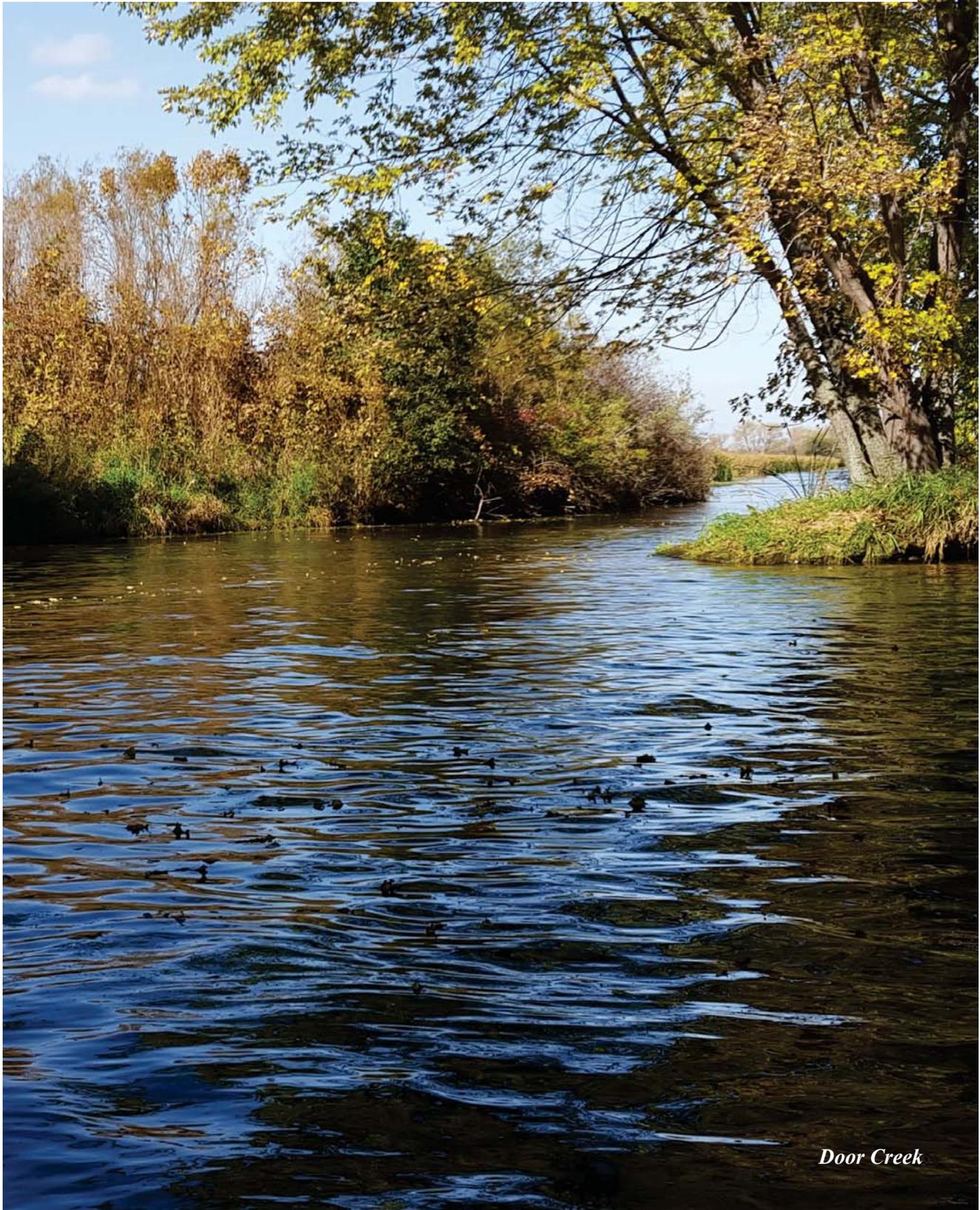


# DANE COUNTY LAND & WATER RESOURCES DEPARTMENT

## 2015 ANNUAL REPORT



*Door Creek*

# GREETINGS FROM COUNTY EXECUTIVE JOE PARISI

**We take great pride in our parks and outdoor places to play in Dane County; and we should.**

Our trails, parks, lakes, and other natural resources are big reasons why more families keep moving here than anywhere else in Wisconsin. The quality of life that comes naturally (literally) with calling Dane County 'home' is certainly one of factors that keeps businesses growing here. The unique quality of life afforded by our thousands of acres of parks and the waters we work so hard to protect doubt contribute to the fact that nearly 60% of all of Wisconsin's private sector job growth is occurring right here in Dane County.

With more than two dozen parks and nearly thirty recreational areas protected for future generations, together, we have done so much. 2015 marked another year of sustained success and incredible accomplishment for Dane County's parks, our lakes, waters, lands, and trails.

We protected more acres, made sure more of our natural resources are accessible for families to fish, canoe, and hike and achieved new successes with our work to clean our lakes.

With the help of community partners, we put more boots on the ground in the Lake Mendota watershed, expanding our collaborative work with our agricultural producers on innovative ways to reduce runoff and keep pollutants from making their way to the water. We teamed with more communities to treat more storm water and trap more trash that runs off when it rains. Our efforts stopped thousands of pounds of phosphorus from getting into our lakes, preventing the growth of millions of pounds of algae.

Caring for our waters is critical. It's why we expanded our work to protect and enhance the Sugar River south of Verona. Restoration work there will make it easier for anglers and canoeists to enjoy an afternoon away from it all. Similar conservation efforts along the Yahara River, near the interstate that we initiated with a riverfront land acquisition last year, provide new opportunities for not only our phosphorus clean-up work, but also improved family access to the waters that wind their way to Lake Mendota.

We made big accomplishments for biking in 2015, completing construction of a two-mile trail linking Brigham County Park with the very popular Military Ridge State Trail in the Town of Blue Mounds and putting a wrap on years of careful design work required for the long anticipated Lower Yahara River Trail.

