservation practices on those fields and pastures with the greatest potential for contributing nutrients to streams.

A six year long \$1.6 million pilot project to test the WBI approach in Sheboygan County will begin this summer in Otter Creek, a tributary of the Sheboygan River. Fischer Creek, a tributary of the Pigeon River will

serve as the control watersheds where no action will be taken. More than ten watershed in Wisconsin are cur-

rently using this targeted approach to improve water quality. The Sheboygan County project will provide valuable information from a landscape with different farming methods and drainage systems than those in other parts of Wisconsin.

ries Biologist and recently Fisheries Operations Supervisor in Oshkosh. John recently retired from the DNR and will be a valuable asset to this project.

The first step in the project involves Sheboygan County Planning and Conservation Staff working with willing landowners

and farm operators to conduct a farm inventory. The inventory will obtain information on crop rotation, fertilizer, manure applications, etc. Soil samples will be taken on each field at no cost to the landowner. Staff will work with these farm operators and owners to identify alternative management practices that will reduce the amount of sediment and nutrients entering the stream.

Because changing management practices can have financial implications for farmers, UW-Extension researchers will help farm owners and operators

(Continued on Page 5)

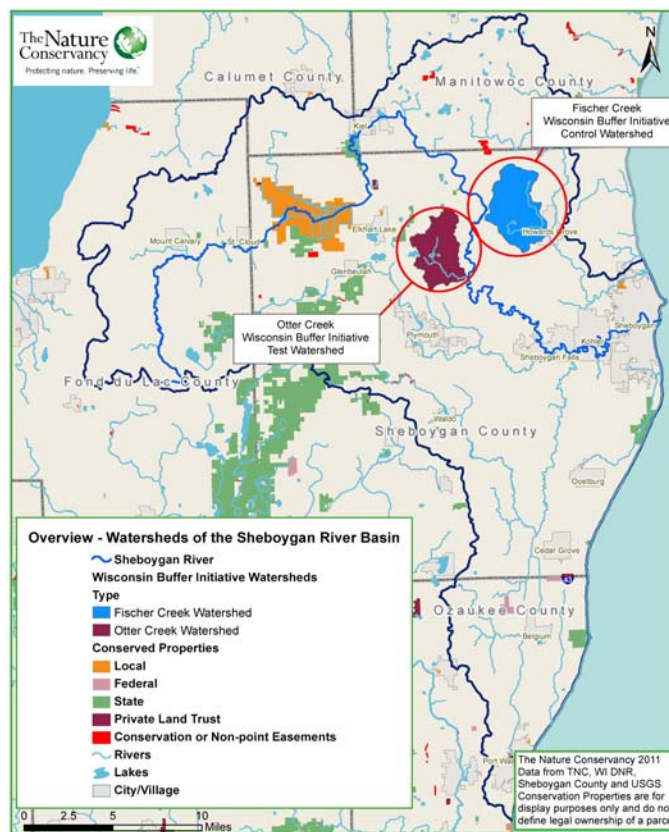
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Wisconsin Buffer Initiative Watersheds



Michels Corporation Begins Work on Restoring Onion River

Efforts will help stabilize watershed in Sheboygan County

The Onion River, located just outside Plymouth, is fast becoming one of the best trout streams in southeast Wisconsin. Not so long ago the Onion had very few trout and fair to poor water quality. That has been changing over the last 10 years or so



because of the efforts being made by the Lakeshore Trout Unlimited (TU) members to restore this watershed. Tremendous progress has been made and now more good news.

The following is a news release published jointly by T.U. and Michels Corporation. I thought it would be of interest to our readers.

Michels Corporation, in conjunction with the Lakeshore Chapter of Trout Unlimited and the Wisconsin Department of Natural Resources, began work on restoring the Onion River in Sheboygan County.

The upper Onion River watershed has undergone sustained reclamation and restoration efforts since



the late-1990s to help trout and other wildlife re-inhabit the area.

Michels is assisting the conservation efforts of the Lakeshore Chapter and the DNR by preparing five to six sites along the Onion River for the installation of luncker structures. The structures, which are embedded into

stabilize the watershed.

"We are very pleased to be underway on this project, and we're excited about the opportunity to work with Trout Unlimited and the DNR to restore one of the great watersheds in the state," said Tim Michel, vice-president of Michels Corporation. "These efforts are part of our continuing commitment to environmental sustainability, and we hope to continue capitalizing on opportunities to protect and restore natural wonders across our great state."



