



Helping People Help the Land

# Conservation Notes

USDA - Natural Resources Conservation Service - Michigan

July - August 2014

## Lake Erie Visit a Learning Experience for Michigan Farmers

A group of Monroe County farmers were already scheduled to visit Lake Erie before 500,000 people in the Toledo area were forced to spend a weekend without public drinking water.

The events in Toledo are a serious concern to farmers in the Western Lake Erie Basin as nutrient runoff from agricultural land is linked to algae blooms on the lake. The algae blooms create a toxin, microcystin, that was detected at unsafe levels in Toledo, prompting the announcement that the public water supply was unsafe.

The event was sponsored by the Washtenaw Farm Bureau chapter and local conservation districts. The tour was coordinated by Amy Gilhouse, who works for the conservation districts as a technician for the Michigan Agriculture Environmental Assurance Program. Gilhouse has a special attachment to Lake Erie. Her parents supplemented their income by working as fishing charter captains, operating on western Lake Erie.

Lake Erie faced much worse environmental problems in the 1960s and 1970s. The environmental plight of the lake caught national attention when the Cuyahoga River, which enters Lake Erie in Cleveland, caught fire. The environmental degradation of the lake, and the publicity surrounding it, forced Gilhouse's parents to end their fishing charter business.

"Taking people out on Lake Erie to fish was my dad's passion," Gilhouse said of her father. "My mother was one of the first women with a fishing charter captain's license on the Great Lakes," she added.

The group of about 40 farmers boarded a bus outside the Monroe Conservation District office on the morning



Stone Laboratory researcher Justin Chaffin shows a fish netted by the lab's research ship off of Gibraltar Island on Lake Erie.

of Aug. 14 and met a ferry at Port Clinton, Ohio. The ferry took them to South Bass Island on Lake Erie. The first stop on the tour was the Aquatic Visitor Center, housed in a former fish hatchery. The stop included an overview of water quality in Lake Erie and other environmental concerns such as invasive species.

Following the stop at the Aquatic Visitor Center, research boats from [Ohio State University's Stone Laboratory](#) took the group to nearby Gibraltar Island where the laboratory is located. Following lunch was the meat of the tour, a presentation by Stone Laboratory Director, Dr. Jeffrey Reutter.

Lake Erie is unique among the other Great Lakes in many ways, explained Reutter. Lake Erie is surrounded by

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## State Conservationist's Message

Agricultural practices are constantly changing as new research and resource concerns force us to re-examine and refine how to best utilize the land to produce food, fiber and fuel. NRCS and conservation district employees need to constantly educate themselves to meet our customers' changing needs.

NRCS provides training opportunities to its staff and conservation district employees on a continuous basis. Long-time employees with first-hand experience and expertise in areas like grazing, agronomy, engineering and many other disciplines provide classroom and field training on a regular basis. NRCS also utilizes experts from USDA Land Grant institutions like Michigan State University to provide training on the latest agricultural and conservation research. Recent examples include a series of soil health trainings conducted by Ohio State University Extension at three Michigan locations and pollinator habitat workshops conducted by MSU researchers.

In addition to providing on-going training for current employees, NRCS offers the Pathways program for students interested in conservation-related careers. Students accepted into the program work alongside NRCS employees while attending school. Students who complete the Pathways program gain valuable experience and are eligible for permanent positions with NRCS upon graduation. Having recent graduates join the agency with experience in the field is a valuable resource for NRCS and the

producers we serve.

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Water quality in western Lake Erie received a lot of national attention recently due to the drinking water warning in Toledo. NRCS and many other federal and state agencies, as well as research universities and conservation groups, have been studying how



State Conservationist  
Garry Lee



NRCS Soil Scientist Matt Bromley presents information from a soil pit during a soil health workshop hosted by the Rose Lake Plant Materials Center.

agricultural practices in the Western Lake Erie Basin affect water quality in Lake Erie. NRCS has targeted conservation funding to the area to help farmers incorporate conservation practices to reduce nutrient loading to the lake from farm land.

Phosphorus is known to be the nutrient causing large algae blooms on western Lake Erie. Phosphorus enters the lake from many sources including agricultural land. Phosphorus from all sources needs to be reduced to prevent

future algae blooms that threaten public health and harm wildlife. Farmers can do their part by using tried and proven practices that reduce nutrient runoff including conservation tillage, filter strips and cover crops. Soil testing and other good nutrient management practices are equally important.

