

The Dunn County Environmental Services Department Proudly Presents

The Resource

Fall 2017

**Solid Waste
& Recycling**

**Land & Water
Conservation**

**Planning & Land
Use Control**

Surveying

**Your Guide for Information
Regarding Environmental Services
and Community Projects in
Dunn County, WI**

Recycling Coupons Inside! ✂

Welcome to the 2017 Fall edition of *The Resource*, a biannual publication distributed by the Dunn County Environmental Services Department. The Resource will be your go-to publication for information about recycling and waste management, surveying, zoning, planning, and land and water conservation practices in Dunn County, and will serve as an excellent reference. Take a look at the exciting articles, contacts, and how-to guides inside, and look for some valuable coupons for recycling as well!

What is the Dunn County Environmental Services Department?

The Dunn County Environmental Services Department consists of four unique government divisions working together as a team to serve the public regarding environmental policy development while ethically implementing the vision, regulation, and enforcement of these protective policies. These include the Solid Waste & Recycling Division, Land & Water Conservation Division, Surveying Division, and the Planning & Land Use Control Division.

In partnership with our diverse communities, and as proud stewards of the natural world, the Environmental Services Department is dedicated to lead and inspire our communities in the responsible care of our environmental resources. We acknowledge that our efforts and initiatives will be judged by future generations, as we strive to protect our ecosystems for all to utilize and enjoy. We respect the rights of people, and of all living things, because we share a common bond in chorus with the incredible diversity of the natural world around us.



Cover Photo

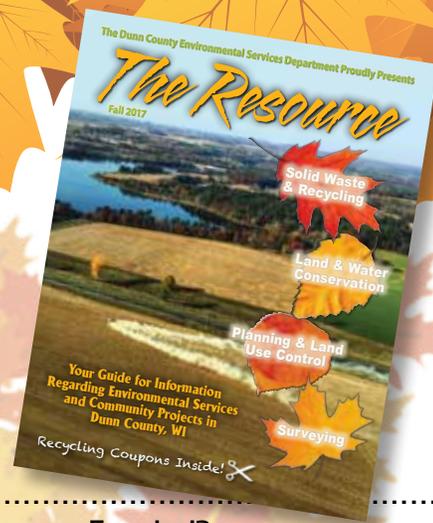
Ryan DeGroote captured this photo showcasing the application of agricultural lime, commonly referred to as “ag-lime,” at the Red Cedar Demonstration Farm. Ag-lime is a soil additive that is routinely applied to cropland in Dunn County to increase soil pH and improve the uptake of nutrients such as nitrogen, phosphorus, and potassium in growing plants. The Demonstration Farm is owned by Dunn County and the City of Menomonie, and is managed with the purpose of linking healthy soils and improved water quality. Please plan to attend the Fall Field Day Workshop at the Red Cedar Demonstration Farm located near the intersection of Highway 12/29 East and Stokke Parkway, in Menomonie, WI, on Wednesday, September 27th from 12:30pm to 3:00pm.

Win a free compost bin! Somewhere hidden in this edition of *The Resource*, there is an acorn that is waiting to be found. If you find the acorn, contact the Dunn County Solid Waste & Recycling Office by September 30th via email at swr@co.dunn.wi.us or by regular mail at 800 Wilson Avenue, Room 235, Menomonie, WI 54751 with your full name, phone number, and where the acorn is located, and you will be entered in a drawing to win a free compost bin. We will draw a name and announce the winner during the first week of October. Good luck!



DUNN COUNTY *Wisconsin*

Inside this Guide:



Solid Waste & Recycling Division	4
How is the Dunn County Solid Waste & Recycling Program Funded?	4
Dunn County Solid Waste & Recycling Fall Hazardous Waste Collection Event	5
Dunn County Solid Waste Permits	6
Recycling #1 Clear Plastic Thermoforms	6
ATTENTION HUNTERS!	7
Sharps Disposal – Safety First!	7
Curbside Recycling: Common Mistakes	8
Mixed Rigid Plastics Recycling	9
WearEver Textile Recycling	9
Dunn County Recycling Guide	10
Dunn County Solid Waste & Recycling Facilities and Hours of Operation	11
Land & Water Conservation Division	12
84 Years of Soil and Water Conservation and a Long Way to Go	13
Well Decommissioning	14
Nutrient Management Planning: Can't We all Just Get Along?	15
Influence of Short Term Land Rental Agreements on Your Soil pH	16
Meet the Newest Member of Our Staff	17
Blue-Green Algae: Causes, Effects, & Solutions	18
Survey Division	19
Town of Peru Remonumentation	19
Town of Spring Brook Corner Excavation	23
Public Land Survey System (PLSS) – Curiosities and Trivia	25
Planning & Land Use Control Division	26
Rain Gardens	26



For a 2017 Solid Waste Permit, contact the Dunn County Solid Waste & Recycling Office by calling 715-232-4017 or e-mailing swr@co.dunn.wi.us, or contact your municipal treasurer.

01234

Solid Waste & Recycling Division

Office Address:
800 Wilson Avenue, Room 235
Menomonie, WI 54751

Office Hours:
Monday – Friday
8:00am – 4:30pm

Office Phone:
715-232-4017
co.dunn.wi.us/swr

Morgan Gerk – Director

Amanda Haffele – Recycling Specialist

Michael Larson – Resource Recovery Specialist

Diane Duerst – Support Specialist

Lauren Soergel – Recycling Specialist Intern



Solid Waste & Recycling Division Staff Photo
L to R: Diane Duerst, Morgan Gerk, Lauren Soergel,
Michael Larson, Amanda Haffele



dunncountyrecycling

How is the Dunn County Solid Waste & Recycling Program Funded?

The Dunn County Solid Waste & Recycling Division receives many questions from residents asking how the program is funded. Recycling is required by the Wisconsin Solid Waste Reduction, Recovery and Recycling Law, and the Dunn County Waste Control Ordinance. Most of the 30 municipalities in Dunn County have chosen to have the county be their Responsible Unit for recycling and to provide solid waste services. A few municipalities such as the City of Menomonie and the Town of Sand Creek only participate in Dunn County's Recycling Program.

Some municipalities have chosen to be their own Responsible Unit for recycling and solid waste, and are not a part of Dunn County's Solid Waste or Recycling Program. These are the Towns of Hay River, Stanton and Eau Galle, and the Village of Knapp.

The municipalities that do participate in the county's Solid Waste and/or Recycling Programs pay a "per capita" fee to the Dunn County Solid Waste & Recycling Division based on the population of their municipality. Some municipalities build the per capita fee into their annual budget and it is a part of their local levy. Other municipalities choose to pay for the per capita fees by billing their residents directly instead of building it into their local levy.

The per capita fees for 2017 support approximately \$515,000 of the Solid Waste & Recycling Division's \$2,700,000 annual budget. The rest of the revenue for the program comes from:

- Sales of recyclable commodities
- User fees from disposal of furniture, recycling of electronics, tires, and bulbs, and sales of solid waste permits
- Tipping fees for materials weighed on the Transfer Station scale and charged by the ton

- State grants, including a Clean Sweep Grant from the Wisconsin Department of Agriculture, Trade and Consumer Protection for the annual Hazardous Waste Collection Events, and a Recycling Grant from the Wisconsin Departments of Natural Resources
- Dunn County tax levy – the Dunn County Solid Waste & Recycling Division budgets only \$8,000 per year from the county tax levy, which is used solely to help fund the annual Hazardous Waste Collection Events.

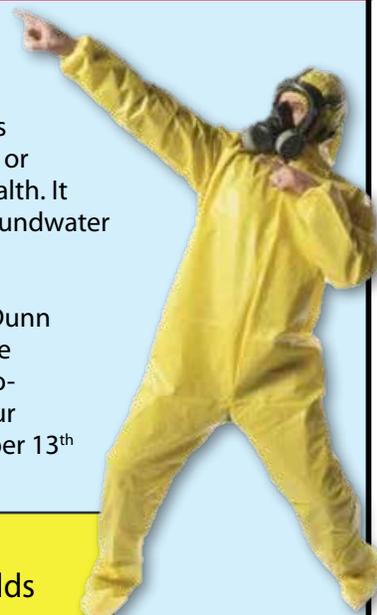
The Solid Waste & Recycling Division continues to expand recycling opportunities for Dunn County residents, businesses and farms, and is always working to minimize costs while providing the best recycling and waste management opportunities possible.

If you have questions about how your town or village handles the per capita fee, we recommend you contact your local clerk or treasurer directly. A list of current officials is available on the Dunn County website at co.dunn.wi.us/countyclerk or you may call the County Clerk's office at 715-232-1677.

2017 FALL HAZARDOUS WASTE COLLECTION EVENT

Common chores such as washing the car, treating the pool, and spraying the weeds seems mundane but potentially involves the use of hazardous chemicals. The term "hazardous waste" refers to automotive, garden, workshop, agricultural, or household chemicals which have labels identifying them as caustic, poisonous, flammable, corrosive, toxic, etc. Most of these hazardous materials are safe for keeping your lawn green and your windows clean, but when used, stored, or disposed of inappropriately, they can pose a significant threat to human and environmental health. It is critical that these hazardous materials are disposed of responsibly to prevent surface and groundwater contamination, air pollution, and other detrimental environmental harm.

To assist you in your efforts to responsibly dispose of your unwanted hazardous materials, the Dunn County Solid Waste & Recycling Division hosts Hazardous Waste Collection Events each year. The hazardous wastes collected during the events are recycled, neutralized, incinerated for waste-to-energy, or otherwise properly disposed of at licensed hazardous waste facilities. Please save your hazardous materials for our upcoming fall collection event, scheduled for Wednesday, September 13th and Thursday, September 14th, 2017.



Wednesday, September 13th, 2017

4:00pm to 6:00pm for VSQG Businesses, Farms, and Households
@ the Colfax Fairgrounds, 831 E Railroad Ave, Colfax, WI

Thursday, September 14th, 2017

2:00pm to 3:00pm for VSQG Businesses
3:00pm to 4:00pm for Farms
4:00pm to 7:00pm for Households
@ the Dunn County Transfer Station, E3900 Hwy 29, Menomonie, WI

Pre-registration required for VSQG Businesses and Farms: All VSQG businesses and farms must pre-register by Friday, September 8, 2017, with the Dunn County Solid Waste & Recycling Division at 715-232-4017 or online by completing the registration form at co.dunn.wi.us/hazardouswaste. You will be asked to provide a list of the materials and quantities you wish to dispose of at the event.



