2020 WINNEBAGO COUNTY LAND AND WATER CONSERVATION DEPARTMENT ANNUAL REPORT



LAKE WINNECONNE OFFSHORE BREAKWALL

By Chad Casper, Director

The Clark's Bay Wetland is located on the north shore of Lake Winneconne. Over 2,100 feet of wetland frontage was unprotected and experiencing a high rate of erosion threatening the remaining wetlands. Since 1941, the damage done by high water, waves and ice had resulted in an average lateral





recession of over 1.5 feet of wetland loss per year. This shoreline recession was releasing large amounts of sediment and nutrients into Lake Winneconne and resulting in increased turbidity and a loss of fish and wildlife habitat.

In order to address the shoreline erosion and wetland loss, an offshore breakwall was proposed. Offshore rock breakwalls are typically

installed during the winter months once the ice thickness reaches close to two feet in order to support the heavy loads of the equipment used to construct these unique projects. The winter of 2020 was abnormally warm, so it made it quite challenging to get the project installed. The contractor went above and beyond and worked throughout the cold nights to make additional ice on top of the existing ice. These efforts resulted in an offshore breakwall project that was constructed at the Clark's Bay site that now protects the 2,100 feet of wetland frontage from future losses and reestablishes wetlands that have been lost over time. This breakwall project reduces sediment resuspension within the

MISSION STATEMENT

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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habitat restoration area by reducing wave size and protecting the shoreline of the emergent marsh from further erosion. The resulting effect is a calm backwater that will result in expansion of residual native emergent and submergent aquatic macrophytes forming the basis of newly created fish and wildlife habitat and improved water quality. There is an estimated 23.4 acres of open water that will now be converted into this newly created habitat. This will provide the added benefit of restoring critical aquatic habitat in the zone between the existing rock base and the present shoreline.





Several openings in the structure were installed to allow for fish and wildlife migration, boat ingress and egress, and adequate water exchange.

This project was funded by the Winnebago County Water Quality Improvement Program, Natural Resource Damage Assessment (NRDA), North American Wetlands Conservation Act (NAWCA), Lake Poygan Sportsman's Club and the Clarks Bay Corporation.



2021-2030 WINNEBAGO COUNTY LAND & WATER RESOURCE MANAGEMENT PLAN

By Chad Casper, Director



On August 4th, 2020, the Wisconsin Land and Water Conservation Board unanimously approved the 2021-2030 Winnebago County Land and Water Resource Management Plan (LWRMP). The LWRMP was prepared by the Winnebago County Land and Water Conservation Department (LWCD) under the jurisdiction and guidance of the Winnebago County Land Conservation Committee (LCC). Significant input was received and the plan reflects the ideas and resource concerns of the LWRMP Citizens Advisory Committee, the Agency Advisory Committee, the Town Chairmen Advisory Committee, LCC members and LWCD staff.

The LWRMP will be our guiding document as we address the County's resource concerns. It also creates eligibility for State funding and enhances and supports grant opportunities for local organizations and for Winnebago County.

This is a major accomplishment for the LWCD and Winnebago County. A copy of the

2021-2030 LWRMP is available at: <u>https://www.co.winnebago.wi.us/sites/default/files/uploaded-files/</u> winnebago_county_lwrmp_2021-2030_final_version.pdf.

WETLAND RESTORATION 2020

By Mike Haase, Conservation Technician

During this past year our department designed and oversaw the installation of a wetland restoration project on the corner of Highway 91 and Elo road in the Town of Omro. The landowner was having flooding and erosion issues with a waterway and adjacent field that was affecting crop productivity. The landowner wanted to do something different and after looking at various options, a wetland restoration system was proposed. The potential site was then surveyed and a design was completed. This design consisted of the excavation of four scrape areas and the creation of a berm across the existing waterway into the upland areas to enhance the ponding in the project area. Two spillways were constructed to handle the 103 acre drainage area, one on each end of the berm. Once the ponded area created by the berm and scrapes is full the spillways will allow extra water to pass safely around the berm. This project also includes a water control structure in the berm which can be utilized to control the water level of the wetland. Water levels can be raised to create more edge habitat or they can be lowered for repairs or maintenance if needed.

At full ponded capacity, between the berm and the scrape areas, a wetland area is created that encompasses five acres and has a maximum depth of five feet. The landowner has planted an additional five acre buffer of native plants and wildflowers around the wetland and plans on adding areas of trees and other wildlife improvements. The total project area, between the wetland and upland native plantings, is about 10 acres.