If everyone, farmers, homeowners, municipalities and industry, does their part, preventing algae blooms is an achievable goal.

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### Michigan Farmers Visit Lake Erie

much more agricultural land than the other Great Lakes which are predominantly surrounded by forest. Lake Erie is also the shallowest of the lakes by far, the western basin of Lake Erie has a maximum depth of only 24 feet. Lake Erie contains only 2 percent of the Great Lakes water but 50 percent of its fish.

Massive algae blooms on western Lake Erie are caused by phosphorus loading to the lake. This is not the first time phosphorus has been an issue in the lakes, said Reutter. Lake Erie was considered to be nearly dead in the 1970s. Environmental efforts reduced the amount of phosphorus entering the lake by two-thirds, primarily through improved sewage treatment. At the time, most of the phosphorus entering the lake was believed to come from sewage. Today, agricultural runoff is believed to be the main contributor of phosphorus to the lake that triggers algae blooms, said Reutter. A reduction of phosphorus entering the lake by 40 percent, from all sources, including agriculture, cities and industry is needed to prevent algae blooms like those experienced this year and in 2011, he said.

Monroe County farmer Jerry Heck has been paying close attention to the environmental concerns of Lake Erie. Heck participated in a conservation tour on the Maumee River three or four years ago, he said. He also worked with a group of Michigan, Indiana and Ohio farmers to develop a book of recommendations for reducing nutrient loading from farm land in the Lake Erie basin.

The Maumee River is the largest tributary to Lake Erie and drains 4.2 million acres of agricultural land including portions of Indiana, Michigan and Ohio. Water in the western basin of Lake Erie is replenished fairly frequently due to its shallow depth and the inflow of water from the other Great Lakes, said Reutter. If phosphorus loads to the lake can be reduced, water quality will improve quickly.

Even with this background, Heck learned new information on the trip to the Stone Laboratory. For example, Reutter told the group that nitrogen also plays a role in the current algae problem. While phosphorus helps create the algae blooms, the presence of nitrogen causes the blue green algae to produce the microcystin toxin that makes the water unsafe. Reutter also told the group that 50 percent of the phosphorus entering the lake from agricultural land comes from field tile. The conventional wisdom has been that phosphorus run off



*Dr. Jeffrey Reutter, director of Ohio State University's Stone Laboratory on Lake Erie, presents research on Lake Erie water quality to Monroe County farmers.*

is attached to sediment while nitrogen leaves fields with water. Heck came away from the tour with a feeling that more research is still needed.

"Even though we've been studying Lake Erie for 40 years, there's a lot we still don't understand," said Heck. "We can't blindly make rules and regulations without research. The more I hear and learn, the more information I want. There's so much unknown out there."

Heck farms 700 acres of corn, soybeans and wheat and his fields drains go directly to Lake Erie. He has installed filters strips, practices no-till on most of his land and recently installed water control structures on his field tile outlets. Heck also does soil testing and uses variable rate application to reduce his use of fertilizers and lime.

While the algae blooms on western Lake Erie are a serious concern, the lake was in much worse condition in the 1970s. The Monroe County farmers went out on research vessels from Stone Laboratory to see a demonstration of water quality sampling. Samples taken from the bottom contained mayfly nymphs. When environmental conditions were at their worst, no mayflies lived in the lakes the group was told. The researchers also found yellow perch and walleye. Of course the samples results were not all good. The nets also contained invasive fish species like the round goby and water samples contained plenty of algae.

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## Landowners Provide a SAFE Place for Native Pollinators

Paul and Becky Rogers are enjoying much more than the flowers after converting 14 acres of their land in Kent County to native pollinator habitat through the USDA Conservation Reserve Program.

Both the Rogerses enjoy wildlife and Paul also enjoys deer hunting. When the USDA Farm Service Agency announced its State Acres for Wildlife Enhancement (SAFE) initiative in 2007 they were immediately interested. Seven years later, the two fields they planted with native flowers and grasses support not only native pollinators but also a variety of song birds and other wildlife, including deer.

“We’re very proud of it, we’re happy with the way it came out,” said Paul Rogers.