The Onion River, one of only a few Class A trout streams in southern Wisconsin, has seen its natural trout populations almost vanish since the mid-20th Century. Headwater alterations caused the narrow, cold stream to grow wider and warmer which, combined with nearby agricultural practices that lead to pollution and contamination, made it almost impossible for trout to inhabit the river.

the river-bank, are covered with layers of limestone, and mulch, and ultimately help minimize erosion and

Beginning in the late-90s, the Lakeshore Chapter of Trout Unlimited and other environmental groups, with the support of local businessman Terry Kohler and the Sheboygan County Land and Water Conservation Department, began purchasing areas around the Onion River to allow restoration efforts to take place. Those efforts were aided by a restoration plan developed by the DNR.

While the Onion River trout have begun to make a comeback, population levels are still only at approximately 10 per 100 feet of stream - well below the original levels prior to environmental changes.

Brownsville based Michels Corporation has been pioneering innovative new technologies for more than five decades.

With a proven track record of success, Michels has earned a sterling reputation while growing from a small pipeline construction company into one of the largest utility contractors in North America.

We Got a Winner!

And the winner of the \$50 from our Tree Program is Dennis Roehrborn. The correct answer is a Butcher's Wheel or Dressing Hoist. It was used to lift an animal up by the hind legs, after being slaughtered, to dress it out during the butchering process. It is my understanding that this "wheel" was quite common on area farms in the early 1900s.

Thank you to all who submitted an answer. All the answers were correct and a random drawing took place. Congratulations to Dennis Roehrborn.

USDA Agricultural Cost Share Program Available

By Mike Patin, NRCS

The Natural Resources Conservation Service (NRCS) is now holding a continuous sign-up for the Environmental Quality Incentives Program (EQIP). EQIP is one of the primary programs available to landowners and agricultural producers to assist with farmstead and farmland conservation, and wildlife enhancement practices.

NRCS will be offering a wide variety of practices geared towards assisting producers in addressing soil, water and livestock resource concerns. Producers may progressively address these issues with practices such as: **grassed waterways, roof runoff structures, silage leachate, milkhouse and barnyard runoff collection systems, tree planting, stream crossings and cover crops.** Also available are practices geared towards **managed grazing practices such as fencing, water pipelines, pasture establishment and assistance in planning these systems.** These practices will also be available to either **organic or transitioning to organic** producers by using a wide variety of the practices identified above.

EQIP also offers financial incentives up to \$100,000 for the construction of **Manure Storage Systems** including methane digesters and solid liquid separation units. Prior to applying for manure storage, farmers should apply for cost sharing to develop a Comprehensive Nutrient Management Plan (CNMP) for their operations to aid in the major decisions that come along with building a manure storage system. With the dramatic rises in fertilizer prices it is more important than ever to develop a Nutrient Management Plan that identifies proper timing, amount, and nutrient crediting to help offset these costs. Cost sharing for the development of a **Nutrient Management Plan** is quite significant at \$9.60/ac/yr for 3 years, and will help you to

comply with the ever increasing manure application regulations and maintain tax credits with the new Working Lands Initiative. Applicants for manure storage that have completed a CNMP will receive additional points when applications are ranked.

For more information, see www.wi.nrcs.usda.gov under Programs, or contact the NRCS office at the USDA Service Center in Sheboygan Falls at: ((920) 467-9917 Ext. 3.

Big Year for NMTTP

By Emily Vetting

The Nonmotorized Transportation Pilot Program (NMTTP) is moving forward this summer with a number of exciting projects and events.

Crews have been striping bike lanes and sharrows in several communities around the County since early May. The bike lanes are a striped portion of the roadway which is designated only for bicyclists, while a sharrow symbol is meant to remind motorist and bicyclists alike that they are to share the lane with one another. No parking was removed to complete this project.

Residents in the Village of Oostburg, Town of Sheboygan, Village of Random Lake, Village of Adell, and Town of Sherman can expect a number of bicycle and pedestrian paved shoulders, and bicycle lanes.

The final phase of the CTH O project is also underway this summer. As part of a road reconstruction project, the NMTTP is funding sidewalks and bicycle lanes between Woodland Drive and I-43, and bicycle lanes only west of Woodland Drive to STH 32. These facilities will provide bicyclists

and pedestrians with much improved access to commercial and employment areas.

After several delays in the process, bike racks will be installed around the County in late summer of this year. Several hundred U-shaped bicycle racks will be placed at destinations including churches, schools, and commercial areas.

Bike & Walk to Work Week was held June 4th - 10th, and was once again a success. With support from nearly 60 local businesses, bicycle and pedestrian activity increased noticeably during the weeklong celebration of non-motorized transportation.

Bike corrals will be held at four local events this summer, including Ducktona 500, John Michael Kohler Arts Center's Arts Festival, Earthfest, and Hollandfest. Event attendees are invited to park their bike for free while it is supervised by volunteers. Sheboygan County residents are also invited to join the fun on Wednesday nights at ReBike, which is held in the basement of Paradigm Coffee & Music in Sheboygan. Local residents in need of a bike can come and pick out a donated bike, and spend about three hours working on it with a ReBike volunteer. Afterwards, they can take the bike as their own - for free.