Few projects offer such functionality, diversity in recreation, and the opportunity to truly honor and appreciate our earliest ancestors. With over a mile of bridge and boardwalk spanning Lake Waubesa, the picturesque first segment of the Lower Yahara Trail will connect Madison with McFarland. Many of the county's earliest settlers came to the shores of these waters, creating an incredible educational opportunity about the cultural significance of the area. Future phases are already envisioned to continue the trail south along the Yahara River to Stoughton. This will no doubt be one of the most popular trails in the entire state, complete with areas to stop and sight-see, learn about the culture and history of the area, and even to pull over and cast a fishing line into the water.

Our growing interconnected network of trails are part of our ongoing efforts to enhance the uniqueness of Dane County's incredibly special places. Our efforts demonstrate the shared values and commitment of this community to our lakes and lands.

Thanks for another great year!

*Joe Parisi, Dane County Executive*



## WHO WE ARE

The Land & Water Resources Department (LWRD) consists of five divisions: Administration, Land Conservation, Office of Lakes and Watersheds, Parks and Water Resource Engineering.

## WHAT WE DO

Dane County citizens value the quality of the county's natural, historic, and cultural resources, recognize the connection between these resources and their own quality of life, and expect these resources to be improved and sustained for present and future generations.

The Dane County Land and Water Resources Department exists to ensure the protection and enhancement of Dane County's natural, cultural, and historic resources; to provide the county's citizens with a broad array of accessible, high quality resource-based recreational services and facilities; and to support citizens, communities, local governments and other agencies and organizations in their resource management and protection activities.

The Department pursues its mission, alone and in collaboration with other agencies and organizations, through a mix of strategies that includes and combines resource management, program delivery, education and outreach, policy development, oversight, data management, technical assistance, responsiveness, and excellent customer service.

## A NOTE FROM KEVIN CONNORS, DIRECTOR LWRD

Welcome to the 2015 edition of the Land & Water Resources Department Annual Report. Each year, our staff prepares a report on department accomplishments and activities. With a Department that encompasses 57 employees across 5 divisions, our responsibilities range from conserving soil to improving recreational opportunities; water quality improvement to informing and educating our public. With this report, we share a few of the many achievements LWRD staff made throughout the year.

I will begin with staff. The deserved honor of retirement was bestowed to three department staff: Duane Wagner, Craig McCallum and Paul Wipperfurth. In total, they provided nearly 80 years of service to the people and natural resources of Dane County. We welcomed new staff in Land Conservation, Office of Lakes & Watersheds and Water Resource Engineering Divisions.

We also recognize the role of community volunteers and partners. Volunteers participate as individuals, groups and in department supported activities to develop trails; plant, harvest and clean prairie seed; sponsor events at various parks, and provide educational opportunities for organizations in the area of fundraising, demonstration of our cultural heritage and local food production.

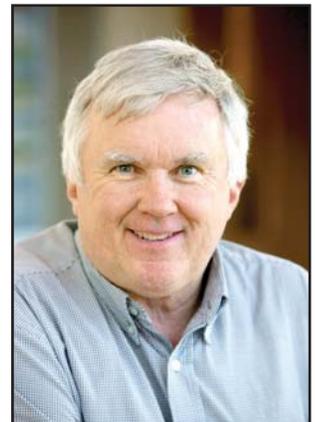
The weather in 2015 could be described as close to being "normal" precipitation, temperature, rainy days vs sunny days, lake levels etc. This weather allowed users to take advantage of camping, boating and other recreational opportunities available in the park system and other outdoor pursuits. This "normal" also allowed for work on our many construction projects, both in park development and also on private lands for erosion control and water quality improvements.

As you read this report, I sincerely hope you become familiar with the variety of services and programs that are supported throughout all of Dane County and enjoyed by the residents today and into the future. As always, if you have any questions, please do not hesitate to contact me at: [Connors.kevin@countyofdane.com](mailto:Connors.kevin@countyofdane.com) or call 608-224-3731.

I hope you look forward to the next annual report, as 2016 looks like another great year.

Thank you for your support,

*Kevin Connors, Director*



# DEPARTMENT HIGHLIGHTS

## NATURAL RESOURCE AND RECREATIONAL LANDS PROTECTED

**Fish Lake Natural Resource Area:** Purchased a residential lot that has a history of flooding and is adjacent to other property owned by the County. Over time, these properties will be cleaned up and made available for shore fishing and public access.

**Silverwood County Park:** Purchased 15 acres along Rice Lake on the north-end of Silverwood County Park. The property includes over 1,000 feet of undeveloped, wooded shoreline that complements the county's existing ownership along the eastern shore.

**Donald County Park:** Purchased 18 acres on the west side of Donald County Park. The property had been beautifully restored to prairie by the previous owners and also includes small stands of pine. The property provides observation points and vistas to the southwest that were not previously accessible to the public and also provides an opportunity to expand the trail network at the park.

**Sugar River Natural Resource Area:** Purchased just over 100 acres along the Sugar River. The property includes nearly 4,800 feet of river frontage and will be a significant destination for fishing, canoeing and kayaking. The property will be managed as a Dane County Wildlife Area and will therefore be open for hunting and trapping. The property is a nice additional to other public access points along the Sugar River, some to the north and some to the south, and provides additional options for river trips.

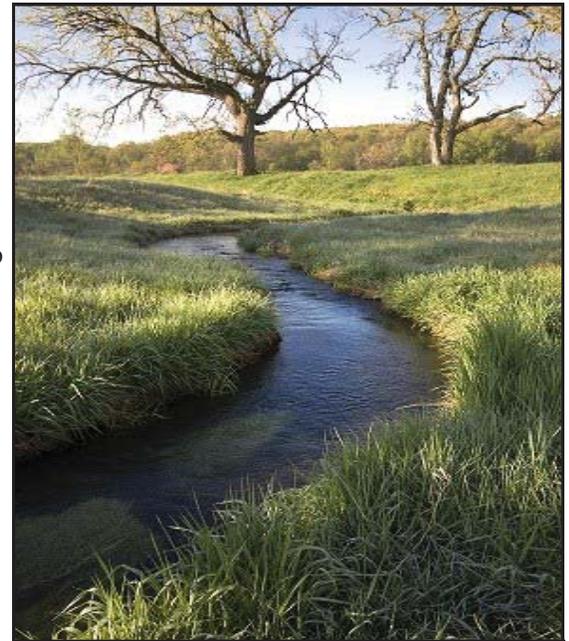
**CamRock County Park:** Purchased 83 acres at CamRock County Park. The property includes 2,040 feet of frontage along the Koshkonong Creek and 2,500 feet along a tributary stream. The property provides future opportunities to expand mountain bike trails at the park and for a dog exercise area.