This wetland restoration system will act as a filter for the 103 acre drainage area and will remove an estimated 125 tons of soil and 190 pounds of phosphorus each year from the water runoff. Wetland restorations are incredibly effective conservation practices because of the multifunctional values they provide. They protect water quality by removing sediment and nutrients from runoff and provide habitat for a multitude of wildlife.



Pre-construction





During construction.

Post-construction.

LAKE POYGAN BREAKWALL PHASE 2 CONSTRUCTION

By Melanie Leet, Resource Conservationist

For anyone traveling by boat this summer near the mouth of the Wolf River where it outlets into Lake Poygan, you likely noticed the second phase of a very large offshore breakwall project in construction. The second phase of the Lake Poygan Breakwall was built which included two breakwall structures totaling 2,269 ft. The first phase of the project was installed in 2016 and included one structure that is 1,170 ft in length. This breakwall was then monitored for three years to determine how much it would settle into the lake bottom. Minimal settling occurred during this monitoring period, so the second phase was designed in 2019 and included two more breakwall segments. These two segments were constructed by barge over the summer of 2020, a lengthy process due to the fact that all the materials needed to be barged onsite from the other side of Lake Poygan. Typically offshore breakwalls are built on the ice over winter, but due to the unstable ice conditions at the mouth of the Wolf River, it would not have been possible without the partnership between many groups including the Lake Poygan Sportsmen's Club, the Wisconsin Department of Natural Resources, Ducks Unlimited, and the Winnebago County Land & Water Conservation Dept. Our department provided the design for this phase of the project and construction supervision in conjunction with Ducks Unlimited.

An estimated 600 acres of wetland have been lost from this site since 1941. Once all phases are complete, these breakwalls will create 540 acres of new wetland and protect the existing wetlands from further wind and wave action which will reduce the amount of sediment resuspension. Regeneration of vegetation in these protected areas will encourage improved fisheries and wildlife use of the acreage behind the breakwalls. Monitoring of the vegetation and fish populations in these areas was conducted previous to construction and will be conducted post construction to evaluate the effectiveness of these breakwalls. The next phase of the project will take place after the three years of monitoring has been completed and after funding is attained.





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WINNEBAGO WATERWAYS LAKE MANAGEMENT PLAN APPROVED

By Chad Casper, Director

N ortheast Wisconsin is home to Lake Winnebago and the associated pool lakes of Poygan, Butte des Morts, and Winneconne. These lakes are located within a five-county area including Calumet, Fond du Lac, Outagamie, Waushara and Winnebago Counties. The development and approval of a Lake Management Plan (LMP) for the entire Winnebago System, which is approximately 17% of the state's surface water, was a huge undertaking. Winnebago, Fond du Lac, and Calumet counties committed funds and entered into an Intergovernmental Cooperation Agreement to work cooperatively on the effort. The counties contracted with the Fox-Wolf Watershed Alliance to advance the Winnebago



Waterways LMP and get the final approval. The Winnebago Waterways LMP was only successful through a collaborative effort between the counties, other agencies, organizations and the public. There was a dedicated commitment made by everyone working together to help support the goal of a healthier Winnebago System.

The Winnebago Waterways LMP is not a County plan, a WDNR plan or the plan of an individual organization, it is a community plan. Moving forward, it will provide the framework for the community surrounding the Winnebago Waterways to guide the responsible management of the Lakes. It will also help leverage grant opportunities for individuals, groups and local governments all working together to protect our tremendous resource.

WINNEBAGO COUNTY LWCD, NRCS AND FSA ADMINISTER \$1,747,370 IN CONSERVATION PROGRAM FUNDING

By Chad Casper, Director

n 2020, the Winnebago County Land and Water Conservation Department (LWCD) was awarded \$225,954 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 \$87,000 of cost-share funds provided to county constituents through the Winnebago County Water Quality Improvement Program. The LWCD carried over \$250,785 of state and local contracted cost-share funds from 2019 to be utilized in 2020. The LWCD also administered \$308,000 in other grant funding for conservation work in the County.

The USDA Natural Resource Conservation Service (NRCS) provided \$415,297 for the installation of Best Management Practices (BMPs) contracted through the Environmental Quality Incentives Program and \$192,649 in incentives to producers/landowners for current and new conservation minded farming practices through the Conservation Stewardship Program.

