



2015 WINNEBAGO COUNTY LAND AND WATER CONSERVATION DEPARTMENT ANNUAL REPORT



SOIL HEALTH FIELD DAYS “MORE THAN SCRATCHING THE SURFACE”

By Tom Davies, Director and Pat Lake, Soil Conservationist, NRCS

The project began in December, 2014 when Pat Lake, Natural Resources Conservation Service (NRCS) Soil Conservationist, stopped at his neighbor's conventional-till corn/soybean farm after work. Pat's land, site of the 1985 Farm Progress Days west of Winneconne, had been in grass for ten years and had been brought back into production that year with no-till soybeans. Since they shared a fence line, Pat proposed holding Soil Health Field Days that would include a soil pit dug across four land uses: a conventional-till field, an undisturbed fence line, a compacted lane, and a no-till field. The goal was to compare and contrast the soils' physical properties under each land use using visual examination in the soil pit and both in-field infiltration rings and table top slake, runoff simulator, and infiltration demonstrations. The neighbors agreed to co-host the event and in preparation allowed us to do both traditional University of Wisconsin soil testing, as well as soil health baseline samples using the Haney Test on their side of the fence. Pat would also seed cover crop demonstration plots following oat harvest a month before the “Soil Health Field Days” for public viewing and discussion.

For eight months following Pat's meeting with his neighbors, staff from NRCS, Winnebago County Land and Water Conservation Department (LWCD) and Winnebago County University of Wisconsin - Extension (UW-EX) met to plan, organize, and assign duties and responsibilities to make this event happen. From agenda creation to tent rental to vehicle parking and everything in between, this was truly a multiagency effort. On September 1-3, 2015, after months of preparation, Pat Lake and his neighbors Mark and Randy Schonscheck, hosted three consecutive Soil Health Field Days for three specific audiences: *Day 1:* Agency Professionals (UW-EX, NRCS, Wisconsin Department of Natural Resources); *Day 2:* Producers/Agronomists/General Public; *Day 3:* Students/Educators (Fox Valley Technical College).

Each session compared soils from the site in the various tabletop tests. Differences in soil structure were examined in the soil pit and in-field infiltration tests provided astonishing results.

Our approach was to examine the “big picture” of soil health as it relates to soil formation under prairie conditions, inarguably the best agricultural soils in the world, versus conventional agricultural soils. Prairie soils are the pinnacle of productivity because of how they develop: infrequent disturbance by grazing and fire (nature does not till), permanently covered by perennial vegetation, and highly diverse having a hundred or more species with living roots in the ground year round.

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MARCH 2016

MISSION STATEMENT Winnebago County Land and Water Conservation Department

Providing a full range of professional services in the planning, design, and performance of programs and projects that PROTECT, RESTORE, and SUSTAIN the natural resources of Winnebago County.

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This project demonstrated the soil structure building capabilities of undisturbed land versus conventionally tilled land, and visualized the critical differences in water holding capacity and infiltration rates. It truly demonstrated that we do not have a runoff problem in agriculture, we have an infiltration problem, and that based on years of world-wide in-field yield testing, herbicide research and soil science, there is absolutely no reason to till the soil for crop production.



THINK WETLAND

By Mike Haase, Conservation Technician

Do you have property that you are using for agriculture, hunting, or recreation? Have you ever considered adding a wetland?

Wetlands are a vital part of our environment. We need wetlands to help filter and keep our surface and ground water clean, safe, and plentiful. Wetlands also provide excellent habitat for wildlife. It was estimated that by 1985 the state of Wisconsin lost 47% of its wetland acreage. New rules, regulations, and incentives have tried to slow that process of loss, but more help is needed.

When partnered with native plantings wetlands can provide a very aesthetically pleasing area on your property. The right mix of grasses and wildflowers can bloom with a variety of colors from spring to fall. Wetlands also provide a great source of food, water,

and cover for a multitude of wild animals. From bugs and butterflies to birds and bucks, a wetland with native plants can be a wildlife and/or hunting paradise.

Wetlands also provide many environmental benefits. Contaminated runoff with sediment, chemicals, nutrients and other suspended materials get a chance to settle out as the water ponds and moves through a wetland. Plants growing in and around a wetland will use up nutrients and chemicals that settle out with the sediment.

Wetlands also provide flood storage during runoff events by holding up the water and slowing down the runoff. Looking at a watershed, it doesn't seem like one small wetland would do much for flooding. However, imagine a hundred small wetlands and the extra flood storage they would provide, decreasing the flooding

downstream. Wetlands also help to recharge our groundwater supply by ponding water and allowing it to slowly seep into the ground.