Appropriate items include wastes and unwanted chemicals from automotive, garden, garage, workshop, or household sources that are labeled as toxic, caustic, poisonous, corrosive, flammable, etc. We will also accept live or spent ammunition and loading supplies. By disposing of these materials in a safe, legal, and environmentally responsible manner, you are helping to keep Dunn County clean and green! For an expanded list of acceptable hazardous materials, go to the Dunn County Solid Waste & Recycling Division webpage at co.dunn.wi.us/hazardouswaste, or call the Dunn County Solid Waste & Recycling Division office at 715-232-4017. Unacceptable materials include explosives, fireworks, radioactive materials, infectious or biological wastes, and shock-sensitive or heat-sensitive materials.

Dunn County Solid Waste Permits

A valid Dunn County Solid Waste Permit is required to dispose of household trash at any of the Dunn County Area Collection Stations, and at the Dunn County Transfer Station & Recycling Center. Every year in December, permits are mailed to residents within participating municipalities. Some municipalities choose to mail the permits themselves, while others choose to have the Dunn County Solid Waste & Recycling Division mail them. Municipalities that participate in Dunn County's Solid Waste and/or Recycling Program pay a "per capita" fee for each resident. While some municipalities include the cost of the program in their annual budgets, others assess the per capita fee directly to their residents through individual billings or statements.



Currently, there are 24 municipalities that participate in the Dunn County Solid Waste and Recycling Program. Two municipalities participate in the Recycling Program only. Below is a list of all participating municipalities in Dunn County.

Solid Waste and Recycling

- | | | |
|------------------------|-------------------------|--------------------------|
| ♻️ Town of Colfax | ♻️ Town of Peru | ♻️ Town of Weston |
| ♻️ Town of Dunn | ♻️ Town of Red Cedar | ♻️ Town of Wilson |
| ♻️ Town of Elk Mound | ♻️ Town of Rock Creek | ♻️ Village of Boyceville |
| ♻️ Town of Grant | ♻️ Town of Sheridan | ♻️ Village of Colfax |
| ♻️ Town of New Haven | ♻️ Town of Sherman | ♻️ Village of Downing |
| ♻️ Town of Lucas | ♻️ Town of Spring Brook | ♻️ Village of Elk Mound |
| ♻️ Town of Menomonie | ♻️ Town of Tainter | ♻️ Village of Ridgeland |
| ♻️ Town of Otter Creek | ♻️ Town of Tiffany | ♻️ Village of Wheeler |

Recycling Only

- ♻️ City of Menomonie
- ♻️ Town of Sand Creek

Your permit should be displayed on the rear view mirror or dash of your vehicle, so that it is readily visible when visiting any of Dunn County's Solid Waste & Recycling Facilities. If your permit is not visible, you must present it to an attendant when asked. If you do not have a permit, you will be charged \$3 per bag or barrel of trash to offset the costs of landfilling your waste. A permit is not required if you are recycling only, which is free of charge, and appreciated at all Dunn County recycling facilities.

If your local municipality is not a participating member of the Dunn County Solid Waste & Recycling Program, annual permits are available for purchase for \$80 and are prorated throughout the year. If you need additional permits for other vehicles, or require a replacement permit, they can be obtained for a \$10 fee at the Dunn County Solid Waste & Recycling Division office at 800 Wilson Avenue, Room 235, in Menomonie, or through your local municipal treasurer.

Recycling #1 Clear Plastic Thermoforms

#1 clear thermoform recycling was added to the Dunn County plastics recycling program in the first quarter of 2017. A #1 thermoform is composed of clear PETE plastic resin, but requires a different recycling process than standard #1 PETE bottles and jars due to the unique way in which the plastic is manufactured. These items are widely used for food and beverage packaging, including clamshell containers for berries, deli items, and produce. Sorting a clear #1 thermoform from other clear plastic containers can be challenging, but there is a foolproof way to guarantee your success in properly identifying these items. #1 clear plastic thermoforms that can be recycled with this program will have a small recycling symbol on the item with the number **1** inside, and in most cases, the letters "**PETE**" or "**PET**" below it, as seen in the accompanying photos.



If your clear plastic material has the recycling symbol with the number **5** inside and the letters "**PP**" below it, it is Polypropylene, and can be recycled with our normal #5 plastic recycling program. If it has the recycling symbol with the number **6** inside and the letters "**PS**" below it, it is Polystyrene, which unfortunately, is not recyclable at this time.

Please remove all food residues, and as much of the paper labeling as possible when recycling your #1 clear thermoforms, and remember to always look for the proper recycling symbol.

ATTENTION HUNTERS!

Dunn County Solid Waste & Recycling is required to meet all local, state, and federal laws and regulations when shipping solid waste to a landfill. Wisconsin landfills have strict rules for certain types of "special wastes" that have specific disposal requirements, which helps to ensure that landfill owners are not creating issues with biohazards, safety, or acceptance of banned or inappropriate materials. A large majority of the trash that is collected in Dunn County is sent to the Seven Mile Creek Landfill in Eau Claire County. This facility has a very specific policy for the disposal of animal carcasses and remains, to help protect their employees and the environment from biological hazards associated with disease and decomposition.

Now in effect, the Dunn County Transfer Station & Recycling Center will only accept animal carcasses and remains during certain times of the year. For the 2017 Deer Season, a lined 30-yard dumpster will be onsite beginning October 25th, and will remain available through December 31st, after which animal carcasses and remains will no longer be accepted. There will be a disposal fee of \$3 per carcass to help offset the costs of landfilling this material. Animal carcasses and remains will no longer be accepted at any of the Dunn County Area Collection Stations.

We will also be partnering with the Menomonie Lions Club for the collection of unwanted deer hides to support their programs for the Wisconsin Lions Camp, which is dedicated to providing quality camping and outdoor experiences for Wisconsin youth and adults with disabilities. Collection drums will be provided onsite for all donated deer hides.

If you need to dispose of animal carcasses or remains outside of the time frame listed above, landfills may accept them directly for disposal throughout the year for a fee. Additional guidance on deer carcass disposal is available at dnr.wi.gov/topic/wildlifehabitat/disposal.html



Sharps Disposal – Safety First!

Improper disposal of sharps poses a serious health and safety risk to everyone, and especially to those working in the solid waste and recycling industry. Used needles can transmit diseases such as HIV or hepatitis, and can create serious medical treatment expenses for those who suffer from an unintended needle poke. Fortunately, Dunn County residents are able to safely dispose of syringes, lancets, and other medical sharps for free, keeping these hazards out of the trash where they definitely don't belong. However, for the safety of the public and the solid waste workers, appropriate disposal containers must be used.

Free sharps containers for syringes, needles, lancets, EpiPens, etc. can be picked up at any Dunn County Solid Waste & Recycling Facility. Once filled, these appropriate containers may be returned to any of these facilities for proper disposal. Please ask a site attendant to assist you.



Funding for this program is intended for individual residents of Dunn County. **The program is not intended to subsidize sharps containers or disposal for businesses such as nursing homes, clinics, hospitals, assisted living homes, treatment centers or for veterinary care.** Funding for the containers and their associated disposal expenses are provided by the Menomonie Lions Club, the Dunn County Public Health Department, the Dunn County Solid Waste & Recycling Division, and Mayo Clinic Health System – Red Cedar in Menomonie.

The photo on the left was taken at the Dunn County Transfer Station, and shows a large quantity of sharps found mixed with residential solid waste. Thankfully, staff were able to safely collect them for proper disposal before they were loaded onto a truck bound for the landfill, preventing the possibility of a needle poke to other workers or residents bringing in trash for disposal.

Reminder

Agricultural plastic films are accepted for recycling at the Connorsville and Colfax Area Collection Stations, and at the Dunn County Transfer Station & Recycling Center in Menomonie. Farms are encouraged to contact Revolution Plastics to receive a free agricultural plastic film recycling dumpster. Call Revolution Plastics at 844-490-7873 for more information, or visit their website at revolutionplastics.com



Curbside Recycling: Common Mistakes

Recycling technology and innovation is more advanced than ever before, and Dunn County Solid Waste & Recycling is keeping up by accepting a long list of new commodities at its drop-off facilities. The public has voiced their excitement for the increased recycling opportunities recently implemented, but unfortunately, curbside recycling efforts seem to be a bit behind in the movement. Ask any curbside hauler to hear the horror stories regarding the various “things” they’ve found in residential recycling bins!

The majority of Dunn County residents and businesses are enthusiastic about recycling, but some may not know the specifics of Dunn County’s recycling requirements. In addition to the Dunn County Waste Control Ordinance, which requires all Dunn County residents, businesses, and farms to recycle, the Wisconsin Solid Waste Reduction, Recovery and Recycling Law is in place to promote and enforce proper recycling practices throughout the state. Just as illegal parking may result in a ticket, poor recycling practices may result in a fine.

Recyclables not Separated

Curbside recyclables must be separated from trash and sorted into these eight (8) common categories:

- #1 plastic bottles and jars
- #2 plastic bottles and jugs
- #5 plastic containers and tubs
- Cardboard, including corrugated boxes and fridge/freezer boxes
- Paper, including junk mail, magazines, newspaper, etc.
- Glass bottles and jars
- Steel cans, including empty aerosol cans
- Aluminum cans, including aluminum pet food and sardine cans

Turn to page 10 for the Dunn County Recycling Guide. The items in the left column will be accepted curbside, while the items on the right are only accepted at Dunn County Solid Waste & Recycling facilities.

Placing Recyclables in Plastic Bags

Plastic bags are recyclable, but are not recyclable curbside. Your items may not be picked up if plastic bags are used to sort your recyclables, or the drivers may assume it’s trash and dispose of it with your garbage. Plastic bags also hide sharp edges from cans and broken bottles which can cause lacerations to hands and forearms when the drivers are sorting through your materials. Clean and dry plastic film and bags may be brought to any Dunn County Solid Waste & Recycling facility or most local grocery stores for proper recycling.

Boxes not Flattened or Emptied

All shipping and packaging materials should be removed from boxes and properly recycled (paper, bubble wrap, fiber inserts) or disposed of (styrofoam packing peanuts, sheets, blocks). Boxes must be broken down into sections no more than 4 feet in size, otherwise they do not fit on the curbside recycling trucks and may be left behind.

Dirty Containers

Please rinse or scrape food residues out of all jars, bottles, and jugs. Residues act as contaminants in the recycling process.