The SAFE initiative in Michigan offers two components, one is diverse grassland habitat and the other is native pollinator habitat. Each component is offered in designated portions of the state. The native pollinator component is targeted to the two tiers of counties along Lake Michigan in the Lower Peninsula. The native pollinator habitat component is intended to support native pollinators who supplement fruit and vegetable crop pollination usually provided by commercial honeybees. The practice is a good

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Becky and Paul Rogers stand in a native pollinator planting on their farm near Kent City.

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## Partnership Provide Learning Opportunity for WLEB Farmers

Amy Gilhouse, working with local conservation districts and county chapters of the Michigan Farm Bureau, coordinated several educational tours for Michigan farmers in 2014.

The tours were financially supported by the National Fish and Wildlife Foundation and Michigan Farm Bureau. A large algae bloom in 2011 prompted renewed interest in water quality issues in the Western Lake Erie Basin. Conservation groups in Ohio began conducting educational workshops on Lake Erie and the Maumee River the same year.

Gilhouse, who works as a technician for the Michigan Agriculture Environmental Assurance Program attended one of these events and was determined to offer similar workshops for Michigan farmers.

During 2014, two groups visited the Stone Laboratory on Lake Erie and a third group toured the Maumee River. Events were also held for farmers to visit the Lake Erie Center research facility in Toledo and attend a MAEAP Water Quality Tall Ship workshop on the Saginaw Bay.

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### Native Pollinator Habitat

fit for the Rogers farm near Kent City.

“We’re not very far at all from the Fruit Ridge,” said Rogers.

Landowners who participate in the SAFE native pollinator initiative receive at least 90 percent of the cost of converting cropland to pollinator habitat as well as rental payments for at least 10 years. Since 2007, Michigan farmers have converted about 1,700 acres of cropland to pollinator habitat through the SAFE initiative.

Although CRP is administered by FSA, NRCS provides technical assistance to program participants for installing or managing CRP practices. Rogers used a no-till drill he rented from the Ionia Conservation District to plant a pollinator seed mix he also obtained from the district. He planted in the spring on fields that were previously planted to soybeans.

“After the third year we started seeing some really good results. I knew how long it would take, I know how the progression works,” said Rogers.

Rogers works for the Michigan Department of Natural Resources as a forest fire officer out of the department’s Plainwell Unit serving the southwest part of Michigan. Becky runs the family’s fourth-generation hardware store in Sparta.

Part of Rogers’s job with the DNR is assisting with controlled burns on Michigan state forest land. The Kent City – Tyrone Township Fire Department conducted a controlled burn on Rogers SAFE acres for training purposes three years after it was planted. The burns were helpful in controlling weeds and aspen trees, said Rogers. There were noticeably more wild flowers after the burns were conducted, he said.

The Rogers SAFE acres bloom from mid-June until the first hard frost. In 2011, a graduate student from the Michigan State University Department of Entomology did a survey of the

Rogers pollinator habitat along with several other SAFE pollinator plantings in Michigan. The researcher identified 53 wild bee species on the SAFE plantings from 18 different genera. Not surprisingly, the study found a much greater abundance and variety of wild bees in the pollinator habitat plantings than in surrounding crop fields.

The researcher captured 99 bees on the Rogerses’ land, 40 percent of which were native wild bees. Leafcutter bees and sweat bees were the most abundant native bees. A large number of honeybees were also found and in much greater abundance than in surrounding fields.

The SAFE acres provide excellent wildlife viewing opportunities for the Rogers. The tall grasses hold back the winter snow and provide shelter for wildlife, said Rogers. Establishing pollinator habitat is a win-win providing excellent wildlife habitat and an abundance of native and non-native pollinators that benefit Michigan fruit and vegetable agriculture.

#### Pollinator Habitat Resources

In addition to the SAFE native pollinators initiative, there are other USDA programs that offer financial assistance for creating habitat for native pollinators and honeybees.



NRCS has financial assistance available through its Environmental Quality Incentives Program for establishing honeybee forage on agricultural land. Flowering plants that provide forage for pollinators can also be established through EQIP practices such as field borders, conservation cover and pasture management among others.

FSA now offers incentives for participants in the Conservation Reserve Program to increase flowering plant diversity on land enrolled in the program.