This past year, our staff worked with the Natural Resource Conservation Service (NRCS) to assist a landowner in enhancing a wet area he had in his field. Our department designed the wetland along with a grassed waterway outlet. The landowner now has an amazing looking wetland pond in an area that was wet and not farmable.

Our department also worked with another landowner who was enrolling some property in the Conservation Reserve Program (CRP) and wanted to create a wetland area. After looking over the site, a shallow swale was found that could be bermed off along with two wetland scrapes. By winter the scrapes where holding water and when full they

will back up almost an acre of shallow water. The landowner now has a wonderful wildlife wetland just off her backyard. Deer, turkeys and other wildlife have already been attracted to this site.

In addition to these two projects, our department also restored an additional 3.4 acres of wetlands through the Winnebago County Water Quality Improvement Program. If you are interested in constructing a wetland on your property, our office can help determine if your site is suitable, and if so, help with the design and installation. In some cases, cost sharing may be available. Wetland designs can vary from a simple scrape to a more complex berm system. Contact our office if you have any questions about wetlands. Help us restore some of those wetland acres that we have lost.



2015 LAND CONSERVATION COMMITTEE EDUCATIONAL TOUR “NEW AG TECHNOLOGY AND PROVEN CONSERVATION”

By Tom Davies, Director

Every two years the Land Conservation Committee (LCC) is taken to the field by the Land and Water Conservation Department’s technical staff to tour the various practices and projects that were installed. This year’s tour provided a blend of new Ag technology and proven conservation. Here are four of the seven projects viewed that day.



severe gully erosion before project



first wetland restoration



second wetland restoration & stone line waterway



Chad presenting his project

Project 1 is in the Town of Nekimi. Chad Casper, Resource Conservationist worked to design and oversee the installation of a complex “stone lined waterway and two wetland restorations”. This project corrected severely eroded gullies and created two ponded areas that provide retention for the waterway flow and wildlife habitat. In addition, adjacent lands were enrolled into the Conservation Reserve Enhancement Program and the Conservation Reserve Program and planted into native prairie.

Project 2 is in the Town of Rushford. Chad Casper, Resource Conservationist designed and managed the construction of a stone lined waterway. The eroded channel had severe slope and was undermining the buildings on this wooded site. This project required tree removal, flow redirection, and challenging rock placement by the contractor. It has proven to be an excellent correction to the problems.



upper waterway merge



below upper waterway merge



steep lower section to outlet



project during construction

Continued on page 5

Project 3 is in the Town of Omro. Mike Haase and Melanie Leet, Conservation Technicians, worked to design and oversee construction of a feed storage runoff treatment system and diversion. The existing runoff from the feed storage pad ran into a navigable stream and needed to be addressed. Feed that is harvested and stacked on a pad is compressed, and as it ferments it expels a liquid called “leachate”. When combined with a rain event that flushes it off of the pad, it can be very toxic to the environment. This project included replacing and extending the concrete feed area, adding a curb to control the runoff, and directing it to a precast tank with a pump. When the tank gets full, it pumps the most toxic leachate and contaminated first flush of runoff into the existing manure storage facility. The pump then shuts off for 24 hours and all other liquids will overflow into a pipe to a second tank with a pump. When the second tank gets full, the pump sends the liquid over to a concrete spreader and filter area. The pump will then shut off for 24 hours and any additional liquids will overflow out of the tank and across a vegetative buffer area before entering into the navigable channel. The diversion was installed to redirect rain water away from the animal lot on the east side of the livestock facility and move it cleanly to the watercourse.



Mike presenting the project



first flush leachate pumping system



second pumping system to filter area



concrete spreader and filter area



new diversion designed by Melanie Leet



new diversion



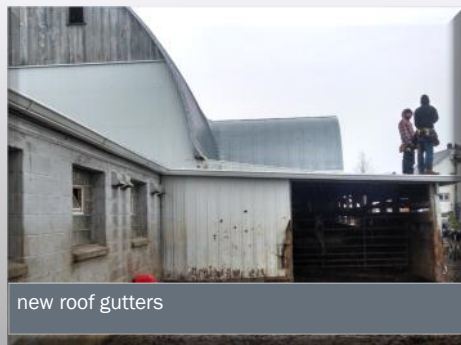
manure storage



sand lane and outlet into manure storage

Project 4 is in the Town of Winneconne. Mike Haase, Conservation Technician, worked to design, permit, and oversee construction of a manure storage facility (MSF), sand lane (SL), vegetated treatment area (VTA), diversion and roof gutters (RG) project. This project has a concrete lined MSF with the manure flowing through a SL, an engineered structure designed to allow the sand (cow bedding) to settle out before entering the MSF, therefore increasing the amount of