**Cherokee Marsh Natural Resource Area:** Purchased 81 acres along the Yahara River in the Cherokee Marsh Natural Resource Area. The property includes over one-mile of river frontage, providing an incredible opportunity for public access. The property includes a 40 acre wetland complex that is adjacent to lands owned by the Wisconsin Department of Natural Resources.

**Ice Age National Scenic Trail:** Worked with the Ice Age Trail Alliance to protect 30 acres that were generously donated by two property owners. The donated properties are adjacent to the Valley View Preserve and have been expertly managed and cared for by the previous owners. *A sincere thank you to the Fiore and Wise families for caring for the properties and making them available for all to enjoy.*

**Spring Creek:** Provided a Conservation Fund Grant to the Natural Heritage Land Trust to acquire 25 acres that include a tributary of Spring Creek, which is classified as a Tier 1 stream in the *Dane County Parks & Open Space Plan*. The property is also within the Lodi Marsh Wildlife Area and State Natural Area, which has some of the largest contiguous grasslands in Dane County.

**Prairie Remnant:** Provided a Conservation Fund Grant to the Natural Heritage Land Trust to acquire 10 acres identified as part of a prairie remnant site that is identified in the *Dane County Parks & Open Space Plan*. The property is within the Empire Prairie State Natural Area and is surrounded by over 200 acres previously protected through efforts by the Land Trust, Wisconsin Department of Natural Resources and Dane County in 2015.



Donald County Park

### DID YOU KNOW?

In 2015 Dane County permanently protected 362 acres of land and over three miles of river and lake frontage.

# DEPARTMENT HIGHLIGHTS

## PARC AND RIDE BICYCLE TRAIL GRANTS

### *Joining forces to meet the goals of the Dane County Parks and Open Space Plan*

The 2015 Partners for Recreation and Conservation (PARC) PARC and Ride Bicycle Trail grant program was built on the success of the PARC grant program. It was established in the 2015 Dane County Budget that made \$750,000 available in matching grants to communities interested in expanding trail interconnectivity throughout Dane County. Municipalities were eligible to receive up to \$250,000 (or up to 50% of the project costs) to offset bike trail design, engineering, and construction costs.

Seven outstanding projects were selected for funding that will add 2.7 miles of paved trails and create new connections among the county's regional off-road bicycle/pedestrian trail system as identified in *Dane County Parks and Open Space Plan*.

Sponsor	Project Title	Project Cost	PARC Grant Award
City of Madison	Capital City Trail Segment 1 – Connection to future Glacial Drumlin State Trail	\$280,000	\$133,000
Town of Westport	Woodland Drive Trail – Connection to proposed North Mendota Trail	\$330,000	\$156,621
Village of Shorewood Hills	University Avenue Trail Extension – Connection between City of Middleton's and UW-Madison's trail systems	\$56,643	\$22,400
Village of Cross Plains	Zander Park Trail Expansion – Segment of proposed Good Neighbor Trail between Middleton and Mazomanie	\$902,840	\$200,000
Village of DeForest	River Road Trail – Segment of Upper Yahara River Trail Loop	\$304,653	\$106,629
Village of McFarland	Lower Yahara River Trail Expansion	\$183,000	\$64,050
Village of Mazomanie	Lake Marion Trail – Connection from Lake Marion/Hwy KP to downtown Mazomanie and Good Neighbor Trail	\$232,906	\$81,517

## TWO AQUATIC INVASIVE SPECIES FOUND IN LAKE MENDOTA

Two years after the spiny water flea was confirmed, Lake Mendota can add two more invasive species to the list ....

**Water Lettuce** was found in University Bay near Lot 60 in July. The plant is known for forming dense mats and shading out native species. A Wisconsin Department of Natural Resources (WDNR) led coalition worked to remove the plants. The good news is that the overwintering of the plant and its seeds is unlikely due to our cold winters.

- Invades freshwater lakes, reservoirs, ponds, marshes and slow-flowing streams and rivers making boating, fishing, and almost all other water activities difficult.
- Degrades water quality by blocking the air-water interface and greatly reducing oxygen levels in the water, impacting underwater animals such as fish.
- Greatly reduces biological diversity: mats block sunlight, preventing growth of submerged and immersed plant communities and also alter animal communities by blocking access to the water and/or reducing plants the animals depend on for shelter and nesting.
- Clogs irrigation intakes and other pipes.



Water Lettuce  
Photo credit WDNR

**Zebra Mussels** were found by UW Limnology in shallow rocky areas along the south shore. Additional specimens were also recovered during dock removal in the fall. Zebra Mussels have been in Wisconsin since the 80's and are prevalent throughout the Great Lakes.

- Attach to boat motors and boat hulls, reducing performance and efficiency.
- Attach to rocks, swim rafts and ladders where swimmers can cut their feet on the mussel shells.
- Attach to and smother native mussels.
- Consume tiny food particles they filter out of the water, which reduce available food for larval fish and other aquatic animals.



Zebra Mussel  
Photo credit WDNR

### **HOW ARE INVASIVE SPECIES SPREAD?**

Recreational boating continues to be the primary vector for spreading invasive species. Boaters are reminded to inspect their watercraft before entering or leaving a waterbody, to remove any attached plants or animals and drain all water.

# DEPARTMENT HIGHLIGHTS

## WISCONSIN FARM TECHNOLOGY DAYS A SUCCESS

Dane County hosted the 2015 Wisconsin Farm Technology Days from August 25<sup>th</sup> through the 27<sup>th</sup> on the Statz Brothers Farm in Sun Prairie. Roughly 45,000 people attended the three-day event. Dane County Land Conservation Division staff spent two plus years assisting in planning the event. Staff volunteered to serve on both the Executive and Tent City Committees with primary responsibilities



being the coordination, planning, and siting of the show grounds. The grounds consisted of over 600 exhibitors and displays occupying more than 70 acres.



