

Conservation Notes

USDA - Natural Resources Conservation Service - Michigan



Summer 2012

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NRCS, GTB Partner for Fish Habitat Improvements



The Brown Road Dam (above) is slated for removal later this year. A partnership of conservation organizations is working so that land behind the dam will be maintained properly.

Treaties between Michigan's American Indian tribes and the federal government and an agreement with the state of Michigan guarantee hunting, fishing and harvesting rights to tribal members, but these rights are only valuable if our wildlife resources are protected.

Harvesting fish from lakes and rivers is an important cultural and recreational practice for many members of Michigan's American Indian tribes as well as a good source of nutrition. NRCS and the Grand Traverse Band of Ottawa and Chippewa Indians are working together to

protect this important resource.

D.J. Shook, a fish, wildlife and soil conservationist working for the Grand Traverse Band is working closely with NRCS and other local conservation organizations to improve stream fish habitat in northwest Michigan. An agreement between NRCS-Michigan and the Grand Traverse Band allows Shook to utilize NRCS resources, including office space in Traverse City, to work on conservation projects of mutual interest to both entities.

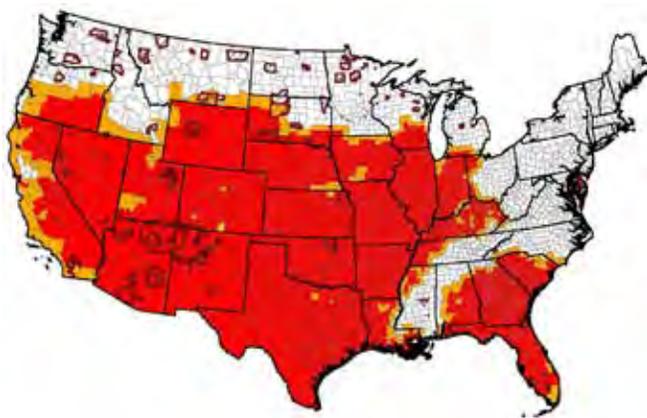
Much of Shook's work has
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Good Conservation Protects Against Extremes

The 2012 growing season has been a challenging one for farmers in Michigan and most of the rest of the country. In Michigan, it started with unseasonably warm March weather followed by hard frosts that devastated much of the tart cherry crop along with many other specialty crops. Michigan experienced its warmest July since at least 1955, according to the National Oceanic and Atmospheric Administration.



All Drought Disaster Incidents as of 8/15/2012

USDA FSA
USDA Farm Service Agency
Production, Emergencies and Compliance Division
Washington, D.C.
August 13, 2012

1/23/2012

Most of the country had a USDA drought designation by the middle of August. The extreme conditions demonstrated the importance of good conservation practices.

The hot weather made it seem otherwise, but the summer of 2012 was not a historically dry one. Statewide precipitation from April to July was below the historical average but higher than in some recent years, the years 2005 and 2007 had less precipitation during the same 4-month period. The heat and untimely rains did enough damage for the USDA to declare all of Michigan a drought disaster area.

As we were reminded again in 2011, the weather we experience each growing season is unpredictable, making sound conservation

decisions important. Practices like prescribed grazing and irrigation water management are always a good idea, and when conditions are extreme, they are critical to a producer's success.



NRCS Michigan State Conservationist Garry Lee

Improving soil health is another proven way to maintain productivity during extreme growing conditions. We know that increasing organic matter in the soil improves its ability to retain moisture and that residue management also helps fields hold moisture and also improve water infiltration.

There are many conservation practices and methods that can help offset extreme growing conditions, and researchers are looking for more. NRCS announced \$5 million in Conservation Innovation Grant funding for researchers to evaluate and demonstrate agricultural practices that help farmers and ranchers adapt to drought. Applications for these grants are due by Oct. 15.

Farmers must be prepared for all kinds of growing conditions and conservation must have an important role in that preparation.

For more information about CIG funding for evaluating and demonstrating conservation practices to alleviate drought, the [announcement is posted online](#).