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manure that can be stored in the MSF. A VTA was installed on the south end of the animal lots to remove some of the pollutants before it reached channelized flow. A diversion was installed on the north end of the animal lots to redirect clean water runoff away from the animal lots and take it cleanly to an outlet. The last piece of the project was to install roof gutters on the buildings to keep the roof runoff from flushing across the animal lots. The gutters were directed to underground outlets that discharged the clean water away from the production area.

Our thanks to the landowners and contractors, LCC members, USDA attendees and especially the LWCD staff for making it a great learning experience for all!

WINNEBAGO COUNTY LWCD AND NRCS ADMINISTER \$980,119 IN GRANT FUNDING

By Tom Davies, Director

In 2015, the Winnebago County Land and Water Conservation Department (LWCD) applied for and received \$216,437 in state grant funding. This funding was used to cost share projects and practices for landowners and offset departmental expenses. In addition, the LWCD budgeted \$84,000 of cost share funds provided to county constituents

through the Winnebago County Water Quality Improvement Program. The LWCD also carried over \$166,344 of state and local contracted cost share funds from 2011 through 2014 to be utilized in 2015.

The Natural Resource Conservation Service (NRCS) provided

\$143,807 for the installation of Best Management Practices (BMPs) contracted through the Environmental Quality Incentives Program (EQIP) and \$369,531 in incentives to producers/landowners for current and new conservation minded farming practices through the Conservation

Stewardship Program (CSP).

These funds, totaling \$980,119 are utilized to cost share and support the installation of BMPs and reward conservation minded land practices throughout Winnebago County. Grant and program funds such as these provide a significant and positive economic impact for our local producers/landowners, contractors and related businesses.



2016-2020 LAND AND WATER RESOURCE MANAGEMENT PLAN – WORK PLAN APPROVED



By Tom Davies, Director

On October 26th, 2015, the Wisconsin Department of Agriculture, Trade and Consumer Protection's (DATCP) Secretary, Ben Brancel, signed an order approving the 2016-2020 Winnebago County Land and Water Conservation Plan - Work Plan revisions, culminating a year-long revision process. This process included input and discussion from Multi-Agency staff, the Land Conservation Committee, and the Land and Water Conservation Department (LWCD).

The revised plan identifies current and future resource concerns within Winnebago County and the programs, methods, funding sources, and conservation practices available to address them. This approval maintains the county's eligibility for DATCP funding that provides landowner cost sharing and departmental staffing resources to support implementation of the plan. This is a major accomplishment for the LWCD and Winnebago County. A copy of the revised Work Plan is available at: <https://www.co.winnebago.wi.us/lwcd/news/2011/1/11/2011-2020-land-and-water-resource-management-plan>

2015 INSTALLED BEST MANAGEMENT PRACTICES



grassed waterway

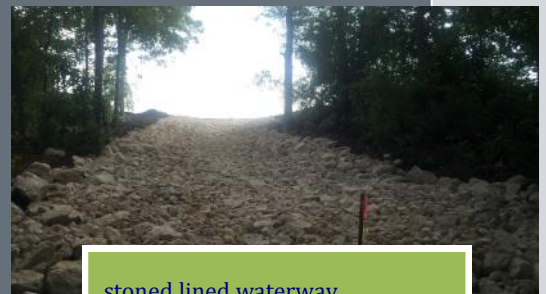
By Chad Casper, Resource Conservationist

The Winnebago County Land and Water Conservation Department (LWCD) has several funding sources available to provide cost sharing for the installation of eligible conservation projects. These funds aid landowners with the installation costs of various eligible Best Management Practices (BMPs). Along with the funding assistance, our department provides surveying, engineering designs, and construction supervision to ensure the projects are installed according to proper design specifications. Installing these BMPs will reduce the sediment and phosphorus loading to our local waterways. The BMPs provide protection of surface water and groundwater resources throughout Winnebago County. The table below illustrates a summary of the structural BMPs designed and installed in 2015 with and without cost sharing.