Aerial View - 2015 Wisconsin Farm Technology Days

Five weeks prior to the show opening staff used GPS equipment and 1,000 stakes to correctly identify and mark all exhibitor lots, streets and tent locations. Other responsibilities prior to and during the show included; assisting exhibitors in locating their assigned exhibit

areas, providing transportation for exhibitors to and from parking areas, providing transportation for show attendees needing assistance, and coordinating radio communications for all show planning committees.

In addition to providing show support, the Land and Water Resources Department also created and staffed an exhibit at the show. The exhibit focused on providing farmer related information regarding services provided by both Land Conservation and Water Resources Engineering Divisions. This included information on the importance of minimizing soil loss and the use of best management practices, the availability of cost-share funding, various program requirements such as the Farmland Preservation Program (FPP), and permitting. Current research and development tools, such as Dane County's Integrated Nowcast/Forecast Operation System (INFOS) for the Yahara Lakes was also on display for show attendees to observe and ask questions.

Overall the show was a great success in not only highlighting agricultural industry advancements but also in boosting the local economy. Proceeds from the event go towards local grants in which individuals, organizations, and clubs in Dane County can submit proposals requesting funding for equipment, projects, etc. that are educational and/or agriculturally related. Approximately \$100,000 will be available in grant funding.



Land & Water Resources Department Display at Farm Technology Days

### DID YOU KNOW?

#### FARMERS ARE STEWARDS OF 66% OF THE LAND IN DANE COUNTY

Dane County farmers own and manage over 500,000 acres of the land. This includes cropland, rangeland, pasture, tree farms and farm forests. As land stewards, farmers use conservation practices, such as crop rotation, nutrient management and integrated pest management, to protect environmental resources and provide habitat for wildlife.

# DANE COUNTY PARKS

## PARK DEVELOPMENTS

### Snowmobile Trail Bridges

- 1) Paoli-Sugar River
- 2) Roxbury Creek

### New Timber Frame Shelters

- 2) Festge County Park

### Trail Projects

- 1) Completed Brigham County Park to Military Ridge Trail with Cave of the Mounds Spur Trail
- 2) Completed Seminole Mt. Bike Trail System
- 3) Completed Tree Clearing for Phase 1 Lower Yahara River Trail

### Site and Stormwater Projects

- 1) Libby Road Storage Building Parking Lot, Grading, Stormwater Facility
- 2) Upper Mud Lake Stormwater Facility and Paving Preparation
- 3) Stewart County Park-Completed Parking Lot Expansion

### Playground Projects

- 1) Replaced Festge County Park Playground
- 2) Relocated Stewart County Park Playground

### Park Land Access and Stabilization

- 1) Cam-Rock County Park-Kenseth Demolition/Trailhead Access Planning
- 2) North Mendota Wildlife Area-Hyer Road Public Access
- 3) North Mendota Wildlife Area-Prairie Public Access
- 4) Blue Mounds Wildlife Area-Brigham Public Access
- 5) Fish Lake Natural Resource Area-Welsh Demolition/Parking Access
- 6) Springfield Hill Natural Resource Area-Ballweg Road Ice Age Trail Access
- 7) Anderson Farm Park-Arthur Sholts Woodland Parking Access
- 8) Halfway Prairie Wildlife Area-STH 19 Parking Access
- 9) Dorn Creek Wildlife Area Prairie and Wetland Restoration

## PARK PLANNING PROJECTS

### Master Plans

- 1) Completed McCarthy County Park
- 2) Kicked Off Mendota County Park Master Planning Process
- 3) Silverwood County Park-Completed Draft Plan

### Trail Plans

1. Completed Phase 1 Lower Yahara River Trail Design/Environmental/Engineering
2. Commenced Dane County Bicycle Wayfinding Plan
3. Initiated Phase 1 North Mendota Trail Planning

### Facility Plans

- 1) Schumacher Farm Center for Rural History-Restrooms, Concept Site Development Plan
- 2) Indian Lake County Park-Shelter, Restroom, Playground, Parking Concept Site Development Plan
- 3) Silverwood Stone House Restoration-Began Addition/Remodeling
- 4) Lussier County Park-Began Boat Landing Civil/Site/Permit Planning

### Debris Management Plans

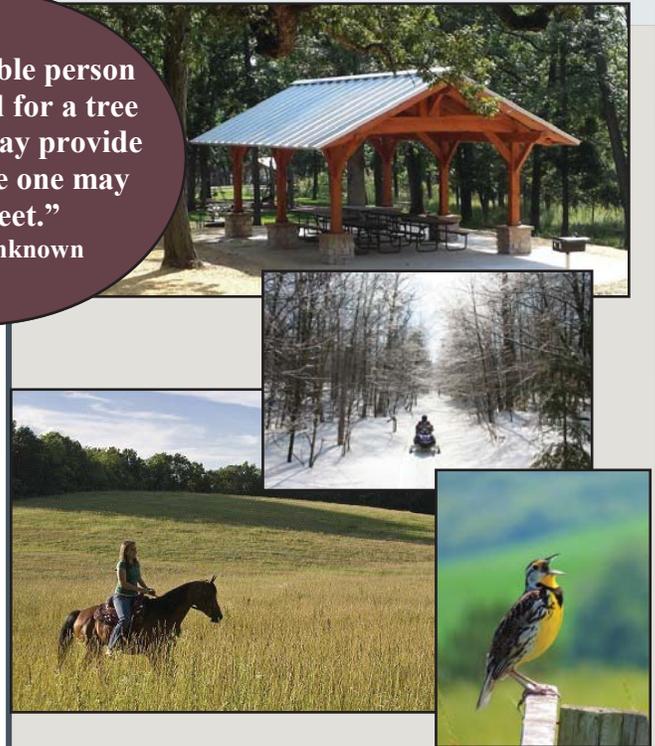
- 1) County Wood Debris Management-Emergency Management/Solid Waste/LWRD



### DANE COUNTY PARKS 2015

Park users	2,701,382
Trail users	164,000
Volunteers	3,655
Volunteer hours	60,691
Visitors to the Lussier Family Heritage Center	17,580
Visits to Dane County Parks website	168,188
Visits to reservedane.com	49,529
Number of camping reservations	1,959
Number of shelter reservations	656
Friends of Dane County Parks Facebook Fans	840