The USDA Farm Service Agency (FSA) provided \$221,193 in annual payments for 156 Conservation Reserve Program contracts that total 2,419 acres of enrolled land and \$46,492 in annual payments for 62 Conservation Reserve Enhancement Program contracts that total 402 acres of enrolled land. FSA also issued \$15,548,804 in various agricultural commodity support payments to Winnebago County producers.

These conservation program funds, totaling \$1,747,370, 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.

MS4 PERMIT UPDATES

By Andy Maracini, GIS Specialist

Each year Winnebago County is required to report progress and initiatives for monitoring and improving storm water quality within the permitted area of Winnebago County. The MS4 (Municipal Separate Storm Sewer System) permit is managed by the county Land and Water Conservation Department (LWCD) on behalf of the Highway Department. The permitted area in Winnebago County is defined by the United States Census Urbanized Area, which is any area with a population density of more than 1,000 people per square mile (see Map). The Winnebago County MS4 is comprised of any County owned facility within the Urbanized Area and is mostly concerned with discharges of stormwater along the County owned and maintained roads. Other properties such as athletic fields and municipal garages also fall within the permit and must be monitored for compliance.

The permit requires the County to address eight topic areas:

- 1. Public Education and Outreach
- 2. Public Involvement and Participation
- 3. Illicit Discharge Detection and Elimination
- 4. Construction Site Pollutant Control
- 5. Post-Construction Storm Water Management
- 6. Pollution Prevention
- 7. Storm Water Quality Management
- 8. Storm Sewer Map



Each topic area includes numerous requirements that must be met over the course of the permit cycle. As with all things in 2020, the MS4 program was also impacted. Education and outreach programming was effectively eliminated because of COVID. The County created a 5-year plan as required by the permit outlining specific plans and tasks that Winnebago County will pursue as part of Public Education/Outreach and Public Involvement/ Participation. This assumes that life will begin to look a bit more normal with more public outreach opportunities.

Winnebago County is actively involved with the NEWSC (Northeast Wisconsin Stormwater Consortium) and partners with them on a number of events including the immensely successful Fox-Wolf Watershed Cleanup. If you are wondering what you can do to improve water quality by reducing pollutants in our stormwater, please consider doing a few simple things like:

- Reduce the amount of salt used as a de-icer
- Reduce or stop fertilizing your lawn
- Clean up grass clippings in the roadway
- Properly dispose of pet waste

For more ideas or information on stormwater, please visit the Northeast Wisconsin Stormwater Consortium: <u>https://fwwa.org/newsc3/</u>.

THE SOIL HEALTH CHALLENGE

By Sheila Smith, Agronomist

The Soil Health Challenge (SHC) program is designed to reward participants that are willing to work with the Winnebago County Land and Water Conservation Department (LWCD) by committing a portion of their cropland to soil health principles. These principles include no-till planting and the use of diverse cover crops to increase soil organic matter and microbial activity that will lead to reduced soil erosion, improved water infiltration, increased carbon sequestering, and more wildlife and pollinator habitat. It will also result in healthier crops, healthier soil, and potentially better yields. The main goal of the SHC is for the farmer to educate other local producers on the methods that were used, the challenges that were faced, and the benefits that they found along the way. The LWCD will be posting signs this coming spring at the current sites.





NEW WINNEBAGO COUNTY LWCD STAFF IN 2020

By Haley Lucas, Conservation Technician

Hello! My name is Haley Lucas and I am the new Conservation Technician with Winnebago County. With the addition of myself to the Department, we are now fully staffed as we begin the new year. My role will be to provide planning, designing and construction supervision for soil and water conservation practices.

I have an education in conservation which includes a bachelors degree in Environmental Science from UW-Green Bay and a certificate from the Environmental Management and Business Institute. As well as a masters degree in Freshwater Sciences and Technology from UW-Milwaukee. My graduate research was focused on aquaculture and aquaponics.

In my previous position, I served as the Shoreland Specialist for Langlade County Land Conservation. In this role I was responsible for conducting Lake Shoreland Habitat Surveys. I then used that data to design and install shoreland restoration projects through the Healthy Lakes & Rivers Grant program. The most rewarding aspect of the job was working with lake groups and educating them about the benefits of native plants on their shoreline.