Recycling Thermoforms Curbside

#1 clear PETE thermoforms, such as berry and lettuce clamshell containers, cannot be recycled curbside, but can be taken to any Dunn County Solid Waste & Recycling Facility for recycling. For more information on proper thermoform recycling, please refer to the article on page 6.

Recycling Greasy Pizza Boxes

The greasy portions of pizza boxes are not recyclable, but you can remove the top of the pizza box if there are no grease stains on it and recycle it with your cardboard!

How Dunn County Makes Recycling Easier for You!

- ✓ We do not require labels or caps to be removed from most containers
- ✓ Dedicated red recycling bins may be purchased at our office located at 800 Wilson Avenue, Room 235, in Menomonie, WI, or through Menomonie Disposal for \$8
- ✓ The Dunn County Solid Waste & Recycling Division website has detailed instructions on how to properly recycle or dispose of your household trash and other materials. Go to co.dunn.wi.us/swr to learn more about what you can do to improve your solid waste and recycling skills!

If you cannot access the internet but still have questions regarding recycling requirements in Dunn County, feel free to call the Dunn County Solid Waste & Recycling office at 715-232-4017. We are open 8:00am to 4:30pm Monday through Friday.

Examples of Bad and Good Curbside Recycling Practices



BAD These recyclables are not sorted and were placed in plastic bags. Haulers will assume this is trash and the recyclables will be sent to the landfill. Instead, be sure to sort recyclables by type and have them contained in dedicated recycling containers.



BAD This example shows recyclables that are mixed with trash, which is in violation of county and state recycling laws. These items should have been properly sorted and separated from trash.



GOOD What a beautiful sight. This lovely household has separated their recyclables quite well. All materials are clean, dry, and sorted. Nice work!

GOOD Seeing sorted recyclables is so satisfying after those other examples. Feel free to use containers such as 5-gallon buckets to sort your recyclables. There should be at least one red recycling bin so drivers can easily spot it while on their routes.



Mixed Rigid Plastics Recycling

Beginning in August of 2016, Dunn County began an exciting new recycling program for Mixed Rigid Plastics, commonly known as “MRP” in the recycling industry. MRP consists of all manner of bulky, rigid plastic items such as laundry baskets, buckets, drums, totes, shelving, children’s toys, yard furniture, and many other items. MRP recycling is not dependent on sorting these plastics by type, allowing all of these different plastics to be combined and baled together for recycling, which makes things easier from a collection and processing standpoint. Since its inception, the MRP recycling program has evolved into an amazing success, greatly exceeding expectations, with residents doing a wonderful job of bringing all of their unwanted rigid plastic items to the various Dunn County collection facilities for free recycling. To date, Dunn County Solid Waste & Recycling has shipped more than 140,000 pounds of MRP to domestic and international recyclers, which equates to roughly 70 tons of rigid plastic material that has been diverted from landfills!



Other sources of MRP materials have come from local industries, businesses, and manufacturers as a result of increased outreach efforts. By providing an outlet for these waste materials at no charge, our industries save money and improve sustainability while supporting local recycling initiatives. This program ensures that MRP plastics are responsibly recycled rather than landfilled at the expense of the environment.

The Future of Plastic Recycling

The future of MRP recycling is increasingly bright, with markets rapidly growing due to increased demand for recycled resins from rigid plastic sources. There are also new technologies emerging around the world where all plastics, regardless of type or composition, are being transformed into readily useable, high quality synthetic fuels through an innovative process called pyrolysis. In sum, the evolution of plastics recycling is supporting a positive worldwide solution to our increasing demand for these products, and the inevitable wastes that are generated as a result of our consumption. Locally, the inherent need for a proper waste management strategy to capture these recyclables is being realized directly through your efforts when bringing your mixed rigid plastics to a Dunn County recycling facility. *Thank you for being a part of the solution...*



WearEver Textile Recycling

WearEver Recycling textile boxes are available at all Dunn County Solid Waste & Recycling Facilities. These collection boxes provide residents with a convenient option for donating clothing, bedding, and shoes. WearEver Recycling has partnered with Savers in Eau Claire to process and distribute the materials donated by Dunn County residents.

Savers resells approximately 25% of all donated items. About 5% of all donated items are unsellable due to mold, mildew or health concerns related to materials such as nylon stockings or pillows. The remaining 75% of donated items are sold to Texas, Canada, and Central and South America for further processing.

Items we might think unwearable due to outdated fashion or excessive wear, are considered usable, and in some cases highly desirable in other countries. Many third world countries have made a successful industry from buying, selling and altering clothes from countries like the United States. The same is true of shoes. When donating shoes, keep pairs together by tying laces or by placing inside shoe boxes or bags.

Worn or battered clothing and linens, ratty jeans, moth-eaten shirts, and items such as ripped bedding and stained tablecloths are not collected to be sold and reworn. Instead, they are sold and made into industrial rags, insulation, and recyclable fibers. Recycled fibers are bleached and sold to carpet and automobile manufacturers where they are blended with other materials to produce durable carpeting and trim.

Lastly, clean undergarments are acceptable donations as well. These items are more expensive to acquire in second and third world countries, and have high resale values in these areas. Please note that all items should be washed before donating.



Dunn County Recycling Guide

Curbside & Drop-off Recyclables

Sort & Separate
(Do not use Plastic Bags)

Drop-off Recyclables Only

Take to any Dunn County Solid Waste & Recycling Facility for Recycling



STEEL CANS



ALUMINUM CANS



#1 PLASTICS



#2 PLASTICS



#5 PLASTICS



GLASS BOTTLES & JARS



PAPER



CARDBOARD

Carrier stock, fridge & freezer boxes, must be separated from other cardboard at any drop-off facility



Plastic Film & Bags



Tires*



Batteries*



Vinyl Siding



Mixed Rigid Plastics



Electronics**



Compressed Gas Cylinders*



Textiles



Bulbs & Lamps*



Grain & Seed Sacks



#1 PETE Thermoforms

Also Accepted:

Scrap Metals, Appliances, Used Oil, Used Antifreeze, Used Oil Filters, and Printer/Toner Cartridges, Residential Sharps

* Fees are associated with some of these materials to cover the costs of recycling.

** Electronics are only recyclable at the Boyceville, Colfax, & Elk Mound Area Collection Stations or the Transfer Station & Recycling Center.

Please See Site Attendant for Assistance!

Dunn County Transfer Station and Recycling Center*

E3900 Hwy 29, in the Town of Menomonie

Mondays 6:30am – 4:30pm
Wednesdays 1:00pm – 6:00pm
Saturdays 7:00am – 12:00pm

Dunn County Yard Waste Drop-off Site

N5515 377th Street, Town of Menomonie

April 1st through November 15th (weather permitting due to road conditions)

Mondays 6:30am – 4:30pm
Wednesdays 1:00pm – 6:00pm
Saturdays 7:00am – 12:00pm

Accepts brush, leaves and garden/grass clippings

Boyceville Area Collection Station*

E2698 County Road N, Boyceville

Wednesdays 10:00am – 7:00pm (April 1st through October 31st)
Wednesdays 10:00am – 5:00pm (November 1st through March 31st)
Saturdays 8:00am – 4:00pm

Also accepts brush, leaves, and garden/grass clippings

Colfax Area Collection Station*

N9417 810th Street, Colfax

Wednesdays 10:00am – 7:00pm (April 1st through October 31st)
Wednesdays 10:00am – 5:00pm (November 1st through March 31st)
Saturdays 8:00am – 4:00pm

Also accepts brush, leaves, and garden/grass clippings

Connorsville Area Collection Station

E1285 1256th Avenue, Connorsville

Wednesdays 8:00am – 12:00pm
Saturdays 8:00am – 12:00pm

Downsville Area Collection Station

N2723 440th Street, Downsville, WI 54735

Wednesdays 8:00am – 3:00pm
Saturdays 8:00am – 3:00pm

Elk Mound Area Collection Station*

401 570th Avenue, Elk Mound

Wednesdays 8:00am – 7:00pm (April 1st through October 31st)
Wednesdays 9:00am – 5:00pm (November 1st through March 31st)
Saturdays 8:00am – 4:00pm

Also accepts brush, leaves, and garden/grass clippings

Ridgeland Area Collection Station

N12184 Hwy 25, Ridgeland

Wednesdays 12:00pm – 7:00pm (April 1st through October 31st)
Wednesdays 12:00pm – 5:00pm (November 1st through March 31st)
Saturdays 8:00am – 12:00pm

Rock Creek Area Collection Station

N1825 980th Street, Rock Falls

Wednesdays 1:00pm – 5:00pm
Saturdays 8:00am – 12:00pm

Sand Creek Area Recycling Drop-off Site

Across the street from the Fire Department

Saturdays 8:00am – 4:00pm

Accepts recyclables only

***Electronics including TV's & monitors are accepted at these locations only.**

Dunn County Solid Waste & Recycling Facilities and Hours of Operation

Land & Water Conservation Division

Office Address:
800 Wilson Avenue, Room 330
Menomonie, WI 54751

Office Hours:
Monday – Friday
8:00am – 4:30pm

Office Phone:
715-232-1496

Dan Prestebak
County Conservationist Ext. 2

Tina Barone
Conservation Planner Ext. 5

Chris Gaetzke
Conservation Planner Ext. 6

Amanda Hanson
Conservation Planner Ext. 4

Rick Ingli
Conservation Planner Ext. 7

Bob Kaner
Conservation Engineering
Technician Ext. 3

Janell Newcomb
Support Specialist Ext. 1

Lindsay Olson
Water Quality Specialist Ext. 8

The Land & Water Conservation Division works with Dunn County residents to conserve and promote healthy soils, clean water, productive forests, and wildlife. Staff work with landowners, managers, and local units of government to coordinate assistance from all available sources including public and private, local, state, and federal, to find sustainable solutions to address local natural resource concerns.

