Helping People Help the Land
Conservation Notes
USDA - Natural Resources Conservation Service - **Michigan**
May/June 2019

Cass City Team Tops 2019 Michigan Envirothon

The Phightin' Phragmites, a group of students from Cass City, received top honors this year at the Michigan Envirothon State Competition held May 13th - 15th in Augusta. The team of five put their skills of environmental science, public speaking and civic engagement to the test finishing first among teams from across Michigan.

Phightin' Phragmites team members include: Addy Battel, Pearl Daskam, Cody McArthur, Kirstin Mika and Tabbytha Sanchez. Caro High School's Soular Train, and H2Woah finished second and third respectively.

Michigan Envirothon focuses on using the outdoors as a classroom, utilizing diverse "eco-stations" as competition testing sites. The 25th annual Michigan Envirothon State Competition hosted remarkable students from around the state. During the competition teams travel to five "eco-stations" for hands-on testing in the areas of agriculture, aquatic ecology, energy, forestry, soils and wildlife. This year's eco-stations featured diverse wetland, prairie and local forest habitats. Teams qualify for the State Competition by participating in regional contests held throughout the month of March.

In addition to gaining valuable knowledge throughout the year, teams also complete a Community Outreach Project as part of the competition; identifying and addressing an environmental issue in their community through hands-on problem solving and community education. A unique component of ME, the community outreach project ensures that the program reaches the community, not just the students involved.

Members of the Phight'n Phragmites team from Cass City finished first at the 2019 Michigan Envirothon State Competition.

- photo provided by MACD

A panel of judges evaluates oral and written presentations detailing each team's community outreach project. This year the Phightin' Phragmites focused on environmental literacy. The team partnered with the Tuscola Conservation District, the Village of Cass City, Saginaw Basin Land Conservancy, and Rotary Club of Cass City to create and promote maintained nature trails with educational signage and interactive activities.

"There are no opportunities to explore the outdoors in an educational way within the village. Families

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State Conservationist's Message

Wet and cold conditions during the spring planting season has left farmers in Michigan and much of the Midwest far behind schedule and facing severe challenges. The USDA National Agricultural Statistics Service reports this year as the slowest planting season since 1992. By the end of May, much of the southern half of Michigan had received 125 percent of its normal percentage of precipitation, along with parts of northern Michigan and much of the Upper Peninsula.

For Michigan corn and soybean farmers, we offered financial assistance for planting summer cover crops to prevent erosion and to protect water and soil quality. The effort took a lot of coordination between USDA agencies and agricultural organizations to come to fruition. With a shortening growing window, NRCS staff were able to create an expedited sign-up process to provide cover crop assistance as quickly as possible.

Another local feature of the cover crop sign-up was the addition of corn as a cover crop species. There were two factors in making this choice, a shortage of cover crop seed, and concern about a possible shortage of livestock forage. Applicants for the cover crop initiative were given the option of planting a cover crop mixture that included corn or planting corn at a higher planting rate. Farmers who select corn, soybeans or small grains as a cover crop are not permitted to harvest them as grain, although they can be used for grazing or harvested as forage such as silage. With the additional funding provided at the national level, and Michigan's remaining 2019 allocated funds, about 100,000 acres of unplanted land can be protected with cover crops.

State Conservationist Garry Lee

Farmers who have not planted crops due to wet conditions have a number of challenges and decisions to make. The USDA, the Michigan Department of Agriculture and Rural Development and other organizations have informational resources online to assist farmers.

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This field was able to be planted but still has ponding. Ponding can be caused by soil compaction resulting from tillage and repeated passes with heavy equipment.

This unusually wet spring has highlighted the benefits of soil quality conservation practices such as conservation tillage and cover crops. Long-term no-tillers report being able to work their fields while their neighbors still had standing water. Fields with higher organic matter can absorb more water and have better soil structure, allowing water to move through the soil instead of ponding on the surface.

Resources for Delayed Planting & Cover Crops

USDA Guidance at Farmers.Gov

MDARD: Farmers: Crop Disaster Resources

MSU Extension: Delayed Planting Resources

Midwest Cover Crops Council: Cover Crop Considerations for Prevented Planting

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Cass City Team Tops 2019 Michigan Envirothon

who already hunt, fish, camp or otherwise spend time outdoors may have these opportunities, but other families who are less eager to go off the beaten path alone do not," team members explained. The students will continue to implement their project, creating opportunities for students and families in their community to explore and enjoy their local environment.