In my spare time I enjoy hiking the Ice Age Trail, road biking, camping and cross-country skiing. I can't wait to get out and explore more lakes and rivers in the Fox Valley. I am very thankful for the opportunity to serve Winnebago County and to work with landowners to enhance and conserve our natural resources for future generations.



By Mary Koch, Administrative Associate

Hello, my name is Mary Koch. I am the new Administrative Associate for the Land and Water Conservation Department and started on June 25, 2020. I transferred from the Winnebago County Parks Department which is right down the hall, so I didn't move too far. Everybody has been very helpful and supportive. I've been learning a lot and I enjoy that every day is different.

My husband and I reside in the Town of Algoma. In the past, I've always had jobs where I traveled to other cities in the Fox Valley to work. I'm glad that now my commute is only approximately seven miles from home.

In my free time, I like to read, watch game shows and movies. I love to travel especially to tropical islands. During the spring and summer I like to walk and take care of my flower gardens.

I am also a member of the Oshkosh On The Water Rotary Group. We try to focus on helping to keep the waterfront clean in the City of Oshkosh and Lake Winnebago. Working for the Land and Water Conservation Department is a great fit.

2020 INSTALLED BEST MANAGEMENT PRACTICES

By Melanie Leet, Resource Conservationist

The Winnebago County Land and Water Conservation Department has several funding sources available to provide cost-sharing for the installation of eligible conservation projects. These funds help financially aid operators and landowners with the installation of various eligible Best Management Practices (BMPs). Along with the funding assistance, our department provides surveying, engineering design, 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 waterbodies. The BMPs will provide protection of water quality and groundwater resources throughout Winnebago County. The following table illustrates a summary of the structural BMPs designed and installed in 2020 with and without cost-sharing.

Best Management Prac- tice (BMP)	Units Installed
Access Road	346 Lin. Ft.
Clean Water Diversion	77 Lin. Ft.
Grassed Waterway	8.38 Acres
Livestock Pipeline	14,220 Lin. Ft.
Heavy Use Area Protec- tion	832 Sq. Ft.
Riparian Buffer	.06 Acres
Stream Crossing	1 Ea.
Streambank/Shoreline Protection	4,013 Ft.
Waste Storage Facility Closure	2 Ea.
Watering Facility	1 Ea.
Wetland Restoration	5.8 Acres
Well Decommissioning	7 Ea.
A STREAM	44.58775.72

2020 FARMLAND PRESERVATION PROGRAM ANNUAL REPORT

By Sheila Smith, Agronomist

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

Twenty landowners in the towns of Wolf River, Clayton, and Nepeuskun, had 3,034 acres certified compliant with the FPP. Those acres received a tax credit which generated \$22,755 for Winnebago County participants. The Town of Nepeuskun is the only township to move forward in 2021 with changes to their zoning district in order to maintain the FPP in the future.

The Winnebago County Land and Water Conservation Department will continue to assist current participants and previous participants to maintain compliance with the State Agricultural Performance Standards. Once a farm has become compliant with the State Agricultural Performance Standards (NR151), they must continue to remain compliant.

UPPER FOX AND WOLF RIVER WATERSHEDS REGIONAL DEMONSTRATION

By Sheila Smith, Agronomist

The Winnebago County LWCD along with seven other counties in the Upper Fox River and Wolf River Watersheds, the Green Lake Association, and the Natural Resource Conservation Service, partner together to form the Upper Fox-Wolf Demonstration Farms Network. Participating farms implement, demonstrate, and educate local farmers on the effectiveness and adaptability of soil health principles and conservation practices that reduce erosion, sedimentation, and pollution as well as improve the soil.



Some of the innovative practices achieved this year include:

- A 30' Prairie buffer was planted, approximately 1 acre, with 20 native species. This buffer area will filter the runoff from 194 acres of farmland and prevent it from running directly into the lake.
- Planted a cover crop plot in late August with 53 species and a field day was held in October.
- A previously fall planted rye field was rolled and crimped and corn was planted directly into the crimped rye in the spring. By using a roller crimper, the farmer doesn't have to work the field previous to planting.
- Interseeded a multi-species cover crop into six-inch corn.
- Used a low disturbance manure injector for applying manure on a corn field which had been interseeded with a cover crop.
- A demo farm purchased a new interseeder and planted cover crops at leaf drop on soybeans and corn.
- Cover crops were planted on many other fields in the fall after harvest.