**“It takes a noble person to plant a seed for a tree that will one day provide shade to those one may never meet.”**  
~Author Unknown



# DANE COUNTY PARKS

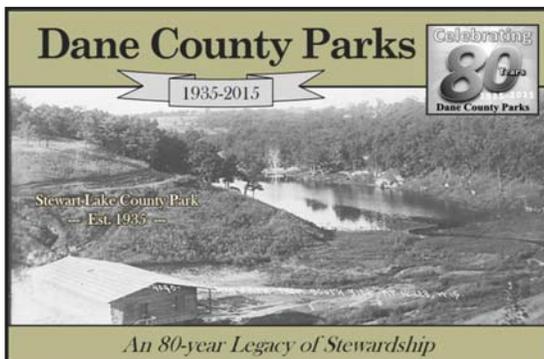
The Dane County Park System continued to grow with the addition of new parklands and the expansion of existing facilities to meet the growing needs of our community. The popularity of the parks also increased as visitation grew to an estimated 2.7 million in 2015, a 20% increase from last year. This trend carried through with increases of 5% in camping, 17% in lake access, 18% for dog park permits, 19% disc golf and 28% in Mountain Bike permits.

The Park System hosted over 656 shelter reservations including a wide array of activities from County Park Friends Groups and youth events to car shows and sporting events, attracting visitors from near and far. A few of the larger sporting events included High School Regional and Sectional Cross Country meets at Lake Farm County Park; each event attracting around 1,200 visitors. There were multiple disc golf events with over 500 participants at Token Creek County Park and Capital Springs Recreation Area. Capital Off Road Pathfinders (CORP), the local Chapter of the International Mountain Bike Association, again held the largest Wisconsin Off Road Mountain Bike Series in the state at CamRock County Park with over 600 participants. Four County Park Friends Groups and one partner group developed a Dane County Trail Run Series that each attracted 200-400 runners. Other notable events include the Family Motor Coach Camping Association Event with over 500 campers; Dane County Parks partnered with the Alliant Energy Center to attract the Association to the Madison Area.

The Lussier Family Heritage Center is the main indoor event facility within the County Park System. It hosted over 330 events with annual visitation of 18,000 patrons. New to the facility in 2015 was a multimedia system providing audio and visual projection for presentations, weddings and other events. A camera security system was installed to assist staff with management of the facility.

Park staff worked on a wide array of park projects in 2015. Forestry is in the fifth year of our Emerald Ash Borer plan, removing infected ash trees and planting new ones in high use areas. Staff, working with volunteers, completed several trail projects that included updating the hiking trails at Festge County Park and rehabilitation of the trails at Indian Lake County Park. Key projects included completion of the two mile bike/pedestrian trail from Brigham County Park to Military Ridge State Trail and construction of a 10,000 sq. ft. storage facility at Capital Springs Recreation Area. The storage facility will be used by park staff and the Parks Volunteers. The first phase began of the Lower Yahara Trail with the construction of 1.5 miles through Lake Farm County Park.

## **DANE COUNTY PARKS CELEBRATE 80 YEARS!**



In 1935, Dane County purchased its first park - Stewart Lake County Park, 191 acres of land that would be protected for the inspiration and enjoyment of all. From the small beginnings of one park, began a legacy for the Dane County Park System and for our community. That legacy now includes more than 12,000 acres of land, including: 25 recreation parks, 29 natural resource areas, wildlife areas, cultural and historical sites, forests, trails, and the Lussier Family Heritage Center. The Dane County Park System draws over 2.5 million visitors annually, boosting our local economy, enhancing our quality of life, and promoting an active, healthy community.

*Celebrate the investment of the past 80 years by getting out and enjoying all that the Dane County Parks has to offer!*

**Just living is not enough...  
one must have sunshine,  
freedom, and a little flower.**

**~ Hans Christian Andersen**



**DID YOU KNOW?**  
Dane County Parks system  
manages more than 12,000  
acres of land,  
25 recreation parks and  
29 natural resource areas

# DANE COUNTY PARKS

## PARK EVENTS BRING AN ECONOMIC BOOST

On any given day, community events small and large are happening in Dane County Parks. Whether large festivals, a neighborhood meeting at a playground, a wedding at the Lussier Heritage Center, or a family reunion at a shelter, our



CamRock Mountain Bike Race

beautiful parks provide the backdrop for some of the county's most important moments.

Not only do parks provide a closer connection to nature and a greater sense of community they also offer environmental, aesthetic, and recreational benefits to the people of Dane County. Entertaining both residents and tourists, public parks are engines of economic activity and job creation. Attracting visitors who fill our local hotels, utilize area restaurants and shop at local stores, the economies of the many communities in Dane County depend on the revenue, employment, and income that festivals and events bring to their community.



Dane County Trail Run Series

## VOLUNTEER PROGRAM

There were 22 winter and spring volunteer chainsaw field days with an average of eight sawyers per event working within the following properties: Pheasant Branch, Festge County Park, Yahara Heights, Lake Farm County Park, Token Creek Marsh, McCarthy County Park, CamRock County Park, Lake View Conservancy, Indian Lake County Park, Anderson County Park, Yahara Heights County Park, and Holy Wisdom/North Mendota Wildlife Area.

Several hundred adult volunteers collected and cleaned over 900 pounds of prairie seed material of 115 species of flowers and grasses. There were over 30 different prairie restoration projects in 2015 that utilized 805 pounds of seeds collected by volunteers in 2014.



Youth Service Day at McCarthy County Park

Projects included the expansion of the picnic area prairie at Donald County Park, the Holy Wisdom prairie expansion, inter-seeding Indian Mounds at Pheasant Branch, CamRock County Park Areas 1 & 2, and savanna seeding at Yahara Heights County Park, plantings along the Capital City Trail, Stewart County Park, and Festge County Park. Dane County Parks also supported friends groups and partners with seed at Indian Lake County Park, Prairie Moraine County Park, several Ice Age National Scenic Trail projects, Monona Woods, City of Mount Horeb, Hoyt Park and the Verona Park & Ride. Volunteers also worked with staff on trail projects at several locations including Ice Age Trail – Springfield Hill Unit, CamRock County Park, Donald County Park, and Festge County Park. There were a half dozen prescribed fires, burning over 250 acres of natural resource areas throughout the park system.