Examples of some of the services we provide:

- Implement farm and nutrient management conservation practices to protect soil productivity, water quality and quantity, air quality, and wildlife habitat
- Conserve and restore native plant communities, streams and wetlands, which purify water and provide habitat for birds, fish, and other animals
- Protect groundwater resources
- Issue new manure storage and non-metallic mining reclamation permits
- Help landowners control soil erosion and protect water quality by constructing grassed waterways, earthen dams, and field diversions
- Reach out to communities and schools to teach the value of natural resources and conservation



Land & Water Conservation Division Staff Photo

L to R (Front): Janell Newcomb, Lindsay Olson, Tina Barone
(Back): Chris Gaetzke, Bob Kaner, Rick Ingli,
Dan Prestebak, Amanda Hanson

84 Years of Soil and Water Conservation and a Long Way to Go



Wind erosion in April 2015 in Dunn County

2017 marks the 84th year of soil conservation practices being in existence in the United States. In 1935, after 2 years in existence, the U.S. Congress passed the Soil Conservation Act, which created the Soil Conservation Service (SCS) within the Department of Agriculture (USDA) and declared that the federal government bore permanent responsibility for reducing water and wind erosion of the nation's soils. The SCS included more than 10,000 employees, and utilized the labor of some 450 Civilian Conservation Corps units¹.

Fast forward to 2017 and this agency is called the Natural Resources Conservation Service (NRCS), who works closely with the Dunn County Land and Water Conservation Division (DCLWCD). The agencies have been working together since 1939 when Dunn County formed a Soil and Water Conservation District (SWCD) with other nearby counties. In 1982, Wisconsin passed Chapter 92 that disbanded the SWCDs and formed the Dunn County Land Conservation Department and Committee. The focus of the two agencies has always been to sustain soil and water quality.

Since 1982 the DCLWCD has been working with all farmers that want to voluntarily comply with federal and state regulations. This system has had many successes, but still has a long way to go.

Since the last corn and soybean commodity boom in 2011, new challenges have arisen. Many fields were put back into production that were marginal land, fence and wood lines were taken out, and tillage made a resurgence. These land management changes have coupled with more intense weather events and have caused increased erosion by water and wind.

So what is the answer to protect our soil and water? Getting every citizen involved through doing their part to reduce runoff, infiltrate water and diversify their land.

Farmers have begun stepping up to the challenge by implementing soil health practices like no-till, cover crops, grass buffers and waterways. These practices build well-structured soils that are resilient to wind and water erosion. Feeding soil biology in return cycles nutrients and increases soil organic matter (SOM) that allows water to infiltrate, instead of run off carrying our precious topsoil. A 1% SOM increase holds an additional 25,000 gallons of rain per acre!

Cattle farmers (grazers) are converting conventional pasture into managed grazing systems that use a high density of animals on a small area called paddocks that are rotated after 1-6 days. By resting the vegetation for 30 or more days before coming back to the same paddock, the plants develop deeper roots, higher nutrient value and can be grazed 60 or more days longer than continuous grazing.

These efforts will help build Dunn County's resiliency to floods and drought and ease off dependency of low margin, high subsidy commodities of corn and soybeans. To find out more about this movement and to see how you can do your part, check out this website holisticmanagement.org/theregenerative-solution. If we don't make changes now, how will our future generations be able or willing to continue to farm?



Conventional Till on left and No-Till practices on right after rainfall event in May 2017

For more information, contact Chris Gaetzke, Conservation Planner at 715-232-1496, ext. 6 or cgaezke@co.dunn.wi.us.

1. Natural Resources Conservation Service, 1992. A Conservation Success Story.

Well Decommissioning (Properly Closing an Unused Well)

Bob Kaner has worked in the Dunn County Land and Water Conservation (LWCD) office since 1985 and has assisted many of our citizens in properly decommissioning unused, outdated, or failing wells located on their property. The LWCD administers a cost-share funding program that utilizes Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) money to offset the cost of decommissioning a well and ensuring the wells are closed according to DNR standards.

What types of wells are there?

Water wells can consist of driven sand points, drilled encased metal pipes or historically impressive hand dug shafts lined with rock, brick or concrete. Many have large concrete storage tanks (cisterns) next to them. These old wells are often located in plain sight but may be hidden by a clump of weeds or brush. They are mowed and farmed around for years often without the current owner knowing it is a well or what can be done to close it properly.



Drilled well at old homestead site



Drilled well with hand pump

Drilled or sand point wells may have a long hand pump on them or be just a stub of pipe sticking above the ground. Some may have a classic windmill over them with the concrete tank (cistern) next to them. Many are just a pipe stub sticking up in the corner of a home basement floor (this option is not allowed for new wells). These wells are typically filled with clay bentonite chips with costs ranging from \$500 to \$1,500.



Dug well with concrete lid

Dug wells may be located in a residential or rural area. They are typically 30" to 48" in diameter and 20' to 40' deep. Some have lids such as a concrete slab and others are only covered with old boards or scrap metal roofing. Dug wells are typically filled with concrete and then a cap of native soil is put over them. Cost can range from \$1,200 to \$2,200 to decommission these wells.



Windmill well site with concrete cistern tank

Why decommission these wells?

These wells all have one thing in common – a hole deep into the protective surface layer of the earth to access the water table that lies below. This hole will likely remain open until steps are taken to properly decommission it. Each well poses a threat to our precious groundwater resource. With the intent of tapping into the groundwater, they each provide a direct conduit to our precious water table. The downside is that each of these holes provides a chance that some form of pollution or contaminant can enter the groundwater system.



30' Diameter x 30' deep dug well covered with boards

For more information contact Bob Kaner, Conservation Engineering Technician, at 715-231-6536 or rkaner@co.dunn.wi.us

Nutrient Management Planning: Can't We all Just Get Along?

Nutrient Management Planning (NMP) has become a contentious conversation piece amongst Dunn County residents. The classic arguments still stand of small farm vs. big farm, lakefront property owner vs. farmer, private property rights vs. government regulations, and rural resident vs. manure covered crop field. While it is fairly easy to point a finger at your neighbor, it is sometimes difficult to remember that both you and your neighbor need food and water to survive. Will nutrient management planning be the key to solving all of the world's problems? Probably not, but it is a great tool that can be utilized right here in Dunn County to help improve surface water, protect groundwater, educate the people, and help prevent future conflict.

A Nutrient Management Plan is essentially a nutrient budgeting tool that helps farmers track and plan for the proper application of both commercial fertilizer and manure. The goal of a NMP is to add the required soil nutrients by using the right source, with the right rate, at the right time and in the right place. A NMP incorporates agronomic principles, economics, and environmental standards to help a farm remain profitable while also helping comply with state soil and water conservation standards. By planning for the proper use of soil nutrients, farmers can do their part in maintaining productive soils and keeping clean water clean.

Many Dunn County farmers currently operate with a Nutrient Management Plan and have been doing so for years. It is not only wise to apply nutrients according to crop needs while meeting "tolerable" soil loss levels,

but it is also required by state law. A farmer who understands the concepts of nutrient management planning can properly apply the right soil nutrients, can identify and plan for areas susceptible to water contamination, and can teach others how they are sustainably and profitably farming their cropland. If the residents of Dunn County want to enjoy clean waters and maintain productive farmlands, adopting nutrient management planning is a step in the right direction.

Interested in writing your own Nutrient Management Plan?

The Menomonie Chippewa Valley Technical College (CVTC) Campus offers an annual course for nutrient management planning. Class attendees learn the fundamentals of nutrient management, the components of a plan, and how to write and maintain their own NMP. There is an associated cost for the class, but it is often offset with grant funding. Classes usually occur 1-2 times per month from November through February. The class format includes presentations, discussions and one-on-one interaction using the latest nutrient management planning computer software. For more information, contact Farm Business Production Management Instructor, Mark Denk at 715-577-3036.



For more information contact, Rick Ingli, Conservation Planner, at 715-232-1496 ext. 7, or ringli@co.dunn.wi.us.



Managed Rotational Grazing = Healthy Soils

Keeping livestock on the land is a major component of achieving healthy soils. A farmer who rotationally grazes often benefits financially, increases water infiltration, and lets their animals work for them. If you would like to attend a Pasture Walk, better understand the economics of rotational grazing or learn more about the soil health benefits of managed grazing, contact NRCS District Conservationist, John Sippl at 715-232-2615 ext. 3110.

Influence of Short Term Land Rental Agreements on Your Soil pH

Maintaining a healthy and productive soil encompasses many factors, one of which is pH of your soil. In simple terms, what is pH? It is a measure of how neutral, basic or acidic your soil is. Soils that have an inadequate soil pH may have plants growing that show signs of a nutrient deficiency, overall stunted plant growth, or perhaps the seeds and plants that you planted just didn't grow at all. At times you may recognize some different weeds growing instead of your plants, and some of those weeds tend to thrive in soils with a low pH. Several factors such as the length of rental agreements can affect the resulting soil pH on land owned by absentee landowners or landowners who don't farm their own land. A low pH value can affect the activity of biological microorganisms within the soil, the function of some herbicides, as well as the plants' ability to uptake essential nutrients.

Have you ever stopped to think about all of the essential nutrients a plant needs to grow? Actually, there are 17 nutrients to be exact:

Structural: Carbon, Hydrogen, Oxygen

Primary: Nitrogen, Phosphorus, Potassium

Secondary: Calcium, Magnesium, Sulfur

Micronutrients: Boron, Manganese, Zinc, Copper, Iron, Molybdenum, Chlorine, Nickel

The structural nutrients, Carbon, Hydrogen and Oxygen are provided to the plants by air and water. The remaining primary, secondary and micronutrients are provided to the plant mostly by soil. Applying livestock manure or commercial fertilizers can increase the amount of nutrients in the soil for the plant to utilize, improving the fertility of the soil.