During the next few years the Demonstration Farms Network will continue to host field days, meetings, and other public events for these conservation minded farmers to share their experiences with fellow farmers and promote sustainable and profitable farming methods while improving the soil.



Annual Poster Contest

By Mary Koch, Administrative Associate

The Winnebago County Land and Water Conservation Department would like to extend our "THANKS" to all the students that participated in this year's contest and a big "CONGRATULATIONS" to all our winners! Our poster contest would not be possible without the many extremely talented students and several dedicated teachers. This year's theme was **"Healthy Forests/Healthy Communities**. There were <u>52 posters</u> submitted for this year's Conservation Poster Contest which was held virtually due to COVID 19. All posters that won first place at the local level went on to the Area Level competition.



Claire Meier, 1st Place, Grades 2-3, Winneconne Elementary School. Since Claire won 1st Place at the Area Level, her poster went on to the State Level.





Laren Otto, 1st Place, Grades 4-6, Winneconne Middle School



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Donald Parker, 1st Place, Grades 7-9, Winneconne Middle School



Bethany Rupport, 2nd Place, Grades 7-9, St. Mary Catholic Middle School





Katannah Dadas, 1st Place, Grades 10-12, Winneconne High School



William Greve, 2nd Place, Grades 10-12, Winneconne High School







NUTRIENT MANAGEMENT PLANNING

By Sheila Smith, Agronomist

A nutrient management plan (NMP) is an annual plan which helps farmers make the best use of their manure and fertilizer while also protecting the soil from erosion and improving our water quality. A NMP first begins with soil samples. These soil samples are sent to a lab and analyzed to determine the amount of available nutrients in the soil. The results help the farmer determine their fertilizer needs on a field by field basis. The Snap Plus software is used to calculate potential soil and phosphorus losses. The farmer can change his tillage system or crop rotation to have less soil loss. Starting a NMP is a pro active stance towards improving, protecting and conserving their cropland. The farmer is slowing erosion and conserving the soil while also fertilizing where needed to keep the soil in place with the nutrients necessary for crop growth. A NMP is not only for the present, but also for the future.

Farmer training classes for nutrient management planning were not held this year due to Covid. The class will resume in the winter of 2021. These classes give farmers a better understanding of the required steps to write a NMP and provide basic knowledge about soil, nutrients, manure, and the growing of crops. One-on-one computer assistance is also available upon request.

In Winnebago County the total acreage of land with a NMP was 68,478 acres. There are 1,270 new acres that have been contracted to receive state funded cost-sharing to write a NMP for 2021. Currently 54% 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.

Check out the Snap Plus website at snapplus.wis.edu for updates and How To Videos.

LAND CONSERVATION COMMITTEE DIRECTORY

Chuck Farrey, Chair

Tom Snider, Vice Chair

Julie Gordon, Secretary

Bruce Bohn, Citizen Member

Ben Joas, County Board Member

Karen Powers, 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.



Land and Water Conservation Department



The Winnebago County Land and Water Conservation Department is dedicated to providing competent, professional services in the planning, design, and implementation of programs and projects that protect, restore, and sustain the natural resources of Winnebago County.

The Land & Water Conservation Department has a staff of 7 County employees, with backgrounds in geography, soil and water conservation, agronomy, watershed management, and GIS. We work closely with federal and state agencies including Wisconsin DNR, Wisconsin Department of Agriculture, Trade & Consumer Protection, UW-Extension, USDA Agencies, and the U.S. Fish and Wildlife Service.

Technical and financial services are provided in a number of ways. Some of these services are:

- Land management planning and project design for individual landowners. This includes lands that are being cropped, tree planting, upland wildlife habitat development, wetland restorations, etc.
- Design, cost-estimating, layout and construction supervision of "best management practices" built for land and water resource improvements.
- Administer a county funded Water Quality Improvement Program. This program provides funds to private landowners for various projects that improve water quality.
- Secure and manage state and federal grants for County Land and Water Resource Management initiatives.
- Secure and make available equipment, tools, and supplies that assist landowners in meeting their objectives in installing best management practices including planting protective vegetation on critical sites, tree planting, wildlife habitat development, etc.

Our focus is on the land and water resources of this County.

STAFF DIRECTORY

Chad Casper, Director

Melanie Leet, Resource Conservationist

Mike Haase, Conservation Technician

Mary Koch, Administrative Associate

Haley Lucas, Conservation Technician

Sheila Smith, Agronomist

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