Next summer is expected to be another exciting season for the NMTTP, with the largest amount of infrastructure projects being built. A three mile pathway along Taylor Drive, conversion of the abandoned Union Pacific rail line to multi-use path, and the Sheboygan Falls twenty-eight segment comprehensive plan are the largest and most highly anticipated projects. Traffic calming measures around Sheboygan schools, pedestrian and bicycle facilities in the Village of Kohler, and sidewalks and bike lanes on Eisner Avenue are also expected for 2012 construction.



Radish as a Cover Crop

By Matt Ruark, Kevin Shelley & Jim Stute

There has been much recent interest in planting forage radish or oilseed radish (*Raphanus sativus*) following winter wheat or corn silage harvest. Some of the forage radish varieties sold as a cover crop seed are cultivars of the Daikon variety (a Japanese table radish) and have been selected for large taproot size. These selections, derived from radish grown at the University of Maryland, are trademarked and sold as Tillage Radish™ and GroundHog™. Oilseed radish cultivars are also available (e.g. Adagio), may not be trademarked, and generally have stubbier taproots compared to cultivars of the Daikon forage radish. Some radish is sold as VNS (variety not stated). Use caution when purchasing VNS seed as it has not been selected for large taproots and you will not know what type of radish you are getting. While research related to using radish as a cover crop is in its infancy, there are some guidelines that we can suggest for use. In general, proceed with care if interested in incorporating radish as a cover crop into your cropping system.

The primary benefit of growing radish as a cover crop is its ability to perform "bio-tillage" by growing a large taproot that can greatly disturb soil in the upper 8 inches (or deeper). The radish decomposes quickly in the spring, leaving large holes in the soil. This can be beneficial for a no-till growers or for growers who are looking to reduce spring tillage. The taproot may penetrate through compacted soil layers and alleviate soil compaction. However, it remains unclear on how effective radish can be for breaking through a dense plow pan. Currently, we do not have data that quantifies this "bio-tillage" benefit in Wisconsin.

Another benefit of radish is that it is an excellent scavenger of nitrogen (N). It can be used to capture excess N

applied to the previous crop. However, this uptake is limited to the fall growth, as radish does not survive Wisconsin winters. The taproots decompose quickly (and with quite an odor!) in the spring, while a rye cover crop will survive winters and continue to take up N in the spring. The overall amount of N taken up by radish roots and above ground biomass can exceed the amount of N taken up by above ground biomass of rye. Thus, there is a trade-off between the N scavenging cover crops: radish will scavenge more N in the fall, but rye will continue to scavenge in the spring.

It remains unknown if radish functions as a green manure by providing an N credit. It is also unclear if the release of N captured in the radish will be released in sync with N uptake of the subsequent crop (most often corn). No data exist which show that N rates should be reduced after radish. In addition, we have heard that it is recommended that 60 lb/ac of N be applied with a planting of radish. This was likely based on research conducted in Maryland where adequate levels of residual N were not expected because of the soil texture (loamy sand) and the fact that the previous crop received only a moderate amount of N (no carry-over of N). Thus, the researchers applied N at radish planting to ensure a good stand.

Radish will need adequate N to grow and provide N capture and other soil benefits. However, we would expect that on most silt loam to clay loam soils, where adequate N was applied to the previous crop, that residual N in the soil will be adequate for radish growth (Fig. 1). There is no published research on optimum soil test nitrate or N application to ensure proper growth of radish as a cover crop. However, this issue is moot if opting to apply manure at or near the time of cover crop seeding.

Radish establishes quicker than legumes, but less rapidly than grasses. It will pro-

vide good groundcover and controls weeds through a dense canopy. Recent research from the University of Maryland has demonstrated the effectiveness of radish as a weed suppressor (Lawley et al., 2011; "Forage radish cover crop suppresses winter annual weeds in fall and before corn planting").

Using radish as a cover crop has become popular with growers who have an "early" harvest crop in rotation (e.g. winter wheat, vegetable crops). The early harvest date of these crops also makes the land available for manure applications. Radish can be planted before, after or with manure applications. It can also be grown in mixture with other cover crops, both legumes and grasses. Late-season plantings of radish after corn silage may have it limitations in Wisconsin. It is unclear what benefit you can get when planting later in summer (late August to mid-September). In a field trial conducted in 2010, we were unable to plant cover crops (radish and rye) until September 21st and experienced very dry soil conditions at the Arlington Agricultural Research Station after planting. The late planting and lack of available moisture was detrimental to the radish, but not rye (Fig. 2).