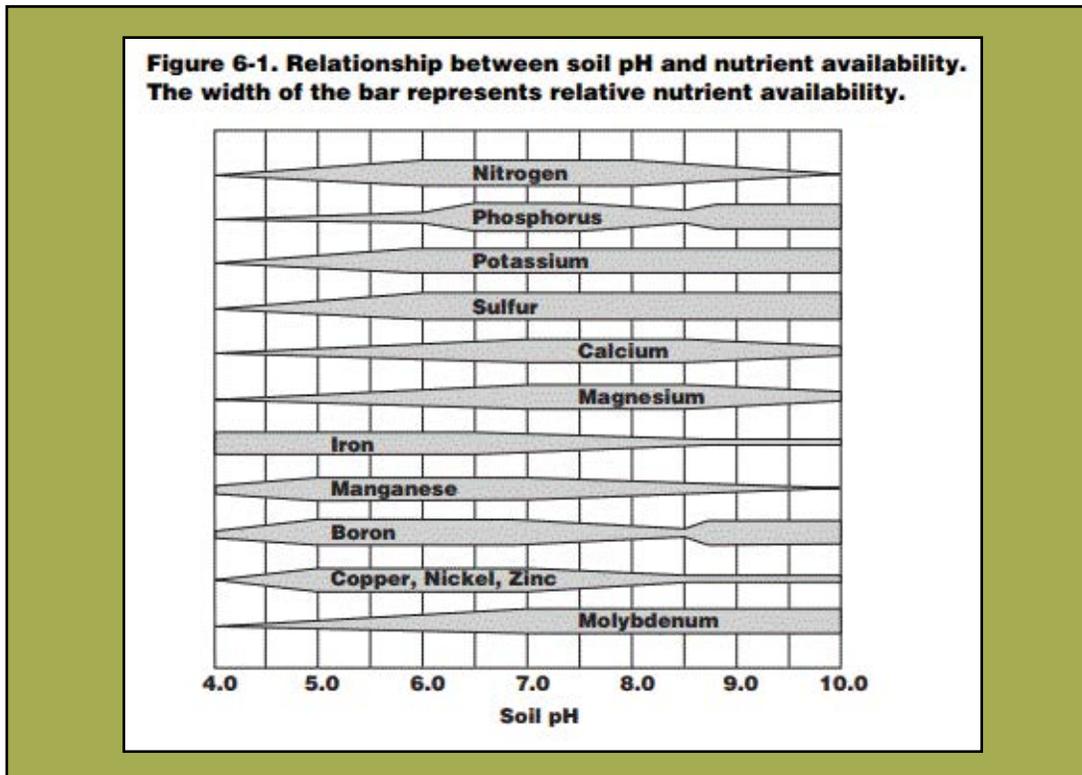
One of the limiting factors with plant uptake of the nutrients listed above is the pH of your soil. If you have an inadequate soil pH for the plants and crops you plan to grow, those essential nutrients won't be able to be taken up by the plants and crops.

The best way to know the pH of your soil is to take a soil test. Whether it is a lawn or garden, or a crop field or pasture, a soil test is a great way to determine the soil pH. You can take the sample yourself or hire someone to take the soil samples for you such as a local agronomist. A nice addition is that the same soil sample can be used to test for the essential nutrients for your crops or plants.

Ways to improve your acidic soil pH can be done by using lime. The time it takes for your lime to correct the pH of the soil depends on the Neutralizing Index (NI) of the lime. Suppliers should have this number available for you. The chemical properties of lime are basic and will improve your pH from its acidic state toward a neutral state.

Some of the worst soil pH values from soil tests are fields that haven't received any lime in years, and no one wants to put the lime on. Why is this? There is time and money spent to purchase the lime and spread it on the field, though it is mostly due to single year land rental agreements between landowners and the farmer or renter. In this situation, the landowner tends to rent to the "top dollar" renter, but only for a year. While the landowner may enjoy the higher rent payment they receive, they are focused only on the short term or present time frame. Looking long term, the farmer or renter is less apt to consider soil testing, applying lime and nutrients, maintaining grassed waterways, establishing a rotation, or other best management practices since the farmer or renter is not guaranteed to farm the land the following year. If the landowner continues to only rent the land on a single year time frame, eventually the landowner will have a poor quality field and future farmers won't want to fix the problems that the previous renter created. The landowner may have to settle for a lower land rental rate and incur the costs to improve their cropland along with waiting a few years for their land to improve. This is why it is important to have a longer term land rental agreement so the multiple issues resulting from a single year land rental agreement can be avoided as much as possible.

Figure 6-1 shows the relationship between soil pH and nutrient availability. The nutrient's relative availability is represented by the bar width, a wide width being more relatively available than a narrow width.



Graph from UW Extension, *Management of Wisconsin Soils, Fifth Edition*, (Madison: Cooperative Extension Publishing, 2005)

For more information, contact Amanda Hanson, Conservation Planner, at 715-232-1496, ext. 4 or ahanson@co.dunn.wi.us.

Meet the Newest Member of Our Staff



Tina Barone joined the Dunn County Land and Water Conservation Division as a Conservation Planner on June 12, 2017. She has been working in conservation since 2002 and received a Bachelor of Science degree in Crop and Soils from UW-River Falls. Since graduation, Tina has had varied work experiences in the public and private sector. Tina spent a few years in the private sector delineating wetlands and working on petroleum and agriculture chemical cleanup projects. Most recently, she worked for the Natural Resources Conservation Service (NRCS) as a

Soil Conservation Technician and Soil Conservationist. With NRCS, she spent time in many counties throughout Wisconsin and learned the challenges of installing conservation practices in different landscapes. Tina has designed and installed many conservation practices such as grassed waterways, stream crossings, grade stabilization structures, waste storage closures, and streambank restoration projects. Tina looks forward to working with Dunn County landowners to decrease soil erosion and improve water quality.

Pictured to the right is a 2,000 foot long grassed waterway under construction with an approximate 400 acre watershed that Tina designed.



Blue-Green Algae: Causes, Effects, & Solutions

Most residents in Dunn County are familiar with the “pea soup” look taken on by Lake Menomin and Tainter Lake by summer’s end in most years. But what exactly is it, and what is the cause of it? Further, what can be done about it?

Blue-green algae are not actually plants but rather are photosynthetic bacteria collectively known as cyanobacteria. They grow very quickly in the right conditions, which include slow moving and warm water and excess nutrients such as nitrogen and phosphorus.¹ While they can occur naturally, science indicates that human activities and land use have an impact on the frequency of blooms.

A landmark study by D.W. Schindler (1974) examined the effects of carbon, nitrogen, and phosphates on water quality in a Canadian lake. The lake was divided in half using a sea curtain, and carbon and nitrogen were added to both halves, while phosphorus was added to only one half. The half with the added phosphorus quickly became eutrophic (meaning that excess nutrients lead to the overgrowth of plants and algae), while the other half maintained its pre-fertilization clarity². This study led to a greater understanding of phosphorus’ role in lake eutrophication and ultimately the banning of phosphates in household detergents. In Dunn County, both Tainter Lake and Lake Menomin have been classified as impaired by the EPA due to excessive phosphorus, which has caused degraded water quality.

Water quality problems caused by blue-green algae blooms include discolored water, reduced light penetration, odor, reduced dissolved oxygen (necessary for aquatic life), and toxins that can cause human health concerns such as skin rashes, stomach upset, and respiratory conditions.³ Blue-green algae can also affect the taste of drinking water sourced from surface waters with algal blooms, though fortunately most residents in Dunn County get their drinking water from groundwater.

There are a number of current initiatives ongoing in Dunn County to better understand the dynamics of algal blooms in Tainter and Menomin, including a \$600,000 project in collaboration with the US Army Corps of Engineers, DNR, and UW-Stout. This project will look at the specific drivers of algae blooms in Tainter and Menomin including background phosphorus levels found naturally in the watershed, human land use activities, and how the reservoirs interact with nutrient inputs.

All county residents, both urban and rural, can help reduce nutrient input into the lakes by reducing runoff from their land and increasing infiltration. Increasing the use of cover crops, reducing tillage, spreading manure only on approved sites in accordance with an approved nutrient management plan, adding rain gardens and roof gutters, and reducing fertilizer use are all things that citizens can do to help curb blue-green algae blooms.



Blue-green algae on Lake Tainter. Photo credit: Dick Lamers

For more information, contact Lindsay Olson, Water Quality Specialist, at 715-232-1496, ext. 8 or at lmolson@co.dunn.wi.us.

1. Wisconsin Department of Natural Resources, 2017. Blue-Green Algae.

2. Schindler, D.W., 1974. Eutrophication and recovery in experimental lakes: implications for lake management. *Science* 184 (4139), 897-899.

3. Environmental Protection Agency, 2017. Nutrient Pollution, The Effects: Human Health.

Survey Division

Office Address:
800 Wilson Avenue, Room 310
Menomonie, WI 54751

Office Hours:
Monday – Friday
8:00am – 4:30pm

Appointments are recommended as staff may be in the field.

Tom Carlson – County Surveyor
715-231-6526
Gregg Batzer – Professional Land Surveyor
715-231-6525
Troy Stowell – Survey Technician
715-231-6527

In the previous edition of *The Resource*, the Public Land Survey System (PLSS) was explained in detail. The original PLSS corner markers were set in Dunn County from 1847 until 1853. The corner markers were typically wood posts which were subject to rot and decay, logging, road building, land clearing, farming, malfeasance, and other factors that reduced their useful life. Ever since these PLSS corners were set there has been a need to re-establish, preserve and maintain them which is a main duty of the Dunn County Surveyor's Office. In order to properly re-establish PLSS corner positions, surveyors need to follow in the footsteps of the surveyors who came before them. In this edition of *The Resource*, two specific corner recoveries will be illustrated.

Town of Peru Remonumentation

The first PLSS corner we will look at is located in the Town of Peru. During the summer of 2014, the Dunn County Surveyor's Office was contacted by a private surveyor regarding existing survey data on file for Section 2, Township 26 North, Range 12 West. More specifically, the east and west quarter corners of this section were required in order to complete his survey. There have been very few surveys in this particular section and the east quarter corner had no monument record forms on file or other records indicating the corner had been visited by a surveyor since the time of the original government survey. We agreed to take on the project and we were looking forward to the challenge ahead.



Survey Division Staff Photo

L to R: Troy Stowell, Tom Carlson, Gregg Batzer



Following in the footsteps of our predecessors

On August 22, 1849 Alexander Anderson, U.S. Deputy Surveyor set a wood post monument at the east quarter corner of section 2. His instructions at the time also required him to measure and record the direction and distance to two adjacent trees called "bearing trees". The specie and diameter of each tree was also to be recorded. Each tree was to be distinguished by a smooth blaze, with a notch at its lower end, facing the corner, and in the blaze to be scribed "¼ S". The letters B.T. were also to be scribed upon a smaller blaze directly under



Chippewa River

the large one, and as near to the ground as practicable. At the east quarter corner of section 2, Anderson noted two black oak bearing trees, one northeast of the corner and the other southwest of the corner. The east quarter corner of section 2 is currently located on a large, undeveloped island formed by the Chippewa River. Getting to this corner location would require a bit of unconventional transportation. Dan Prestebak, the

County Conservationist, happened to have a hunting camp on the river near this island. He also had a small boat with a special motor known as a "Go Devil" which he used to navigate the river. Dan was kind enough to loan us his boat and motor for a few days which would become our mode of transportation for this project. He also provided valuable information on how to navigate the river as there were many snags, rock humps, and sand bars lurking beneath the water.