Best Management Practice	Units Installed
Critical Area Planting	17.8 acres
Diversion	730 lin. ft.
Fence	1,895 lin. ft.
Grassed Waterway	11,072 lin. ft.
Heavy Use Area Protection	1,002 sq. ft.
Lined Waterway or Outlet	105 lin. ft.
Stream Crossing	2 ea.
Underground Outlet	2 ea.
Vegetated Treatment Area	1.5 acres
Waste Storage Facility	2 ea.
Waste Transfer System	3 ea.
Well Decommissioning	10 ea.
Wetland Restoration	4.9 acres



manure storage



stoned lined waterway



wetland restoration

NUTRIENT MANAGEMENT PLANNING

By Sheila Smith, Agronomist

Nutrient management farmer training classes were held again in 2015 with thirteen producers operating 4,478 acres in attendance. Farmers develop a better understanding about the steps taken to write Nutrient Management

Plans (NMP) and a basic knowledge about soil, nutrients, manure, and the growing of crops. Farmers who write their own plans must retake the class every 4 years to stay qualified.



The total number of NMP acres for 2015 was 55,850, an 8% increase (4,295 acres) from 2014. Four new farms with 1,395 acres received state cost sharing to write a NMP for their farm in 2015. Currently, 49% of Winnebago County

farmland has a NMP. This illustrates the priority the Land & Water Conservation Department has placed on this practice and the impact of the State Agricultural Performance Standards on Ag Producers within Winnebago County.

2015 FARMLAND PRESERVATION PROGRAM ANNUAL REPORT

By Sheila Smith, Agronomist

The Wisconsin Farmland Preservation Program (FPP) provides income tax credit to Wisconsin farmers in exchange for keeping land in agricultural use and maintaining compliance with the State Agricultural Performance Standards (NR151).

County wide, 82 landowners qualified in

the FPP for the 2014 tax year. Furthermore in 2014, 13,244 acres were qualified which generated \$99,330 in tax credits for those Winnebago County participants.

The Winnebago County Land and Water Conservation Department (LWCD) continues to assist participants to become compliant with the State Ag Performance Standards. All cropland

and livestock facilities located on the enrolled land must be in compliance by December 31, 2016. If a participant is not in compliance by the deadline, they will be deemed noncompliant and ineligible for the tax credit until they achieve compliance. The LWCD has been and will continue to work diligently to get all FPP participants in compliance before the

end of 2016 so they can continue to receive their tax credits. For the 2016 tax year, all Certificates of Compliance must have a Department of Revenue (DOR) approved number. This DOR number will be on the Certificate of Compliance that a participant receives at their Annual Certification appointment.

STATE AGRICULTURAL PERFORMANCE STANDARDS

By Sheila Smith, Agronomist

NR151: Runoff Management is Wisconsin's administrative code that establishes polluted runoff performance standards for agricultural facilities and practices, as well as non-agricultural practices. These Ag Performance Standards are intended to be the minimum requirements to protect water quality. The code also establishes implementation and enforcement provisions.

The standards and prohibitions are intended to protect water quality by minimizing the amount of soil erosion, nutrients from manure and croplands, and other nonpoint source pollutants that enter waterways. The following eight key elements are used for evaluating Ag Performance Standards:

- sheet, rill, & wind erosion,
- manure storage facilities,

- clean water diversions,
- nutrient management planning,
- tillage setbacks,
- phosphorous index,
- wastewater handling,
- fertilizer & manure management

Winnebago County Land and Water Conservation Department (LWCD) employees are contacting farmers throughout the county in an effort to assess their current compliance status with state Ag Performance Standards. LWCD employees are informing farmers about the standards, how they affect their operation, and what is required to bring them into compliance.

Currently, many landowners are in the process of getting their cropland and/or facilities in compliance. To date, a total of 11,480 cropland acres and 74 farms have been certified compliant.

INFORMATION AND EDUCATION

By Melanie Leet, Conservation Technician

A large part of the Land & Water Conservation Department's (LWCD) operations is working with landowners to help them install conservation practices and to help them adopt new methods that protect ground and surface water quality. A major way that our department can achieve great results is through educational activities that give the public the tools necessary to help in those efforts. LWCD participates in various educational activities for different age groups throughout the county. From young to old, urban residents to rural farmers, there is something everyone can do to make a difference for water quality.

In addition to some of our Information and Education (I&E) activities mentioned throughout this report such as the Conservation Field Day, the Soil Health Field Days, and the Land Conservation Committee Tour, the LWCD also participated at many other events.

LWCD staff coordinates an educational tour with students from Fox Valley Technical College in the spring and in the fall of each year. These tours show the students the various projects that LWCD installed and gives them some idea of what careers may be available to them. By meeting with different agencies and businesses, students can focus their studies (decide on a career

area) and get guidance on their course selection.