The state champs will represent Michigan July 28 - August 2, 2019 at the NCF Envirothon in Raleigh, North Carolina where they will battle it out against other top teams from the U.S, Canada and China.

Michigan Envirothon is an environmental science-based education program for high school students, presented in a team-based competition format. High school students from anywhere in Michigan are eligible to compete. Envirothon is designed to foster critical thinking, wise stewardship and community involvement. By participating, students and advisors gain knowledge of the core subject areas, current environmental issues and are motivated to become engaged stewards of Michigan's natural resources.

Envirothon is a combined effort of natural resource professionals and educators to provide hands-on, outdoor education and gives young citizens the tools to provide leadership for a more sustainable and aware community.

Adults and students interested in participating in Michigan Envirothon should visit www.michiganenvirothon.org or contact Angie Sandusky at MiEnvirothon@macd.org for more information. Michigan Envirothon is an educational program administered by the Michigan Association of Conservation Districts, a 501(C)3 non-profit organization.

Participants at the Michigan Envirothon State Competition held May 13 to 15 in Augusta (above). Participants competed in an outdoor, hands-on event that included activities testing their knowledge of wildlife (below), forestry (bottom) and other environmental topics.

- photos provided by MACD

Couple Gives up City for Farming

by Katie Hafner, Clinton Conservation District

Everyone waits for the time in their life when they can relax, take vacations, sun tan, and sleep in every day. Most people cannot wait for the day they can spend time slowing down. John Maahs and Edythe Hulbert had a different plan in mind. After moving from the city, John and his wife Edythe bought 80 acres in rural Dewitt naming it Three Ponds Farm.

Together they raise sheep, dairy and meat goats, pigs, and poultry. They also grow a large garden, pick fruit, tend beehives and pollinator habitat, make cheese, manage forest, and work 65 acres of pasture and hay. They sell their eggs locally to different restaurants and stores wholesale as well as retail at the farm. Whether they are collecting dozens of eggs from the free-range chickens and ducks, kidding newborn and lambs, they enjoy the daily chaos. Each day on Three Ponds Farm is filled with life and adventure.

Before they bought the farm, John worked as a builder in the city. Edythe worked in the medical field. Together they made the decision to move onto the farm to spread out, enjoy their hobbies, live off the land, and be in nature. Today they have been on Three Ponds Farm for 30 years, growing food for themselves and their community.

As they both share a great love for the land, they were drawn into the local conservation district office through the Michigan Agriculture Environmental Assurance Program, or MAEAP. Creating a sustainable farm is important to them. It's something they say everyone should be doing anyway.

Since they first came into the conservation district, they have been working with the local NRCS office to improve the farm through the Environmental Quality Incentives Program. They started a Comprehensive Nutrient Management Plan written to better manage their growing operation. This plan gives a complete inventory of the farm, including needs, goals, and conservation concerns. They used their CNMP as a starting place and applied for the EQIP program to put some conservation practices into action.

One of the first projects completed was nine acres of pollinator habitat specially designed for bees. Although it took a few years to establish, this year they completed their first prescribed burn to help maintain the habitat naturally. This is a healthy

Goats graze on the Hulbert farm near De Witt in Clinton County (above left). Maahs bailing hay on Three Ponds Farm (above right).

grassland management practice that encourages and accelerates the growth of wildflowers.

Currently, Three Ponds Farm has many projects to fulfill their goals through EQIP. Gutters were added to all buildings around the farmstead and were then tied into a tile that removed water off the animal lots, walkways, and driveways. This keeps the farm cleaner and the rainwater leaving the farm and into the ditches and ponds clearer. A waste storage facility is going up on the farmstead to better manage the manure from the animals. Not surprisingly, John chose to be his own builder with this project.

Owning and operating a farm with no hired help warrants many skills. John and Edythe excel at plumbing, electrical, mechanical, and animal husbandry skills, something every small farm needs. A jack-of-all-trades skill set is something that has helped Three Ponds Farm thrive in their everyday adventure.