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Partnership Works to Improve Fish Habitat

involved improving fish passages in the tribe's service area that includes Antrim, Benzie, Charlevoix, Grand Traverse, Leelanau and Manistee counties. NRCS funding is available to tribes for improving fish passages through the Environmental Quality Incentives Program. The practice is only available in Michigan to American Indian tribes because fish harvesting is considered a traditional part of tribal agriculture. Most fish passages are constructed at road stream crossings so the tribe often works in partnership with county road commissions on the projects.

So far, three fish passages were constructed in Leelanau County. A project is also underway in Benzie County to replace a road culvert with inadequate fish passage with a timber bridge. The fish passages must meet NRCS practice standards before funding is provided to the tribe. Much of Shook's work involves coordinating agreements between the tribe and county road commissions.

Other joint NRCS-tribal projects Shook is working on include finding a suitable site for a walleye rearing pond, the Brown Bridge Dam removal project on the Boardman River in Grand Traverse County and an invasive plant removal project funded through the Great Lakes Restoration Initiative.

A bottomlands working group was formed to restore and stabilize about 180 acres of land now submerged behind the Brown Bridge Dam. The dam is scheduled for removal in December with two other dam removals planned on the Boardman. Once it is removed, work is needed to stabilize the new channel and prevent sediment stored behind the dam from washing down stream, said Shook. The Grand Traverse Band, the Conservation Resource Alliance, the Grand Traverse Conservation District and NRCS are among the partnering organizations in the working group.

With GLRI funding from the Environmental Protection Agency, the Grand Traverse Band hired



The lined channel and timber bridge (above) replaced the culvert (below) that restricted fish passage on this stream in Grand Traverse County.



a crew of workers to combat invasive plants. Autumn olive, black locust and phragmites are among the plants the crew has been working to remove.

There is no shortage of conservation work to be done in northwest Michigan and the partnership between NRCS and the Grand Traverse Band will help both organizations make the best use of available resources.

Clinton County Lake Gets New Life

A project completed in late 2011 nearly doubled the size of Clinton County's Muskrat Lake. A partnership of conservation organizations, local governments and concerned citizens helped bring it about.

"Buy in was never the problem," said Gary Fritz, executive director of the Clinton Conservation District.

Fritz was literally handed the project shortly after coming to the conservation district in 2007. He was handed a thick binder with plans to raise the water level of the lake by Steve Law, then working for NRCS as the coordinator of the Timberland Resource Conservation and Development Council. Clinton County has very little recreational water so Fritz immediately supported the project.

"Enough effort had been made in the planning that he could see the benefit of it," said Law.

The state-owned lake was little more than a pond in 2007, said Fritz. A public boat launch on the lake did not even reach the water after the lake's water level was lowered about 30 years ago.

The idea to raise the lake level was developed by NRCS after an assessment of the Stony Creek

Watershed in 2002. The assessment found stream-bank erosion problems, holding back storm water was the best long-term solution to the problem, said Law. Muskrat Lake, located at the watershed's headwaters, was the best candidate for storm water detention. Since NRCS regulations do not allow program funding for a state-owned lake, the project was taken on by the Timberland RC&D.

Timberland RC&D produced an engineering assessment for elevating the water level of Muskrat Lake by 2 feet. The study called for raising the water level by elevating the dam where the lake empties into a county drain. Since Muskrat Lake is state owned, the conservation district had to get approval from the Michigan Department of Natural Resources as well as a permit from the Department of Environmental Quality.

A lot of compromising was involved in getting the project completed, including raising the lake 1.5 feet instead of 2 feet. Local support was important in getting the project approved which ended up being a four-year long process. At the urging of local residents, State Senator Alan Cropsy intervened with state agencies to push

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left: NRCS EQIP Program Manager Steve Law, Clinton CD Executive Director Gary Fritz, Clinton County Drain Commissioner Phil Hanses and NRCS State Hydrologist Tom Bourdon, at a May ribbon cutting celebrating the completion of the Muskrat Lake project. right: The Clinton County Drain Commissioner provided pontoon rides to those attending the event.