Volunteers - Spiderwort Seed Collection

New in 2015 was the Parks Volunteer Training Series. The training provided eight different programs including: basics of building membership and fundraising, grant resources, historical research, park policies and procedures, prescribed burn training, herbicide discussion, chainsaw safety, and plant and tree identification. Approximately 165 volunteers participated in first year of the program.

## SOME OF OUR ANNUAL EVENTS

Jenni and Kyle Fishing Day  
Battle of CamRock Mountain Bike Races  
Take Your Pop to Pop's Knoll  
Park Trail Run Series  
Sugar Maple Traditional Music Festival  
Reddan Ice Age Classic Soccer Tournament  
Mad City Disc Golf Tournament  
Wright Century Ride  
Regional and State High School Sporting Events  
The Boy Scouts Camporee  
Tri 4 Schools Fall Mud Run  
Harvest Bonfire Celebration  
Harvest Moon Festival  
Heritage Festival  
Halloween on the Farm  
Candlelight Ski and Snowshoe Events  
Snow Day Festivals

## A FEW OF OUR LARGER EVENTS:

US Cycling Events  
US Disc Golf Junior Nationals  
ESPN Outdoor Games  
National Fishing Tournaments

# WATER RESOURCE ENGINEERING

The Water Resource Engineering (WRE) Division administers the Dane County Erosion Control (EC) and Stormwater Management (SM) ordinances. In addition, starting in 2015, the division took on coordination of the Madison Area Municipal Stormwater Partnership (MAMSWaP) education and outreach efforts previously administered through the Office of Lakes and Watersheds.

## 2015 Erosion Control & Stormwater Management Activity

Sites	Submittals Reviewed	Active Sites	Inspections Performed	Contacts Initiated	Noncompliance Notices Issued	Stop Work Orders Issued	Citations Issued
County Administration	799	546	1,246	589	6	12	5
Local Administration with Intergovernmental Cooperative Agreements <sup>1</sup>	137	74	806	68	1	-	-
<b>TOTAL</b>	<b>936</b>	<b>620</b>	<b>2052</b>	<b>675</b>	<b>7</b>	<b>12</b>	<b>5</b>

1. Municipalities with intergovernmental cooperative agreements with Dane County to provide plan review and site inspection services included the villages of Cambridge, Deerfield, Oregon and Waunakee and the cities of Middleton, Stoughton, and Sun Prairie.

## INTEGRATED NOWCAST AND FORECAST OPERATION SYSTEM

The Integrated Nowcast and Forecast Operation System (INFOS) for the Yahara River Chain of Lakes provides real-time lake information. Through the INFOS website, real-time gage observations and models are displayed. Observations are collected from several sources (e.g. USGS, UW Madison, and NOAA) providing weather (i.e. rainfall) and water (i.e. level/discharge) data. In 2015, Dane County installed two monitoring stations at the Yahara River at Bridge Road in the City of Monona (Figure 1) and at Door Creek at Highway MN in the Town of Pleasant Springs. In 2016, a monitoring station will be installed on the Yahara River at Highway AB in Town of Dunn. These monitoring stations

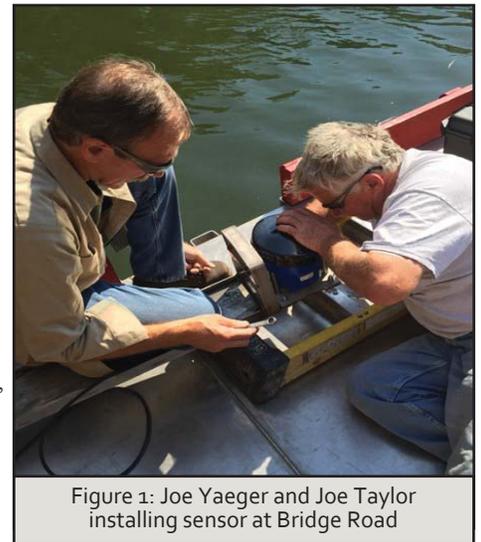


Figure 1: Joe Yaeger and Joe Taylor installing sensor at Bridge Road

provide water level, velocity, discharge, and temperature data, collected every five minutes and posted in real-time to INFOS.

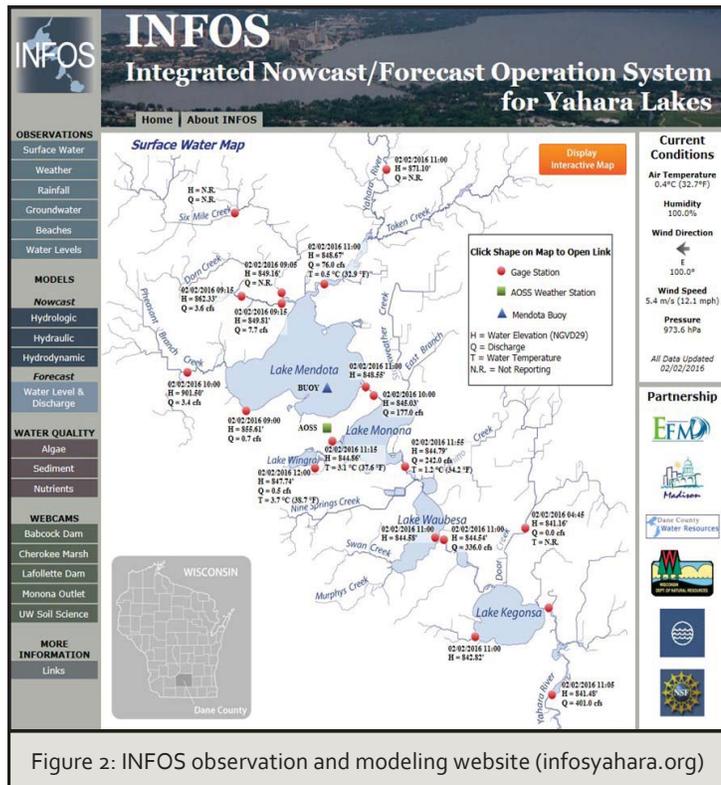


Figure 2: INFOS observation and modeling website (infosyahara.org)