John and Edythe are truly living a homesteading lifestyle, all while making it look easy. Last year they had solar panels installed on their barns that reduced their energy use by 80 percent, even furthering their love for a sustainable farm. They work from dawn until dusk seven days a week tending to their animals. It is apparent that they have found their calling and continue to have a positive impact on their community.

Natural History Documents Loss of Plant Species in Kalamazoo County

Plants Disappear, Some Re-emerge, as Prairie Habitat Lost and Restored

by Meredith Zettlemoyer, Earth Team Volunteer

The adder's fork fern. Winged loosestrife. Nodding lady's tresses. They sound like the witch's list from 'Macbeth', but these are just three of the many native plant species that disappeared from Kalamazoo County. We know what plant species once called the county home back in the late 1800s- 1940s because of the work done by Clarence and Florence Hanes, two local botanists occupying themselves during the Great Depression by adding to the natural history of Kalamazoo County. This work, which began as a way to curtail stress and distract themselves from financial losses, expanded into a permanent collection of botanical specimens and field notes that would one day be the first Flora of Kalamazoo County.

Compassplant (above left) and eastern purple coneflower are two plants that disappeared from Kalamazoo County as prairie habitats were lost.

- photos by Jeff McMillian, hosted by USDA Plants Database

Meredith Zettlemoyer, a graduate student at Michigan State University's W.K. Kellogg Biological Station, is using these historical records along with another survey done nearly a century later by Dr. Duane McKenna, then an undergraduate at Western Michigan University. They, in collaboration with Dr. Jen Lau, are examining what species have disappeared locally (i.e. became locally extinct, even if they persist elsewhere).

After pouring through this treasure trove of specimens and field notes, Zettlemoyer realized that Kalamazoo had lost 12 percent of its local flora (43 species of its original 1,200 recorded). She was curious whether species characteristics, such as rarity or a species' affinity for a particular habitat, or relatedness (or a common ancestry) explained those local species losses.

Zettlemoyer found that rare, specialist species occupying threatened prairie habitat were most vulnerable to loss. She also found that species at the edge of their native range and plants that are vines or forbs tend to have higher extinction rates. Zettlemoyer detected no evidence that more closely related species are more or less likely to go extinct than less closely related species. This is likely due to the disproportionate amount of prairie habitat lost during the 19th and 20th centuries as natural grasslands were converted for agriculture and development – in fact, Kalamazoo County now supports only 1 percent of the prairie it historically had.

Zettlemoyer describes this project as being an historian. These historical datasets and herbaria are extremely valuable in understanding and potentially predicting biodiversity loss as well as guiding conservation of rare species. For example, some of these species have been successfully reintroduced into local restored prairies, and it remains to be seen whether restorations can reverse the declines of these taxa. In a study of 29 restored prairies near Kalamazoo, eight locally extinct species were included in seed mixes and three of the eight (Silphium laciniatum, S. terebinthinaceum, and Echinacea purpurea) were able to establish in a few sites. Given the vulnerability of our native prairie species to local extinction, restoration may be one mechanism to prevent further losses.

NRCS Earth Team

There are many ways to contribute as a member of the NRCS Earth Team volunteer program.

Meredith Zettlemoyer is contributing by sharing her research expertise as a graduate student at Michigan State University. Writing, photography, creating videos, and helping with events, are among the many ways to support conservation through the Earth Team program.

A French Connection to Michigan's Forests

by Bill Cook, MSU Extension

The forests of France and Michigan have some commonalities. The mixed farm and forest rolling hills throughout much of France could easily make a resident of the Lake States feel quite at home.

The forest was dominated by towering white oaks, over a next generation of maples and beech. The 45-acre stand that I was exploring was surrounded by fields and pastures. A multitude of birds were sounding their claims on territory and preferences for mates. This describes some of the forests of Michigan.

One of the larger white oaks in a privately-owned French woodland (above left). White oak trees with over 50 feet of clear stem.
- photos by Bill Cook, MSU Extension

However, I was in central France, near Tours. And, I was walking through a woodland granted by Louis XIV to one of his mistresses in the 1660s. That's also when the French Voyageurs were plying their way through the Great Lakes.