Two CIG Grants Awarded to MSU Researchers

Two proposals from Michigan State University will receive \$439,143 in funding from the NRCS Conservation Innovation Grant program. NRCS awarded \$26 million in CIG grants to entities across the nation for projects that test and prove innovative approaches to conservation.

An MSU project to build soil quality through the integration of low-impact tillage, cover crops and organic inputs received \$321,667 in CIG funding. Research from the project aims to develop and incorporate alternative management options for soil health in the NRCS Nutrient Management (590), Cover Crop (340), Waste Utilization (633),

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Residue Management (329A) and other relevant standards.

The other MSU project, to demonstrate a hybrid biodiesel/biogas energy production system, received a \$117,476 CIG grant. The project's goal is to show that, by maximizing efficiency of the overall production process, cost-competitiveness of biodiesel for on-farm uses can be ultimately achieved. This approach is innovative in the sense that it takes advantage of the synergy between biodiesel and biogas production to maximize the

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Residents Celebrate Re-Vitalized Muskrat Lake

the application along. Olive Township, where Muskrat Lake is located, offered to double the funding it initially committed for the project. The Clinton County Board of Commissioners and the Timberland RC&D also contributed funding. Permits were granted to raise the lake in July 2011 and the project was completed in December of the same year.

Raising the lake 1.5 feet nearly doubled the surface area of the lake that was previously about 54 acres. The state boat ramp now reaches the water and Clinton County Drain Commissioner staff launched a pontoon boat following a May ribbon cutting ceremony. Local supporters of the project who attended the ribbon cutting ceremony are hoping the project will revitalize Muskrat Lake. Some on hand remembered when there was a hotel and restaurant on the lake's shore. Joe Latoff, a member of an organization called Friends of the Maple River, talked about how fish from the lake fed American Indians and later a camp of homeless people during the Great Depression.

Clinton County Drain Commissioner Phil Hanses sees many benefits from the project. The raised lake will offer some runoff detention although it will not prevent all flooding from occurring downstream. It should also improve water qual-



The spillway connecting Muskrat Lake to the county drain was lowered 1.5 feet, nearly doubling the surface area of the lake.

ity by temporarily storing water and allowing sediments to settle out, Hanses said. The drain commissioner oversaw the construction phase of the project and will be responsible for maintenance of the dam.

With the lake level raised, fishermen and other recreational users of the lake can now easily launch boats. The increased size of the lake also provides wetland habitat for fish and other wildlife, said Fritz.

MSU Seeks Grassland Cooperators for Study

Michigan State University Department of Entomology scientists Rufus Isaacs and Doug Landis have received a U.S. Department of Agriculture grant to investigate the effects of grassland harvest on pollinator populations and are looking to team up with grassland owners/managers to assist with their efforts.

“Bioenergy crops have the potential to change the landscape in the Midwest and, subsequently, the habitat of the wildlife that depends on it,” Isaacs said. “This grant will provide us with the opportunity to investigate ways that biofuel crops – in this case, perennial grasses -- can best be managed to minimize adverse effects on insect pollinators.”

The study will compare pollinator communities in warm-season grasslands (primarily switchgrass or mixed prairie plantings containing Indiangrass, big bluestem and/or switchgrass) that are either unharvested, partially harvested (leaving a 10 percent refuge strip on one side) or completely harvested.

The research team is looking for sites in Michigan with three grassland fields about 2 to 4 miles apart where landowners/managers would allow partial to full cutting and hay removal in the fall of 2012 and 2013. Sampling in all sites would involve three visits (July, August and September of 2013 and 2014) to assess bee species and population levels. The team would like to work with local cooperators who would harvest the sites in return for the harvested forage.



Harvested switchgrass

- photo provided by MSU

“It will take a collaborative effort to be successful in this endeavor,” Landis said. “We can’t do this work without landowners who are willing to provide access to their fields so that we can do the pollinator sampling required to inform future policies and management practices. This project is part of our overall goal to use Michigan native plants to produce win-win situations for agriculture, communities and the environment.”