In addition to these observations, INFOS hosts a suite of models that consist of a hydrologic component for runoff from watersheds, a hydraulic component for river flows and water levels, and a hydrodynamic component for lake circulation and temperature. INFOS provides up-to-the-hour information or in other words “nowcast” information. Also, forecasts and 24-hour predictions of lake water levels and discharges are determined. Specifically, the models are equipped to handle several factors for the lakes including backwater, flow reversal, choked flow, aquatic plants, and water motions in lakes. A high performance computer is used to run INFOS including database storage and website display. The server consist of 64 central processing units (CPUs) capable of scalable and parallel computing. Overall, INFOS provides a reliable, real-time tool for researchers, managers, and the community. INFOS can be accessed online at [www.infosyahara.org](http://www.infosyahara.org) (Figure 2).

# WATER RESOURCE ENGINEERING

## FLOATING BOG INTERCEPTORS (FBI) IN CHEROKEE MARSH



Figure 1: FBI's installed along the north shoreline in Cherokee

Cherokee Marsh, with 3,200 acres, is the largest natural wetland in Dane County. Based upon several recent studies, the marsh continuously lost approximately an acre per year for the last 40 years. From 2012-2015, we have successfully installed Floating Bog Interceptors (FBI's) that use natural materials to protect the shoreline. Furthermore the FBI's are engineered to (i) attenuate wave energy impacting the shoreline, (ii) promote vegetation to slow down and divert flow, and (iii) trap sediment (nutrients) behind FBI's to protect and rebuild the shoreline in the Cherokee Marsh. The ecosystem services provided by FBI's include wetland restoration, enhanced wildlife habitat, flood attenuation, sediment accumulation, and nutrient retention. There are a total of 20 FBI's that completely cover 800 feet of shoreline (Figure 1), where erosion of shoreline has been a consistent problem and vegetation growth has proven difficult. Partnering with UW-Madison, we are monitoring and evaluating the effectiveness of the FBI's. Specifically, the bottom bathymetry around the FBI's are measured to quantify the accumulation and trapping of sediments. We have found that the FBI's are accumulating approximately three inches of sediment per year. In 2015 we installed a camera (Figure 2) to provide qualitative information showing growth of vegetation, FBI structural integrity, and wildlife habitat (Figure 3). The camera remotely sends photos in real-time and displayed on the INFOS website which is available to view by community. (see page 10)



Figure 2: Webcam image of FBI's



Figure 3: Wildlife habitat at the FBIs

## URBAN WATER QUALITY GRANT PROGRAM

The county celebrated its eleventh year of the Urban Water Quality Grant (UWQG) Program in 2015. A 75% cost-share was available for the county's top ten urban target areas that produce the most sediment and phosphorus. This program provides incentives to municipalities to install best management practices that will provide efficient, cost-effective treatment of urban runoff. In 2015, the county awarded five UWQG projects, \$601,545 in cost-shared dollars, which will result in the removal of over 500,000 pounds of sediment and 2,000 pounds of phosphorus annually.

**DID YOU KNOW?**  
 Every pound of phosphorus removed from the watershed prevents 500 pounds of algae growth!

## MUNICIPAL STORMWATER EDUCATION

In 2015, Madison Area Municipal Stormwater Partnership (MAMSWaP) continued to coordinate and implement programs to engage residents, homeowners, businesses and other partners across Dane County on actions to reduce and improve urban runoff into our lakes and rivers. Highlights from 2015 include: the Plant Dane! Native Plant Sale, "Love Your Lakes (and Rivers), Don't Leaf Them" media campaign, and two Effective Winter Maintenance workshops aimed at reducing winter salt use. In addition, MAMSWaP partnered with the Madison Metropolitan Sewerage District and others on the roll out of the WI Salt Wise campaign. The campaign provides key messages and best management practices to reduce winter salt use and keep area roads, sidewalks and parking lots safe.

2014	2015	Madison Area Municipal Storm Water Partnership Accomplishments
20,095	22,348	Visits to <a href="http://www.myfairlakes.com">www.myfairlakes.com</a>
109	127	Fans on Facebook
174	83	PlantDane! cost-share participants
10,712	5,000	PlantDane! native plants sold
102	74	Participants at two Winter Maintenance (salt reduction) workshops

# OFFICE OF LAKES AND WATERSHEDS

During 2015, the Office of Lakes and Watersheds (OLW) contributed to LWRD accomplishments described elsewhere in this report such as completion of the Door Creek Watershed Management Action Plan, and supporting the good work by water-related groups county-wide in protecting and improving Dane County waters. OLW provided significant support to the Water Resource Engineering Division for the first half of the year during the transition of the Madison Area Municipal Storm Water Partnership information and education program to that division. OLW continued to work closely with Administration Division staff to prevent the spread of aquatic invasive species (see article on page 5) and the Parks Division on aquatic plant management.

In developing the community engagement aspects of the Door Creek Plan, OLW focused on ways to connect individuals and groups in both agricultural and urban areas with opportunities to support establishment of phosphorus reduction practices in the watershed.

OLW provided ongoing support to the Dane County Lakes and Watershed Commission, in its annual budget review and new initiatives to improve communication and coordination among Dane County natural resources committees, commissions and councils.

OLW continued to partner with the multi-agency Wisconsin Salt Wise ([www.wisaltwise.com](http://www.wisaltwise.com)) partnership to provide information and resources for homeowners, motorists, municipalities, emergency service providers, and private contractors to move from over-application of salt to scientifically driven application (only what's needed) or non-salt alternatives while keeping the public safe. Partners include the Madison Metropolitan Sewerage District; Dane County Lakes and Watershed Commission; Madison Water Utility; UW-Madison Department of Environment, Health & Safety; City of Madison; Public Health Madison Dane County; Madison Area Municipal Storm Water Partnership; and the Capital Area Regional Planning Commission. Data from the Madison Dane County Public Health Road Salt Reports show how chloride concentrations in the Yahara lakes have nearly doubled in recent decades. Once salt has entered an ecosystem it is difficult to remove, putting aquatic life at risk as well as damaging infrastructure.