## Students on Path to Conservation Careers



During the summer of 2014 NRCS Pathways students worked at field offices throughout Michigan they included: (clockwise from top left) Sierra Ayers - Bellaire, Jason DeMoss - Big Rapids, Dan DeVos - Grand Rapids, Jason Hayes - Reed City, Catherine Janiczak - Caro, Tiffari Jenkins - Jonesville, Dennis Maxwell - Sault Ste. Marie.

This summer ten college students, including six returnees, worked alongside NRCS field staff as participants in the USDA Pathways Program.

The federal internship program offers an opportunity for students to learn about federal careers. Students who successfully complete the Pathways Program and earn their degrees can be converted to a permanent position with NRCS.

NRCS-Michigan wishes all of our Pathways interns the best of luck as they return to school or begin their conservation careers. Here are some of their impressions from working for NRCS in Michigan:

*During my training, I have learned how to garden in a high tunnel, take a proper soil test, construct a grazing plan, manage invasive plant species, understand the economic portion behind the completion of projects, survey practice plans, and so much more!*

Sierra Ayers - Fort Valley State University, Agricultural Economics

*Being a part of the Pathways program in Michigan is extra rewarding, being from California, because it allows me to gain a different perspective on how topics such as agriculture or wildlife protection are done in this area.*

Jason DeMoss - California Polytechnic State University, Soil Science

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To learn about employment opportunities with NRCS, including student opportunities, visit the [My NRCS Career Web page](#).

## PMC Hosts MSU Extension Soil Health Workshop

Afternoon showers did not dampen a Soil Health Workshop presented by Michigan State University Extension at the Rose Lake Plant Materials Center.

The July 15 workshop was attended by 51 conservation professionals including 38 NRCS employees. NRCS Plant Materials staff assisted MSUE staff in presenting a variety of information on soil health.

Included in the training was a demonstration of rainfall simulator, presented by Paul Gross of MSUE. The simulator allowed attendees to compare runoff from fields with different soil conditions. Some other topics included an overview of soil health test kits being developed by MSUE and a soil pit demonstration.

The workshop will assist conservationists in promoting soil health principles to landowners.



MSU Extension Educator Christina Curell demonstrates soil characteristics to NRCS District Conservationist Bruce Van Den Bosch (far left) and Earth Team Volunteer Tom Topham.

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## 2014 NRCS Pathways Students

*My first summer with NRCS has given me experiences I will never forget and could not be recreated in a classroom.*

Dan DeVos - Grand Valley State, Environmental Science

*During my two summers working for NRCS in Michigan I have had the opportunity to see a broad range of resource concerns along with programs and practices to address those issues. Coming from Oregon I didn't know what to expect but it has turned out to be an ideal learning experience.*

Jason Hayes - Oregon State University, Soil Resource Management

*This program has helped me understand more of the classwork that we do at my university and how it applies to real world application. I definitely feel more prepared for the duties I will be responsible for when I transition to a full time employee of the NRCS.*

Catherine Janiczak - Bowling Green State University, Graduate Student

*During this experience, I have learned a lot and I would encourage any student of "The Sciences," whose interest lies in encouraging safe and productive uses and conservation of natural resources, to seek employment with the NRCS.*

Tiffari Jenkins - Alcorn State University, Agronomy Graduate Student

*My summer in Sault Ste Marie in Michigan's eastern upper peninsula was chalk full of long days in the field as well as many rainy days hunkering down in the field office. I was trained how to visit Wetland Restoration sites and inspect the site for compliance or reasonable uses. When you do this, you should have an iPhone because paper maps don't exist unless you print them in the office, and finding a pond in a hayfield could benefit from visual references.*

Dennis Maxwell - Michigan State University, post-graduate student

## NRCS-Michigan Staffing Update

### New Hires:

Wilma Bird, SC, Ann Arbor, hired Aug. 10  
Jeff Long, SCT, Ann Arbor, hired Aug. 10  
Zachary Smith, SCT, Adrian, hired Aug. 10

### Departures:

Donald Buchanan, SCT, Stanton, resigned June 13  
Bruce Miles, BO, State Office, transferred to RD, June 29  
Cornelius Smith, HRS, State Office, transferred to Veterans Administration June 29  
Kelly Schmiermund, SC, Centreville, transferred to NRCS Maine June 29  
Gale Nobes, SCT, Fremont, retired July 11  
John Leif, PMC Mgr., East Lansing, resigned July 25  
Amelia James Stevens, Management Analyst, Marquette Area Office, retired Aug. 9

## SWCS to Host Northwoods Tour

The Michigan Soil and Water Conservation Society is hosting a Northwoods Fall Tour on Sept. 20.