On the larger 250-acre estate, I resided in a renovated carriage house, next to a small chateau. The buildings dated back to the 1700s. Several massive Cedars of Lebanon graced the landscape.

The current owner, a spry man in his late 80s named Guy, thought the oaks were planted about 200 years ago. Maybe, I thought. Some of them were over 30 inches in diameter and at least 50 feet to the first branch. Monsters.

Like many Michigan forests, this French woodland had not been managed for a long time, if ever. My first thought was the need to reduce the stand density and canopy cover. More light was needed to encourage oaks, for which I would choose to manage. There were many oak seedlings, but no oak saplings.

Could deer browsing be an issue here? Possibly. There were well-established deer paths crisscrossing the woodland. Guy told me there were about 18-20 resident deer. Annually, two or three were harvested, but he would not shoot them. The network of numbered deer stands suggested a management group of some sort.

I was itching to have a paint can in-hand, and mark the poorer quality trees, as well as some of the very mature oaks. I would hope that some of those ubiquitous oak seedlings might grow into saplings.

Alternatively, perhaps, I might remove 30-40 percent of the canopy in a shelterwood harvest, hoping for the same oak sapling result.

I could see that maple, hornbeam, and beech would be stiff site competitors, possibly some horse-chestnut, too. Holly and butcher's-broom might be shrub contenders as well. Growing oaks can sometimes be a challenge.

Guy casually invited me back for the summer to manage his woodlands, allowing me full use of the house. A tempting offer, but I don't speak French, have no knowledge about the markets, and am unfamiliar with logging contractors and procedures. I was reminded of my two summers working and studying in the Black Forest of Germany. Guy's offer was, indeed, tempting but, alas, not practical for me.

Driving through the large public forest near Orleans, I felt very much at home. The forests appeared to be well-managed. Log decks and firewood piles were common sights. Public trailheads were along the roads. Signage and maps were posted.

France is largely a deforested country, with only about 28 percent of the landscape remaining in forest, most of that privately-owned. That compares with 53 percent of Michigan under forest, with about 62 percent privately-owned.

Many European forestowners trend towards the precepts of the "Pro-Silva" organization regarding all-aged forest management, trying to better emulate natural processes. The Germans call it "Dauerwald",

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NRCS, UC Davis Announce Release of SoilWeb App Update

NRCS and the University of California at Davis Soil Resource Laboratory announced the release of the iOS and Android SoilWeb app, version 2.0. The newly updated SoilWeb smartphone application is available as a free download on Google Play and Apple App Store.

The app now has a cleaner and more modern interface with GPS-location-based links to access detailed digital soil survey data published by the NRCS for most of the United States. The SoilWeb app provides users with information relating to soil types that are associated with their location. The images are then linked to information about the different types of soil profiles, soil taxonomy, land classification, hydraulic and erosion ratings and soil suitability ratings. Identifying soil types is important to understanding land for agricultural production purposes and determining flooding frequencies and suitable locations for roads or septic tanks.

The app gives access to valuable scientific data through modern technology. All the soil information in SoilWeb was collected from the National Cooperative Soil Survey, organized by the NRCS, and accesses soil survey information the agency has been collecting since the 1890s. The resulting database, the largest such in the world, makes it possible for soil scientists to generate specialized maps using computer-aided techniques.

The original SoilWeb app was a popular download, but by 2017 was no longer in compliance with requirements set by Apple and Google. The app is a product of a 14-year partnership between NRCS and UC Davis College of Land, Air and Water Resources.

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A French Connection to Michigan's Forests

the British "continuous cover", and the French "irregular silviculture". We call it "selection silviculture", which comes in different forms.

I remember several years ago, I helped show a pair of French foresters how we manage Northern Hardwoods in Michigan. However, I think they were more intrigued by the pasties, home-baked apple turnovers, and local red wine that I had arranged to be delivered in the woods for lunch!

A year later, one of the foresters sent me a draft book to review about "futaie irrégulière". That project was quite interesting. I still have the draft book and thought about it as I strolled through Guy's and Christiane's woodland.

France is about the combined size of Michigan, Wisconsin, and Minnesota. The Lake States have about 53 million forest acres. France has about 45 million acres.