Study results will be used as the basis for harvesting guidelines on providing sustainable sources of biomass for bioenergy production while maintaining critical resources for pollinators in agricultural landscapes.

For more information, please contact Julia Perrone, (517) 432-5282 or perrone5@msu.edu.

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NRCS Awards Grants for Conservation Research

overall production efficiency of biofuels.

In addition to the two grants awarded to MSU, a multi-state project including Michigan, also received CIG funding. The Xerces Society received a \$997,815 CIG grant for a continuing pollinator conservation project in 14 states including Michigan. The project will develop expanded guidance for developing pollinator habitat and assess the

effectiveness of established pollinator habitat plantings.

In addition to the \$26 million in CIG grants awarded at the national level, NRCS-Michigan provides up to \$225,000 in CIG grants at the state level. The announcement of state-level CIG recipients will be announced before the end of September.

Many Options for Drainage Management

by Natalie Rector, Michigan State University Extension

In August, the Michigan Land Improvement Contractors Association and MSU Extension held a farm drainage and nutrient management field demonstration in Jonesville, Mich., near the Ohio and Indiana borders. Bruce and Jennifer Lewis hosted the event at their Pleasant View Dairy. Nearly 1,000 farmers and contactors came from all over the tri-state area and beyond.

In-field demonstrations included a sub-surface irrigation system, a wood chip bio-reactor, water control structures and land shaping. Educational sessions and demonstrations showcased new tillage equipment, cover crops and nutrient management.

The goal of the field day was to create awareness of options in both new technologies related to drainage systems and management practices that can be employed to reduce losses of nutrients to surface waters, improve yields and reduce the risks of uncertain weather events. Soil types, slopes and producer goals will determine which option will work best on any individual farm.

Four new drainage machines were on site installing a contour drainage and sub-irrigation system, while Dr. Richard Cooke from the University of Illinois guided the installation of a bio-reactor. Dr. Larry Brown of Ohio State University and Phil Algreen from Agri Drain demonstrated and explained how water control structures could be used for controlled drainage, and Nate Cook from AGPS demonstrated land shaping with GPS outfitted bulldozers. Larry Geohring from Cornell University came from New York to speak about proactive management practices to keep manure out of sub-surface drainage systems.

Bark bed bio-reactors remove nitrogen in drainage water before it is released to surface waters. Bio-reactors can be applied to existing systems and can be installed without losing land from production. Water control devices control the water level in the soil and ultimately create less outflow of water during the non-growing season



Tillage options were displayed at the field day to show one method of disrupting macro pores and reducing the risk of liquid manures reaching sub surface drains.

-photo by Natalie Rector, MSU Extension

and therefore, less loss of nutrients. True sub-irrigation manages the water table over the growing season, and additional water can be added through the sub surface tile system during dry periods and thus increase yields. A subsurface drainage system helps manage risk in this era of variable weather patterns.

Along with ensuring successful yields and timely field operations, the management practices displayed during the field tour also included the latest in tillage methods and tools such as vertical tillage, cover crops and their use in combination with manure applications. Tile drains are designed to drain water, and when manure is liquid enough, it acts like water. Shallow tillage operations prior to liquid manure applications can disrupt the macro-pores and cause manure to be absorbed and held in the soil rather than reaching subsurface drains while conserving surface crop residue. Tillage is one option that is readily available on most farms. Cover crops assist in absorbing, retaining and recycling manure and fertilizer nutrients. Bio-reactors and water control devices provide added protection of surface waters if crop nutrients do reach tile drains.

Field day participants got to see, listen and discuss the options available, and interact with resource people to determine what practices might be most applicable for their farming operation.

This article was published by MSU Extension. For more information, visit <http://www.msue.msu.edu>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).