The tour will feature stops at the Little Traverse Bay Band of Odawa Indians tribal fish hatchery and Coveyou Scenic Farms.

The tour begins at 10 a.m. at the LTBB fish hatchery in Pellston. Tribal hatchery manager and biologist Doug Larson will lead a tour of the facility. Following the tour, attendees will travel to downtown Petoskey for lunch.

The afternoon session will be held at Coveyou Scenic Farm south of Petoskey. Coveyou has been operated by the same family since 1874. The farm sells a variety of fruits and vegetables both retail and through a community supported agriculture system where members pay a fixed price for seasonal produce throughout the growing season. Coveyou also sells a variety of food products such as mustards, jams and syrups. The farm also recently became organic certified.

For more information about the tour visit the [Michigan SWCS website](#).



## NRCS is Ready for School

Educators teaching conservation-related subjects can find valuable resources through NRCS.

NRCS has a number of publications, including posters, informational booklets and activity guides for teaching a variety of conservation subjects. Some materials can be ordered online and others can be downloaded from the [NRCS website](#).

Examples of available materials include posters demonstrating the water cycle

and promoting pollinators. Downloadable publications are available on topics including clean water, soils and watersheds.



Activities and lesson plans are also available on topics like backyard conservation and hands-on soil investigations.

The NRCS website also includes useful links for educators like the USDA Plants Database, soil education resources, the USDA Web Soil Survey and more.

## Conservation Notes - July/August

### Upcoming Events - Upcoming Events - Upcoming Events

#### September

- 5 Agricultural Energy Efficiency Field Day, 10 a.m., Cook's Dairy Farm - Pewamo, RSVP by Sept. 2, contact the Ionia Conservation District at 616/527-2620 ext. 113 for more information
- 5 Soil and Water Conservation Society Highway Clean-Up, noon, meet at NRCS state office - East Lansing
- 6 Breakfast on the Farm, 9 a.m. to 1 p.m., Uphaus Farms - Washtenaw County, for more information go to [breakfastonthefarm.com](http://breakfastonthefarm.com)
- 10 Used Oil Collection, 9 a.m. to 3 p.m., Burnips Equipment Company - Hudson, contact the Lenawee Conservation District for more information 517/263-7400 ext. 3
- 11 Clean Sweep Collection, for disposal of unwanted pesticides, call the Ionia Conservation District at 616/527-2620 ext. 113 for more information
- 17 Montcalm Conservation District 14th Annual Education Tour, 9 a.m. to 4 p.m., tour leaves from St. Bernadette of Lourdes Catholic Church - Stanton, registration deadline is Sept. 12, call the Montcalm CD for more information at 989/831-4606
- 20 Michigan Soil and Water Conservation Society Northwoods Fall Tour, for more information go to the [Michigan SWCS website](#)

#### September ctd.

- 27 Gardening Workshop "What on Earth am I Doing," 8 a.m. to noon, 963 S. Raisinville Road, Monroe, registration deadline Sept. 12, contact the Monore Conservation District at 734/241-7755 ext. 101 or the Lenawee Conservation District at 517/263-7400 ext. 101 for more information.

#### October

- 9 Osceola County Soil Health Summer Series - Cover Crops, 6 p.m. to 8 p.m., Michele & Chad Nicklas, 16134 Schofield Rd. - Hersey, for more information contact the Osceola-Lake Conservation District at 231/832-2950
- 17-19 Black Farmers & Urban Growers Conference, Western International High School - Detroit, for more information go to [www.blackurbangrowers.org](http://www.blackurbangrowers.org)
- 21 Osceola County Soil Health Summer Series - Cover Crops, 4:30 p.m. to 6:30 p.m., Norman's Vegetable Farms - Tustin. for more information contact the Osceola-Lake Conservation District at 231/832-2950

#### November

- 3-4 Fifth Annual Northern Great Lakes Invasive Species Conference - The Dry, the Wet and the Ugly, Northern Michigan University - Marquette, Early registration deadline is Oct. 28, contact Dan Watt for more information and a complete conference agenda at: [daniel.watt@uprcd.org](mailto:daniel.watt@uprcd.org).

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