About 200 years ago, France had much more forest than today, as did the Lake States. The French forests took a heavy hit after the Revolution in 1789. Many of the forests owned by the deposed (and beheaded) aristocrats were converted to farms and pastures.

Our regional forest took a heavy hit in the late 1800s and early 1900s, for different reasons. However, farming across much of that landscape failed and forests grew back. This trend continues today, although at a declining rate.

Prior to the Revolution, forest area across France, and most of Europe, ebbed and flowed. During the 1300s and 1400s, the Plague and the famines during the Little Ice Age allowed much of the European forest to grow back. There was a huge decline in the human population.

Michael Williams wrote an intriguing book about "Deforesting the Earth." He describes much of the forest history in different regions of the world. He wrote a similar text for the USA titled "Americans and Their Forests". Both are insightful and detailed reads. Just like learning another language helps one better understand English, learning about other forests helps one better understand our own forests. Human activity has had a powerful influence on forests. In many ways, the future forests are also in our hands.

This article was published by Michigan State University Extension. For more information, visit www.msue.msu.edu.

Upcoming Events - Upcoming Events - Upcoming Events - Upcoming Events

July

13 Adopt-a-Highway Clean-Up, 9:30 a.m. to 1:30 p.m., meet at Kalkaska Conservation District Office - Kalkaska, for more information contact the Kalkaska Conservation District at 231/258-3307 or go to kalkaskaconservation.org

20 Squash Bee Pollinator Citizen Scientist Workshop, 8 a.m. to noon, Delta County MSU Extension Office - Escanaba, for more information go to www.canr.msu.edu

23 Conservation Series: Intro to Permaculture, 1 to 2:30 p.m. at Cass County Council on Aging - Cassopolis, same program 6 - 7:30 p.m. at Porter Township Hall - Union, for more information and to RSVP call 269/445-8641 ext. 5

25 Soil Health Field Day, 10 a.m. to 3:30 p.m., Iott Seed Potato Farm - Kalkaska, for more information go to kalkaskaconservation.org

26 MSU Agriculture Innovation Day, 8:30 a.m. to 5 p.m., MSU Farms - Lansing, for more information go to www.canr.msu.edu

August

7 Public Water Screening for Nitrates, 9:30 a.m. to 4:30 p.m., Manistee Conservation District - Bear Lake, for more information call 231/889-9666

8 Public Water Screening for Nitrates, 9 a.m. to 4 p.m., MSU Extension Office - Baldwin, for more information call 231/745-2732

9 Public Water Screening for Nitrates, 8 a.m. to 4:30 p.m., Mason-Lake Conservation District - Scottville, for more information call 231/757-3707 x 5

August ctd.

13-14 Agro Expo, 8:30 a.m. to 4 p.m., St. Johns, for more information go to www.theagroexpo.com

14 Center for Excellence Field Day, 8:30 a.m. to 3 p.m., Bakerlads Farm - Clayton, for more information call 517/263-7400 or go to www.lenaweeconservationdistrict.org

17 Household Hazardous Waste Collection Day, 9 a.m. to 1 p.m., Mason County Road Commission - Scottville

22 Nutrient Management Field Day, 8:30 a.m., Stoney Ridge Farms - Waldron, for more information go to www.hillsdalecd.org

27 Make Dollars and Sense: Cover Crop Field Day, 1 p.m. to 6 p.m., Orr Farms - Charlotte, for more information contact the Eaton Conservation District at 517/543-1512 or sue.spagnuolo@macd.org

27 Conservation Series: Worm Bin Composting, 1 to 2:30 p.m. at Cass County Council on Aging - Cassopolis, same program 6 - 7:30 p.m. at Village of Cassopolis Hall - Cassopolis, for more information and to RSVP call 269/445-8641 ext. 5

29 Ag Pesticide Jug Recycling, 11 a.m. to 1 p.m., Acres Co-op - Scottville

September

5 MAEAP Field Day: Managing for Forestry Health and Profit, 4 to 7 p.m., Crane Pond DNR Office - Jones, for more information and to RSVP call 269/445-8641 ext. 5

5 Save the Date: Mason-Lake Conservation District Farm Tour, time & location TBD