The department also worked with younger school groups from Winneconne and Oshkosh to provide various presentations on the importance of water quality and careers in conservation.

LWCD also provided information through staffed and unstaffed displays. These displays provided a great deal of information to the public that our department may not typically encounter. The department placed unstaffed displays at the Winnebago County Fair and at Birdfest. LWCD offered staffed displays at the Wisconsin Public Service Farm Show, the Oshkosh 8th Grade Career Fair, and the University of Wisconsin Fox Valley's Geographic Information Systems Day.

Our department also worked with various groups giving presentations on the importance of shoreline habitat buffers in protecting our lakes and river systems. Presentations were given to Learning in Retirement, Master Gardeners, and the City of Oshkosh Parks Advisory Board.

Beyond these I&E activities, the department contributed to newspaper articles, participated in the Weigh-in on the Winnebago Waterways Steering Committee, and worked with Winnebago County University of Wisconsin - Extension (UW-EX) to provide training to farmers on nutrient management planning.



Fox Valley Technical College Tour



Oshkosh Schools 8th Grade Career Day



shoreline habitat restoration presentation for Master Gardeners



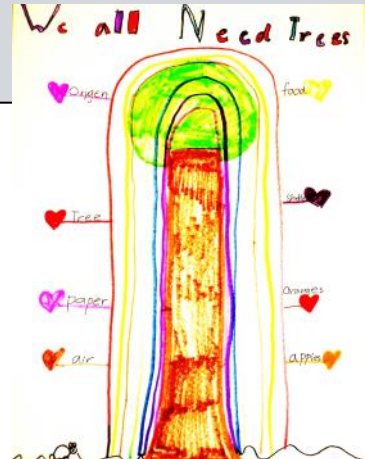
Resa Goethel, 1st Place,
Grades K-1, St. Margaret Mary Elementary



Brynley Foster, 2nd Place,
Grades K-1, St. Margaret Mary Elementary



Abigail McClone, 3rd Place,
Grades K-1, St. Margaret Mary Elementary



Hailey Kane, 2nd Place,
Grades 2-3, St. Margaret Mary Elementary



Meredith Werner, 1st Place,
Grades 2-3, St. Margaret Mary Elementary

2016 POSTER CONTEST

By Lynette Hein, Secretary

The Winnebago County Land and Water Conservation Department (LWCD) held its "2016 Conservation Awareness Poster Contest" on December 3, 2015. The contest was open to kindergarten through 12th grade students and its theme this year was "We All Need Trees". The theme opened the door for students to gain a better understanding of what products a tree produces and why trees are essential for the survival of

humans and other living organisms. This contest is a part of the Wisconsin Land+Water organization created to promote environmental awareness in youth.

The Winnebago County LWCD would like to extend our "congratulations" and "thanks" to all the students who participated in this year's contest.

If you would like to participate in our next poster contest this coming fall, please contact our office in late August for this year's theme.



Ana Emenecker & Mia Wasco, 3rd Place (tie),
Grades 2-3, St. Margaret Mary Elementary



Abby Searl, 1st Place,
Grades 4-6, St. Gabriel Elementary



Ray Pingel, 3rd Place,
Grades 4-6, St. Gabriel Elementary



Ethan Gilmour, 2nd Place,
Grades 4-6, St. Gabriel Elementary

CONSERVATION FIELD DAY

By Lynette Hein, Secretary

Our Conservation Field Day is held yearly at a site called the Norbert Rich School Forest. The Norbert Rich School Forest is a 43.5 acre tree farm/forest willed to the Winneconne Community School District by Mr. Rich who passed away in 2012. He designed a stewardship forestry plan and was very much involved with natural resource conservation. Mr. Rich created a wildlife

sanctuary on his property which is surrounded by farmland. This ideal habitat found on the property supports a large deer and turkey population along with a variety of other wildlife species.

The Norbert Rich School Forest provides an amazing outdoor classroom experience for our Conservation Field Day. Fourth grade students from the Winneconne Community

School District were brought together in one place to learn at four different stations about forestry, wildlife, soils, and water quality. These four stations, hosted by agencies from the Winnebago County Land and Water Conservation Department, USDA-Natural Resources Conservation Service, and Wisconsin Department of Natural Resources, provided students an opportunity to learn about conservation related

topics first hand in a natural setting. Our objective was for students to have a better understanding of the importance of our natural resources and what people can do to help improve and protect them.