Preparing to load our gear

One very warm day in August, our office loaded our survey equipment into Dan's boat and headed off for the island in search of any evidence of the east quarter corner. This island has seen very little human interference, including logging since the time of the original government survey. We were hopeful we would find some original evidence. We beached the boat within a quarter mile of the corner position and began navigating using global positioning system equipment (GPS) toward a preliminary stake out position which we calculated based on adjacent PLSS corners. Upon arriving at our approximate search location we immediately noticed a large 7' tall, hollow oak stub to the southwest. This stub immediately piqued our curiosity – could it in fact be one of the two bearing trees marked by Anderson? We definitely were going to examine it. After staking out our computed position on the ground, we measured the direction and distance to this stub and found our measurements to fit reasonably



Beaching the boat near our destination



Visible scar from overgrown blaze

well with Anderson's measurements. Further investigation of the stub revealed a visible scar on its northeast face which would correspond to the location of the lower blaze made by Anderson. The center of the stub was hollow and therefore no evidence of the upper blaze or any scribing was found. We searched for evidence of Anderson's other bearing tree and any prior corner monumentation or occupational evidence such as existing fence lines, however nothing was found. We established several survey

control points using our GPS equipment in a nearby meadow from which we could work from and recorded a measurement at the center of the rotted stub. We also collected samples of wood from the stub before leaving for the day. The wood samples were later analyzed by a Department of Natural Resources forester and a local private forester.



Remains of Anderson's bearing tree from 1849

Both foresters agreed the wood samples were of the red oak family, of which black oak is a member. They also indicated there was a high probability this tree would have been alive at the time of the original government survey given the sandy soil conditions and very slow growth rate of the tree. Based on this supporting information we were convinced we had found one of Alexander Anderson's original bearing trees. A position for the quarter corner was computed by using the direction and distance from the tree to the corner position reported in Anderson's notes. We returned to the island a few days later, staked out this new position based on the bearing tree evidence, and hand excavated an area at the computed position. No evidence of Anderson's wood post corner monument was found. We proceeded to set a 30" long, 7/8" diameter iron rebar with a Dunn County aluminum cap to perpetuate the corner position along with four additional rebar to serve as witnesses to the corner monument should it ever be removed, damaged or disturbed. Using the control points established from our previous visit, we were able to obtain a highly accurate geodetic position on the corner monument and witnesses. A "please protect nearby survey marker" sign was placed near the corner monument to help protect it from future disturbance and to help other surveyors find the monument. As we packed up our equipment and began heading back to the boat, we felt an extreme sense of accomplishment and satisfaction knowing we had perpetuated an original government corner by finding evidence that was documented 165 years ago! Soon afterwards, a land corner monument record form was prepared and filed in the County Surveyor's Office to document our findings. The information was provided to the requesting surveyor who completed his property survey shortly thereafter.

Remains of Anderson's bearing tree in the background

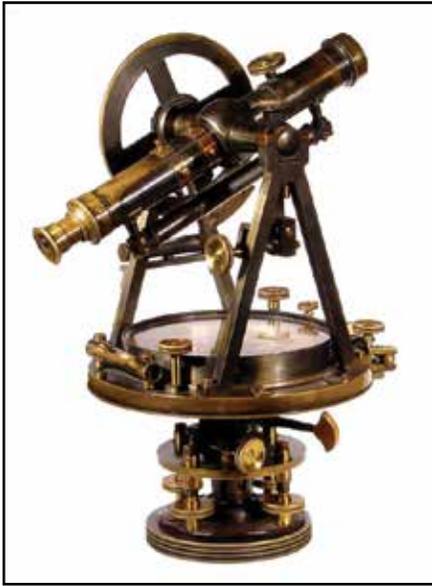


Survey monument with guard post

Township 26. N. of		Range 12. W. 4th 4m.	
Chain	East random between Sections 19 12	Chain	North random between Sections 19 12
	Variation 8° 35' 0"		Variation 8° 30' 0"
77.50	Intersected East corner 4 links South of Post	82.81	Intersected North boundary 36 links East of Post
	West Cor. bet. Sections 19 12		South Cor. bet. Sections 19 22
	Variation 8° 37' 0"	13.00	Trail NE
37.75	Set up Section Post	13.17	Intersect right bank chippens
	1 Br Oak 7 S 88° W 167		Post in mound just North side
	1 Br Oak 12 N 58° W 140	28.35	one of set Post on left bank
42.00	Enter timber North		1 Birch 12 S 87° E 98
77.50	Section Corner		1 Br Oak 8 S 47° W 131
	Post set Bottom	42.31	Set up Section Post
	Timber N. of Br Oak 2		1 Br Oak 15 S 61° W 58
			1 Br Oak 8 N 61° E 25

Anderson's field notes – August 22, 1849

Town of Spring Brook Corner Excavation



Surveyor's Transit - circa 1880's

The second corner we will look at is located in the Town of Spring Brook. In June of 1880, Dunn County Surveyor Dan Harshman completed a subdivision of Section 16, Township 27 North, Range 11 West. As part of his survey, he placed stone monuments at several corner locations within the section. His work was likely completed with an early transit and a chain. The transit was used for measuring angles, while the chain was a tool used for measuring distance. At one particular corner, he placed a sandstone measuring 4" x 6" x 18" long. This corner location is located at what is now the intersection of County Highway "E" and 890th Street. During 2016 County Highway "E" was undergoing reconstruction with new paving scheduled later that



Surveyor's Chain - circa 1880's

year. During construction would be an ideal time to excavate beneath the road surface for evidence of Harshman's

stone. The Dunn County Public Works – Highway Division was contacted and agreed to assist with the corner excavation. Before the excavation was planned, a search location would need to be determined. A position was computed at a midpoint on a straight line between the adjacent PLSS corners north and south. On September 16, 2016 the computed search position was staked out on the ground and the corner excavation was begun. There was a reasonable expectation that Harshman's stone would be found due to the fact the aforementioned road intersection had been built up approximately 4 to 5 feet since 1880. With each bucket of dirt that was removed from the hole, we were slowly reaching original native soil which is where we would expect to find Harshman's stone. After going through several layers of old road surface, the machine operator felt his bucket make contact with a solid object. Upon initial observation, the object appeared to be a stone. Further hand excavation with a shovel revealed a sandstone closely matching the dimensions reported by Harshman.



Dunn County Public Works Highway Division assisting with the excavation



Harshman's stone recovered 5 feet below grade

The stone was vertical, undisturbed, and located approximately 5 feet below grade in native soil. Finding no other stones in the course of the excavation, we were certain we had recovered Harshman's stone monument. After documenting the evidence and taking several pictures, the stone's position was measured using global positioning system equipment. Remarkably, the stone's position matched our calculated search location by less than 2 feet! In November of 2016, after the completion of new paving we returned to perpetuate Harshman's position. We set a 3" long magnetic survey nail in the pavement directly above where we found the stone and made reference to four witness monuments. A land corner monument record form was later prepared and filed in the County Surveyor's Office to document our findings.



Close up of Harshman's stone in native soil



Stone monument recovered 136 years after being set

Why is it so important that the PLSS system be protected and maintained? The PLSS is one of Wisconsin's very first infrastructures. The system serves as the essential framework for property ownership and is the very foundation for all parcel mapping projects. Without a properly maintained network of PLSS corner monuments, there is an increased risk of property disputes, inequitable taxation, disagreements about resource rights, confusion over ownership and easement locations, and unnecessary expenditures by private citizens and local governments.



Magnetic nail set to perpetuate Harshman's position

Public Land Survey System (PLSS) – Curiosities and Trivia

(courtesy of the Wisconsin State Cartographer's Office)

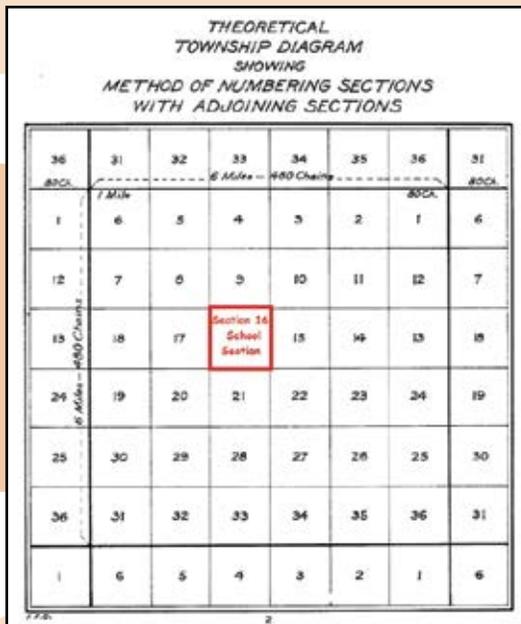


Statehood:

When Wisconsin was admitted to the Union as a state in 1848, PLSS field work here had been underway for 17 years (while the area was part of the Michigan Territory until 1836 and then the Wisconsin Territory), but it would take almost 20 more years to complete.

State Capitol:

Wisconsin's Capitol building is said to be the only state capitol located exactly on a section corner (the common corner of sections 13, 14, 23, and 24 of Township 7 North, Range 9 East is said to be at the center of the Capitol rotunda).

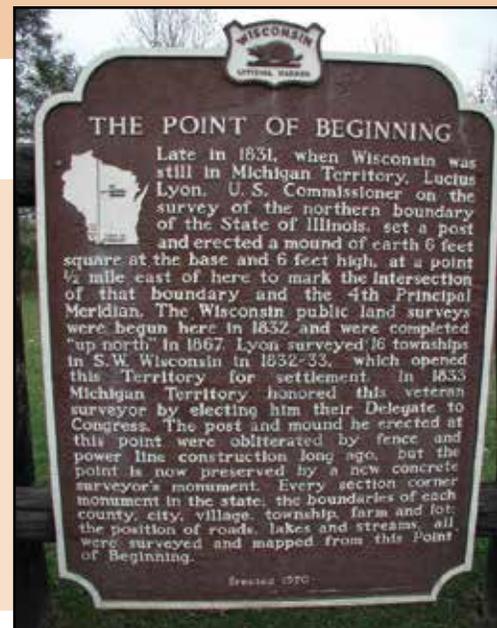


School Section:

Typically section 16 in each township was reserved to be used to support education either as a school site and/or to generate construction funds from sale of the land. This was sometimes called the "school section".