Website Explores Wonderful World of Water

submitted by the Eaton Conservation District

The Michigan Water Stewardship website was named Site of the Month in April 2011 by the Great Lakes Information Network. The website takes an interactive approach to water education and includes both adult and youth-focused components. The website is run through the Eaton Conservation District and was made possible through a partnership with the Michigan Department of Agriculture and Rural Development. This program encourages individuals to take voluntary, proactive steps to protect Michigan's water quality, as well as protect other valuable natural resources, while caring for their family's health.

This dual method recognizes that adults and children learn differently and want different types of information, both in topic and in the amount of detail. By utilizing different tools, the Michigan Water Stewardship Program strives to get the same conservation message across to a broader audience. For the knowledge-driven adults, our easy-to-follow online courses address a variety of environmental and household topics. Have a yard pest problem? Our course on Integrated Pest Management may be just what you need. In today's economic climate every penny counts, so how about tips on energy efficiency? There is a course on that too. Plus others on topics like household waste, water quality, storm and surface water, yard care, backyard wildlife, and invasive pests. There are even downloadable brochures and articles, as well as a convenient listing of local conservation organizations that may help you rectify your issues.

The Green News page is constantly being updated with new stories from around the Great Lakes region. With five large lakes, eight states, and two Canadian provinces, there's always something going on. This page makes it easy to locate all kinds of Great Lakes news; everything from Great Lakes health, to policy changes, to local events and achievements.



For the entertainment-driven kids, a host of online games, activities, songs, videos, and fun facts about water. There are even downloadable lesson plans and presentations for teachers to incorporate into their classrooms. In addition, several links will direct you to educational programs and resources from a range of environmental organizations. In essence, this website provides a fun and easy way to learn about a resource we all rely on – Water.

Since the website's launch in 2011 there have been over 12,000 visits to the site and promotional efforts have been in full force in 2012 to achieve an even greater reach. Informational postcards highlighting some of the website's features were distributed through both adult and youth channels. They were made available at the Master Gardeners College at Michigan State University and Michigan Association of Conservation Districts' Summer Conference, as well as during an outdoor recreation event known as the Quiet Water Symposium. They were included in educational materials given to attending teachers at both the State of Michigan Arbor Day Celebration and the Children's Water Festival organized by the Tri-County Regional Planning Commission. Personal drop offs were also made to public libraries across Eaton County. In addition to the distribution of handouts, several referring websites have contributed to the site's steadily increasing viewership. Of the 6,000+ visits to the website so far in 2012, 37% were due to referral traffic. Of this, over 1,400 views came courtesy of the Environmental Protection Agency's website. Other top referring websites include: the Michigan Association of Conservation Districts, the Michigan Water Environment Association, and the Cranbrook Institute of Science.

The Michigan Water Stewardship website and its features are completely free of charge. A registered account is needed in order to access the tutorials in the course catalog, but the account is free too! Visit www.MIWaterStewardship.org to get started.

Upcoming Events

September

- 7 Soil and Water Conservation Society Highway Cleanup, NRCS State Office - East Lansing, meet at noon
- 8 Forestry and Wetlands Workshop, 560 East State Rd. - Coldwater, 10 a.m. to 3 p.m., for more information and to RSVP call 517/ 278-2725 ext 5
- 13 Cover Crop Aerial Application Demonstration, Phillips Orchards & Cider Mill - St. Johns, 9 a.m., for more information e-mail curellc@anr.msu.edu or call 269/467-5646
- 28 Marquette County Conservation District 4th Annual AgriPalooza, MSU Experiment Station - Chatham, for more information go to: www.marquettecd.org

October

- 6 Breakfast on the Farm, John Schaendorf Dairy - Allegan, for more information, including ticket purchase locations, go to: www.breakfastonthefarm.com or call 989/ 224-5240
- 10 Fall Native Plants, Grasses and Tree Sale, Marquette Conservation District - Marquette, for more information go to: www.marquettecd.org
- 16 UP-Wide Invasive Plant Conference, Marquette, for more information go to: www.marquettecd.org

November

- 7-9 MACD Annual Meeting, Best Western - Lansing, more information available soon at www.macd.org

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