This hands on experience remains one of our most well-liked educational events with students and continues to grow as we partner with the Winneconne Community School District.



TREE SALE

By Lynette Hein, Secretary

Again this year, the Winnebago County Land and Water Conservation Department (LWCD) held their annual distribution of trees and shrubs to aid landowners inside and outside of Winnebago County. The trees and shrubs arrived on April 16, 2015 through the Wisconsin Department of Natural Resources Tree Program from their Griffith Nursery in Wisconsin Rapids.

In 2015, 19,800 trees and shrubs were planted by landowners in Winnebago County and 14,150 trees and shrubs were planted by landowners outside of Winnebago County. We had five schools participate this year, all within the Neenah and Menasha school areas. Students were given a total of 400 trees as part of observing Arbor Day.

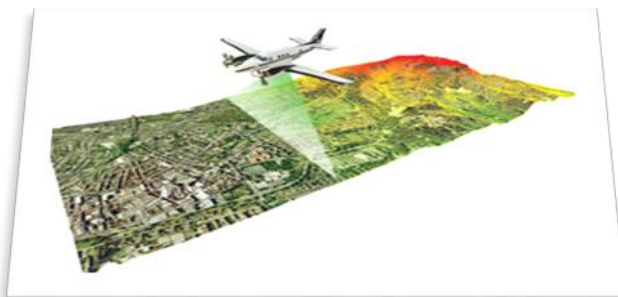
The LWCD also offers many materials and tools to help landowners in the growth of their new seedlings. Root gel, fertilizer tablets, and 4 foot Tubex tree shelters are also available for purchase during the tree distribution day. Another service the LWCD offers is the rental of tree planters. The planters are used mostly by landowners that have large numbers of trees/shrubs. A "Tree Planting Workshop" held prior to tree delivery offers an opportunity for landowners to learn how to plant the trees with a planter or with a tree planting bar. All materials and equipment listed in this article are available throughout the year for purchase or rent and can be found on our website @ <http://www.co.winnebago.wi.us/lwcd>.

If you would like to take advantage of our tree distribution for 2017, please contact our office at the beginning of November-2016 for a 2017 Spring Tree and Shrub Application form.

Looking Ahead In 2016

Looking forward to 2016, we will be making some major advancements with the aid of new technology. One of the most exciting improvements will be the acquisition of LIDAR (Light Detection and Ranging) data. As defined by the National Oceanic and Atmospheric Administration (NOAA),

"LIDAR is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses—combined with information about the shape of the Earth and its surface characteristics."



We will be able to use this data within our existing Geographic Information System (GIS) and Computer-Aided Design (CAD) systems to accurately measure elevation data right from our desktop. The ability to have access to highly accurate elevation data without having to take Global Positioning System (GPS) equipment to the field will greatly improve efficiency. The LIDAR data will also enhance other existing processes for identifying watersheds and erosion susceptibility because of its high precision.



Also this year, we will be creating an updated Plat Book that will include new aerial photos. The new plat books will be available for purchase in January-2017. Another new tech tool that we expect to be using in the field is the deployment of "apps" that will allow our field crews to inventory a wide variety of data using mobile devices such as a tablet or smartphone.

LAND CONSERVATION COMMITTEE DIRECTORY

Chuck Farrey, Chair

Tom Snider, Vice Chair

Nancy Barker, Secretary

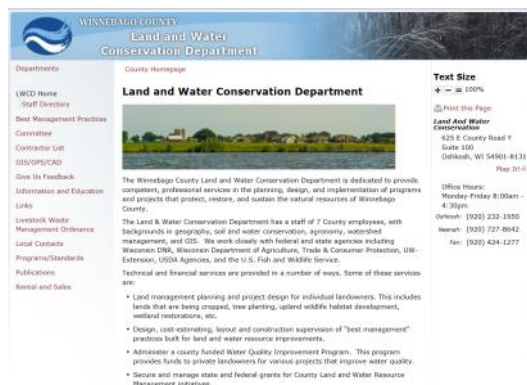
Bruce Bohn, Citizen Member

Guy Hegg, County Board Member

Larry Kriescher, County Board Member

Roger Zentner, FSA Member

The Winnebago County Land Conservation Committee (LCC) is a standing committee of the Winnebago County Board. Working through the Winnebago County Land and Water Conservation Department, the LCC provides local leadership and establishes policies for the delivery of land and water resource management programs and services.



Visit us on the Web at:
<http://www.co.winnebago.wi.us/lwcd>

STAFF DIRECTORY

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