Initial Point:

The "Initial Point" for Wisconsin's PLSS, along the Illinois border where the 4th Principal Meridian heads off northward and the baseline extends west to the Mississippi River and east to Lake Michigan, has been marked with a special monument. A nearby historical marker along State Highway 84 commemorates the beginning of the PLSS in Wisconsin. The 4th Principal Meridian actually begins in west-central Illinois.



Planning & Land Use Control Division

Office Address:

800 Wilson Avenue, Room 310
Menomonie, WI 54751

Office Hours:

Monday – Friday
8:00am – 4:30pm

Office Phone:

715-231-6521

Bob Colson
Planner/Zoning Administrator

Ben Bublitz
Zoning Enforcement Officer/Planner

Michelle Siegl
Zoning Enforcement Officer/Planner

Addison Vang
Planner/Zoning Enforcement Officer

Janet Riedel
Zoning Specialist

Nancy Radke
Secretary

Rain Gardens

When rain falls on natural areas such as a forest or meadow, it is slowed down, filtered by soil and plants, and allowed to soak into the ground. When rain falls on impervious surfaces such as rooftops, roads, parking lots and driveways, it does not soak into the ground and stormwater runoff is created. Stormwater runoff picks up pollution such as fertilizer, pesticides, sediment, motor oil, litter, pet waste, and yard waste. In many areas of Dunn County, stormwater and the pollution in it flows into ditches, swales, or directly into bodies of water.



Small rain garden (Elk Creek Lake)

Planning & Land Use Control Division Staff Photo

L to R: Ben Bublitz,
Bob Colson, Michelle Siegl,
Addison Vang, Nancy Radke,
Janet Riedel



This article focuses on rain gardens as a stormwater runoff mitigation option under the Dunn County Shoreland Ordinance. The intent is to provide all county landowners with rain garden information, but more importantly, to provide shoreland landowners with a detailed overview of the county's rain garden requirements as a mitigation option. All landowners considering a rain garden, should include the Zoning office as part of the design phase of the project.

Stormwater mitigation is not uncommon for new and remodeled structures within 300 feet of the ordinary high water mark (OHWM) of navigable waters within Dunn County. According to the Dunn County Shoreland Protection Ordinance, no more than thirty percent (30%) of the portion of a lot within 300 feet of the OHWM may be covered by impervious surfaces.

Impervious surfaces are mainly artificial surfaces such as pavements (roads, sidewalks, driveways and parking areas) which are covered by impenetrable materials such as asphalt, concrete, brick, stone, shingles and/or other rooftop materials. Gravel and crushed stone under driveways and parking areas are highly compacted and are also considered impervious. Calculating the percentage of impervious surface can be done by dividing the surface area of existing and proposed impervious surfaces (square feet) on that portion of land within three hundred (300) feet of the OHWM by the total surface area (square feet) of the lot or parcel and multiply by one hundred (100). For shoreland properties, the Zoning Office may permit projects with impervious surfaces in excess of 15%, but not greater than 30%, with approval of a mitigation plan. For developed property, a mitigation plan is required to treat all stormwater runoff from impervious surfaces which are greater than fifteen percent (15%), up to a maximum of thirty percent (30%) and a mitigation plan is required for all undeveloped parcels as they become developed up to a maximum of thirty percent (30%) impervious surfaces. If the total impervious surface covers less than fifteen percent (15%) of the parcel, no mitigation plan is required.

While there are several mitigation options available to homeowners, a popular mitigation option is the construction of a rain garden. Rain gardens help protect water by slowing the flow of stormwater allowing it to infiltrate into the ground rather than running off into lakes and streams.



*Photos courtesy of Dunn County Land & Water Conservation Division.
(Lakeside Park, City of Menomonie)*

Shoreland landowners who opt to construct a rain garden, as a mitigation project, shall design the rain garden to accommodate the runoff volume of water equivalent to a 5-year storm event at a 5-minute duration. The volume of water collected by a rain garden needs to offset the volume of stormwater generated by the additional impervious surfaces (greater than 15% up to 30%) the project creates.

Shoreland landowners shall have an engineer or landscape professional design the technical aspects of a mitigation plan such as a rain garden. All other landowners can design and construct rain gardens with or without professional assistance.

Overview

Rain gardens are attractive, functional landscaped areas designed to capture stormwater in natural or constructed shallow vegetated depressions allowing it to soak into the ground slowly. This reduces the potential for erosion and minimizes the amount of pollutants flowing from yards into our waterways. These gardens are filled with deep-rooted native plants that can tolerate flood and drought conditions. The plants and soil in a rain garden absorb pollutants and pull out sediment as the water infiltrates into the ground, improving water quality. The gardens are designed to tolerate periods of saturated soils, holding water for 24 to 48 hours. You don't have to worry about creating a mosquito haven; the water drains before mosquitoes have time to breed.

So what makes a rain garden different from any other perennial garden? There are certain qualities that make a rain garden unique:

- Rain gardens have a ponding area, but they are not ponds. They often are planted with wetland tolerant plants, but they are not wetlands.
- The garden absorbs and filters rain that would otherwise run off your property.
- It is recommended that all of the plants in the garden be native to the region as they have extensive deep roots that help the garden absorb rain. In addition, native plants do not need special attention once they are established.
- There is a bowl-shaped dip in the garden, which holds the rain while it soaks into the soil.

A garden that does not have rain directed into it from a hard surface of your property will be a valuable asset. However, unless stormwater runoff is directed into the garden, it is not a rain garden. In addition to reducing and filtering stormwater runoff and increasing groundwater recharge, rain gardens provide many other benefits. They provide habitat for wildlife, and with the proper selection of plants, increase the number and diversity of birds and butterflies. Rain gardens provide an attractive and creative alternative to traditional lawn landscapes and require less maintenance because they do not need to be mowed, fertilized, or watered once established. They may also increase property values with creative landscaping designs.



Location

A rain garden should be located in an area where runoff will flow towards it; ideally close to the source, as this lowers the velocity of the water and reduces potential erosion. They can be next to patios, driveways and paths, so the water runs off these surfaces straight into the rain garden. They can also be located further away from the house with rainwater directed from downspouts to the garden via a swale, channel, or plastic piping.

Soil type can have a large effect on the infiltration rates. Soil is generally composed of sand, silt or clay, each of which have different infiltration capacities. Rain gardens work best when constructed in well-drained or sandy soils, followed by silty soils, while clay soils may become waterlogged. If your soil is sandy, you may be able to simply loosen the soil and improve it with some compost to prepare your rain garden for planting. If your soil is clay, you will have more work to do. Clay soils take longer to absorb the water than sands and silts, and may require some amending to improve its infiltration rate. Even light clay soils may create drainage problems if a lot of water is directed to the rain garden. Soil removal and replacement may be needed if your soil is clay.

There are two signs of an impermeable (clay) soil:

- The site ponds water or remains saturated for several days after a storm event.
- The soil shows signs of being a wetland soil (gray soil with ribbons or areas of brown color) within one foot of the surface.

As the water infiltrates through the soil, pollutants such as pesticides, fertilizers, animal waste, household chemicals and petrochemicals are filtered out. As the water is moving slowly, there is enough time for some pollutants to stick to soil particles and plant roots, while other pollutants can be absorbed by the

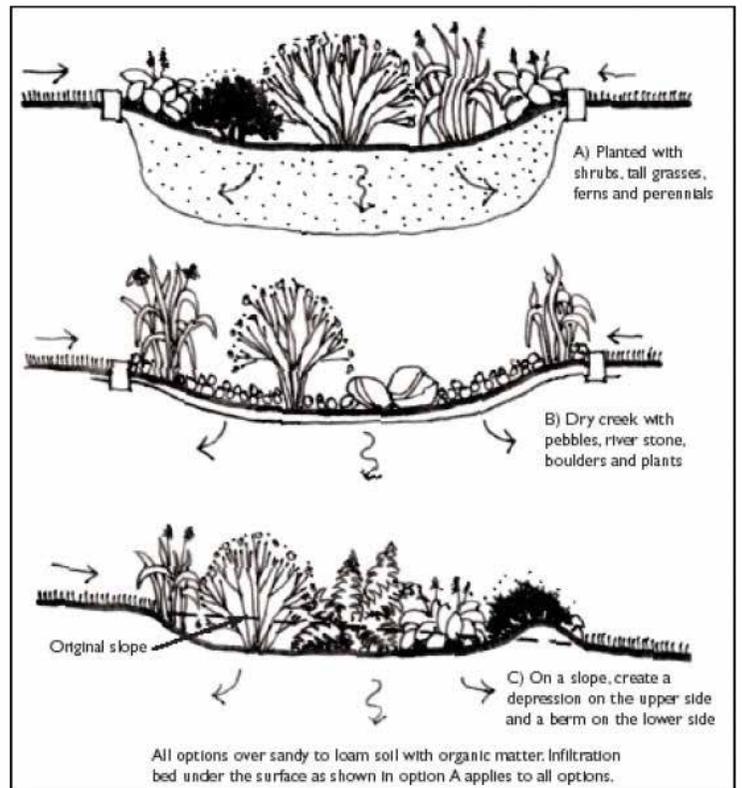
plants. Micro-organisms, including 'good' bacteria, found in the root zone, breakdown many types of pollutants including the harmful bacteria present in animal waste, rendering them harmless. In addition



Photo courtesy of Dunn County Resident (Elk Creek Lake)

to filtering out pollutants, rain gardens also collect sediment, preventing it from entering waterways.