Treat tillage radish as an experiment when growing it for the first time. Talk with crop consultants or other growers that have had success. We are working on developing

scientific-based recommendations for management of radish grown as a cover crop. Currently, our recommendations would be to experiment only in systems where radish can be planted, in mid-July to mid-August. Also, it is always a good idea to alert your neighbors that you have planted tillage radish, as they can be quite pungent in the spring when decomposing in the field.



Figure 1. Radish planted July 15th, 2010 and photographed October 11th, 2010. Nitrogen fertilizer was not applied when planting the radish.



Figure 2. Cover crops planted on September 21st, 2010 (radish on left, rye on right). Photograph taken on November 11th, 2010.

Some Interesting Water Facts

By David Clappes

⇒ Less than 2% of the earth's water supply is fresh water



⇒ Of all the earth's water, 97% is salt water

⇒ Only 1% of the earth's water is available for drinking, 2% is frozen

⇒ The human body is 75% water

⇒ A person can survive about a month without food, but only 5 to 7 days without water

⇒ Everyday in the U.S., we drink 110 million gallons of water

⇒ The average American uses 140 - 170 gallons of water each day

⇒ A leaky faucet can waste 100 gallons a day

⇒ 12 inches of water over one acre is about 326,000 gallons - 6 inches of water over one acre is enough to meet the needs of a typical family for a year

⇒ It takes 3.3 feet of water over one acre to grow enough food for an average family for a year

⇒ One inch of rain drops about 27,000 gallons or 113 tons of water over one acre of land

⇒ Each person needs to drink 2 1/2 quarts (80 oz.) of water each day

⇒ Public water suppliers process 38 billion gallons of water each day

⇒ Approximately one million miles of pipelines carry water in the U.S. and Canada, which would circle the earth 40 times

⇒ You can refill an 8 ounce glass of water about 15,000 times for the same cost as a six-pack of soda

⇒ A dairy cow must drink 4 gallons of water to produce one gallon of milk

Sheboygan River Agricultural Watershed - (continued from Page 1)

assess the financial costs and benefits associated with implementing various management practices on their farms. Cost-share opportunities will be available. The project will benefit and possibly increase profitability for landowners, as new practices are established that are compatible with the farm's current operation. Baseline data will be collected on stream flow, water quality and fish populations in both watersheds. As the study proceeds data will continue to be collected so that differences between the two watersheds can be compared. It will take several years of conservation practice installation to be implemented that begin to show results. "It seems straightforward," says Pete Nowak, UW Madison College of Agricultural and Life Sciences and chair of the WBI Advisory Committee. "But it's actually a very innovative approach to water quality improvement that is not currently being utilized in the United States".

With successful outcomes this research may create tools that streamline implementation of targeted conservation efforts in other watersheds. The data will also be valuable to the agri-

cultural community and other decision-makers in re-shaping public policy related to water quality management not only in Wisconsin but across the nation.

Project Partners include the Sheboygan County Planning and Conservation Department, Sheboygan River Basin Partnership, The Nature Conservancy, U.S. Geological Survey, UW-Extension, Wisconsin DNR, Natural Resources Conservation Service and the Kohler Trust for Preservation.

LOOKING AHEAD

- July 4, 2011 - July 4th Holiday - PCD Office Closed
- July 7, 2011 - PRAE Committee Meeting
- July 21, 2011 - PRAE Committee Meeting
- August 4, 2011 - PRAE Committee Meeting
- August 18, 2011 - PRAE Committee Meeting
- September 1 - 5, 2011 - Sheboygan County Fair
- September 1, 2011 - PRAE Committee Meeting
- September 5, 2011 - Labor Day Holiday - PCD Office Closed
- September 15, 2011 - PRAE Committee Meeting
- September 23, 2011 - First Day of Fall
- October 2011 - Tree Program 2011/2012 Forms Available
- October 6, 2011 - PRAE Committee Meeting
- October 20, 2011 PRAE Committee Meeting

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MISSION: Provide sound technical and educational assistance in the management, protection, and enhancement of soil and water resources to land users in Sheboygan County.

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Meet John Nelson

John Nelson has a unique combination of life and professional experiences that blend well into his new job as the Project Manager for the Sheboygan River Agricultural Watershed Project (see Page 1). John's family dairy farmed in north-central Illinois until age 12. He received degrees from UW-Stevens Point and Tennessee Tech University, becoming a Fisheries Biologist with Wisconsin DNR from 1982 - 2008. In that position he worked closely with farmers and Trout Unlimited volunteers in the Upper Onion



River Watershed to restore the trout fishery in that stream.

According to John, "my main goal in the Sheboygan River Project is to blend sustainable agriculture with improved water quality. Both the farming and conservation communities can win. Soil and nutrients running into the river cheat farmers of a valuable resource and create problems in our lakes and streams".

John and his wife Char have resided in Plymouth since 1983. There, they raised their three children.—Lindsay, Kristin, and Todd. John enjoys fishing, hunting, camping, and gardening.