Examine your yard while it is raining to discover the drainage pattern on your property. Find out where runoff flows and locate areas where water collects. If

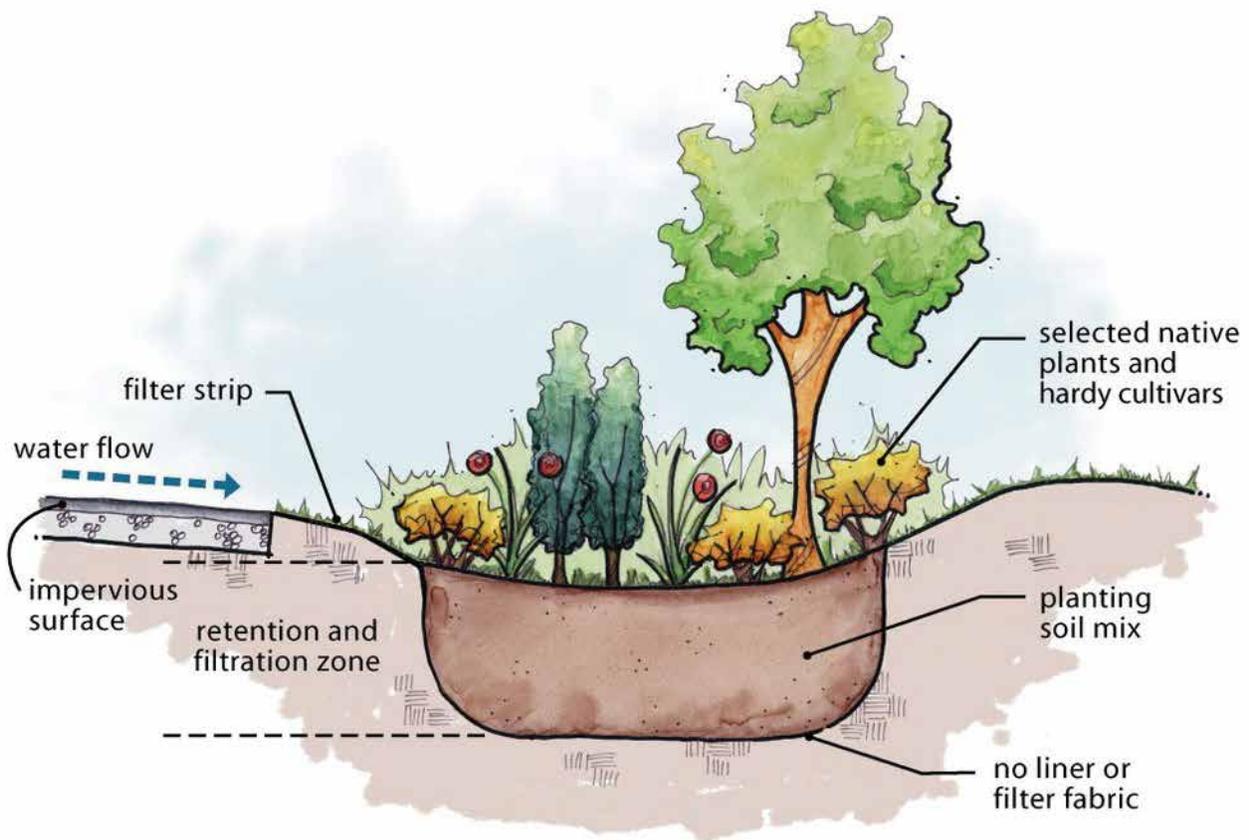


the rain does not flow naturally to your chosen rain garden location, you can install piping underground or send the rain along a constructed channel or swale. Keep in mind the largest sources of runoff are rooftops, paved surfaces, slopes, and compacted soils. Some helpful tips are listed below to help you determine the best location for your rain garden:

- Rain gardens should be a minimum of ten feet from your home and your neighbors' homes, to prevent damage from water seepage.
- Rain gardens should not be placed over or near the drain field of a septic system.
- Because these areas are already poorly drained, rain gardens should not be placed in an area of the yard where water collects. They should be placed up-slope of these areas to reduce the amount of water that flows into them.
- Sunny or partly sunny locations are best for rain gardens, but shade gardens are possible.
- Rain gardens should be integrated with your landscape. They can have a formal or informal look based on your preference.

- Rain gardens should not be installed under large trees. Trees have extensive root systems that may be damaged in the garden excavation process. In addition, they may not be able to adapt to the extra moisture being held by your rain garden.

Consider how the rain garden will fit in the overall landscape when looking for a location. Determine if you want it near outdoor gathering places where the plants can be appreciated. Look out your windows to see what views the rain garden can provide.



Plantings

A rain garden is similar to a plant pond, that is, a garden bed that you plant with deep-rooted species. These plants help the water rapidly seep into the soil, away from your house and natural bodies of water. While many plants with the right moisture requirements will do fine in a rain garden, there are some good reasons to select native plants. Native grasses, wildflowers and shrubs generally have very deep root systems, sometimes burrowing down ten feet or more. Most native plants also cast off their roots annually, growing new roots providing more soil aeration and pathways for water to infiltrate at a faster rate. And because they're indigenous, you know these plants will thrive in your zone and soil conditions.

Just like any other garden, your rain garden will need some basic maintenance to keep it healthy and functioning.

- Mulch annually to suppress weeds and to keep soils moist, which allows for easy infiltration of stormwater; un-mulched surfaces may develop into a hardpan, which impedes water infiltration. Before applying new mulch, remove the old mulch. Alternately, loosen up the old mulch with a rake and just top dress it with new mulch. The depth of the mulch should never exceed three inches.
- Weed your garden, especially during plant establishment; newly planted species may have a tough time competing with weeds. Once plants become established, less weeding will be required.

- The plants in your rain garden will need to be watered regularly during establishment to ensure healthy growth. Once established, plants should be watered in long periods of drought.
- Keep your garden healthy and clean. Rain gardens should be periodically cleared of dead vegetation and any debris that may collect. Replanting may be necessary over time. If a plant is not doing so well in one location of the garden, it may have to be moved to a wetter or dryer area.

Final Mitigation Step

When mitigation is required such as a rain garden, the county requires the applicant to file a Deed Restriction with the Dunn County Register of Deeds. The Deed Restriction will specify the exact location of the mitigation measure and will describe the scope of the project. A Deed Restriction will notify any future property owners that the project was installed for the purpose of stormwater mitigation, and any ongoing maintenance requirements which need to be sustained. Zoning staff will assist landowners with the drafting of Deed Restrictions however, the landowner is responsible for the filing fee and for filing the document with the Dunn County Register of Deeds.

For additional information on rain gardens, or other stormwater mitigation options and requirements, please contact Staff at the Dunn County Planning & Land Use Control office.

Article Adapted from:

Rain Gardens: A How-to Manual for Homeowners.
University of Wisconsin Extension and Wisconsin Department of Natural Resources

Brainstorming Newsletter, September 2011.
International Rainwater Harvesting Alliance

Rain Gardens: What are They and Why Are They Important.
Hennepin County Environment and Energy News.

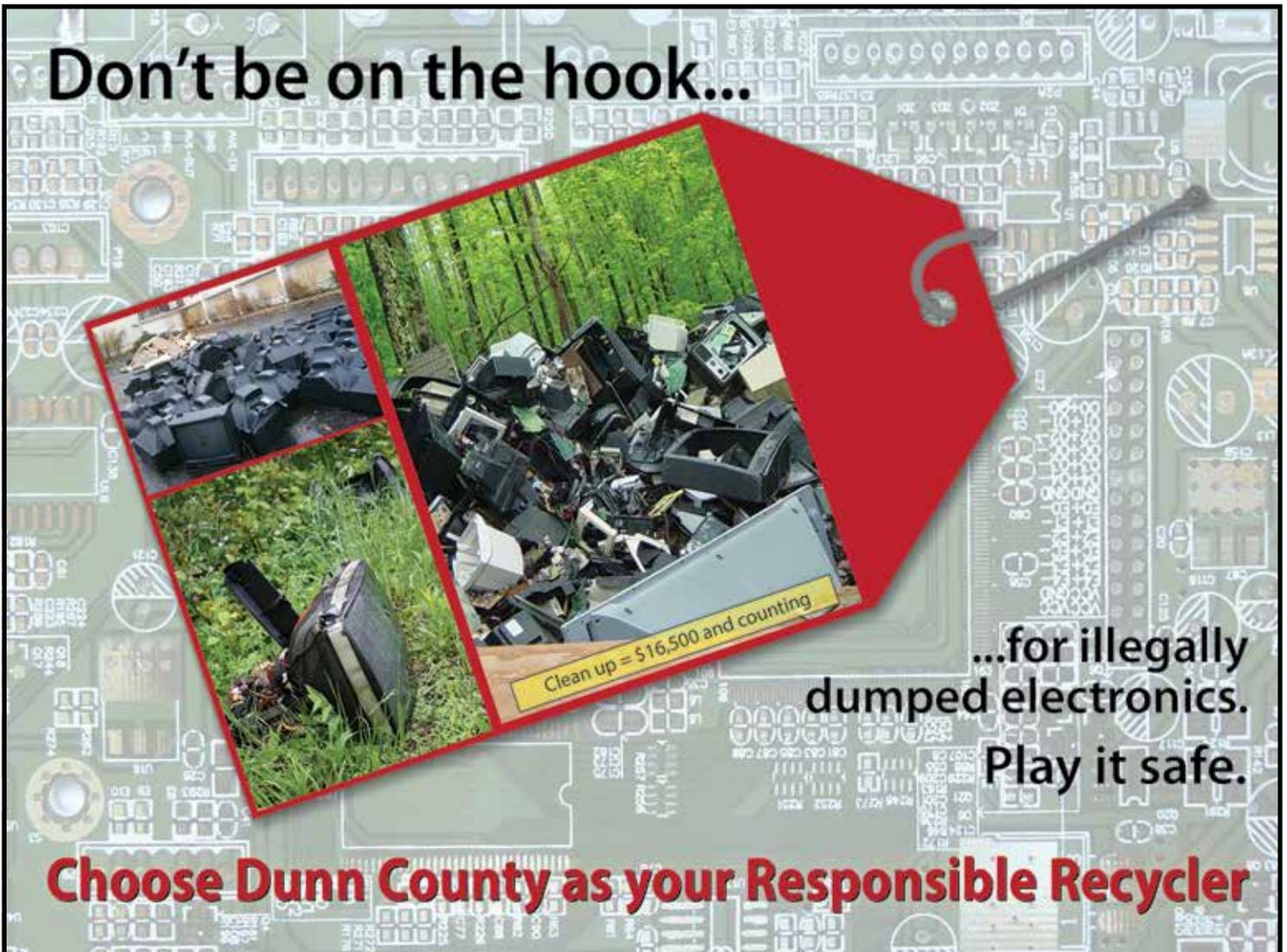
Rain Gardens: A Way to Improve Water Quality.
University of Massachusetts at Amherst, College of Natural Sciences.

DUNN COUNTY *Wisconsin*

800 Wilson Avenue, Room 235
Menomonie, WI 54751

PRSRT STD
US POSTAGE
PAID
EAU CLAIRE WI
PERMIT NO. 366

ECRWSEDDM
POSTAL CUSTOMER



Don't be on the hook...

...for illegally dumped electronics.
Play it safe.

Choose Dunn County as your Responsible Recycler