The 2014 Madison Dane County Public Health Road Salt Report documents the upward trend of chloride concentrations in the Yahara Lakes.

## ENGAGING GROUPS AND STRENGTHENING PARTNERSHIPS

The Office of Lakes and Watersheds (OLW) collaborates with water-related groups and other partners in Dane County to protect and improve our surface waters and increase the capacity and effectiveness of water-related groups. Our unique position allows us to foster collaboration between groups, helping the Land and Water Resources Department (LWRD) reach its goal to reduce phosphorus and sediment runoff into local waterways and improve habitat.



Friends of Starkweather Creek engaging area youth

### HIGHLIGHTS OF 2015 COMMUNITY ENGAGEMENTS AND ACCOMPLISHMENTS:

- 1,059 volunteers participated in 165 Take A Stake in Our Waters volunteer events, leveraging \$83,511 of donated work.
- The OLW, together with community partners, hosted four Watershed Network Gatherings to help groups craft strategic goals, improve organizational performance, implement priority projects, and strengthen strategic partnerships. These events were attended by 90 individuals representing 48 different organizations.
- The OLW developed a survey to measure the success of the LWRD's expanded community engagement efforts. According to survey results, 83% of respondents feel better prepared to lead their organization, at least partly as a result of OLW community engagement offerings.
- The Dane County Water Education Resource Center (coordinated by UW-Extension and supported by OLW) lent equipment to 28 local groups to run stewardship and educational programs and volunteer activities, such as monitoring surface water, exploring soils and habitats, and marking storm drains. 2,064 volunteers participated in these activities.

# WATERSHED MANAGEMENT HIGHLIGHTS

## DOOR CREEK WATER QUALITY IMPROVEMENT PLAN

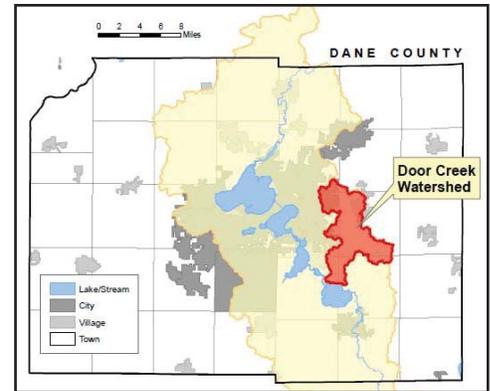
Staff from Land Conservation, Lake and Watersheds, and Administration Divisions worked closely together in 2015 to submit a draft Door Creek Watershed Management Action Plan to the Wisconsin Department of Natural Resources and the U.S. Environmental Protection Agency (USEPA) for review in August. This plan addresses all “nine key elements” that USEPA suggests are necessary for successful plan implementation to meet the long-term goals of meeting state water quality standards for phosphorus, by removing the creek from the state impaired waters list and maintaining the creek’s natural aquatic communities.

Door Creek is a tributary to the Yahara River entering at Lake Kegonsa. Door Creek and its tributaries drain almost 30 square miles of rolling, primarily cash grain, agricultural land in the drumlin-marsh area of eastern Dane County. Much of Door Creek has been straightened and ditched to facilitate agricultural drainage. The Door Creek watershed drains portions of six towns, two villages and a small segment of the city of Madison. Half of the watershed falls within the Town of Cottage Grove. The watershed includes 2,700 acres of wetland and 2,000 acres of residential land.

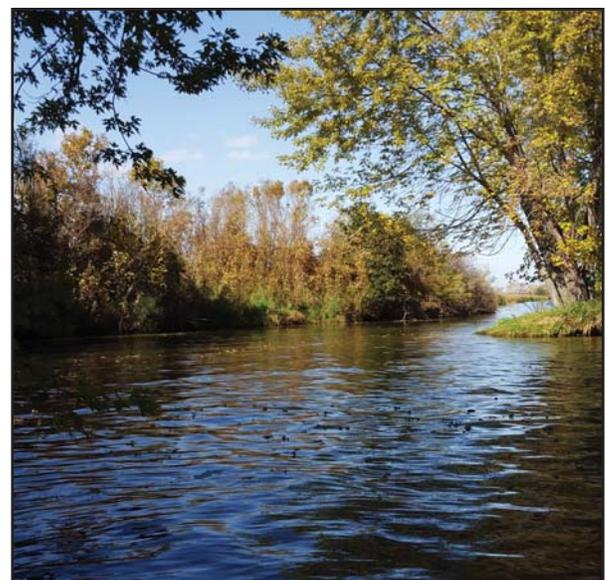
LWRD staff selected the Door Creek watershed for focus as a part of our larger scale work within the Yahara Watershed (see more about the Regional Conservation Partnership Program on page 14) because it is the second-highest phosphorus loading from agricultural land in the Yahara watershed. The plan calls for working with landowners to install management practices (e.g. nutrient management planning, crop rotations, cover crops) and structural practices (e.g. grassed waterways, terraces, manure storage, barnyard runoff controls) to reduce 3,690 pounds of phosphorus runoff over the next ten years.

In order to ensure that we make progress in achieving identified water quality goals, LWRD will track plan implementation progress by capturing water quality changes (chemical and biological), the level of practice implementation, and the overall awareness and participation of watershed stakeholders.

Although state and federal comments were received in December, and the plan will be formally completed early in 2016, implementation began in 2015. Accomplishments include many watershed landowner contacts, two creek clean-up days, and work toward new watershed informational signage.



2015	Office of Lakes & Watersheds Accomplishments
634	Members of Dane Stewards listserv
11,689	Visits to <a href="http://www.danewaters.com">www.danewaters.com</a>
77	Percent of new users on Dane Waters
536	DaneWaters fans on Facebook
729	DaneWaters followers on Twitter
1,059	Take a Stake in the Lakes (TAS) clean-up volunteers
165	TAS Days events
28	Groups borrowing equipment from OLW-supported Water Education Resource Center
114	Storm drains stenciled/marked
30	Legally noticed LWC meetings staffed
3,786	Boater contacts by Clean Boats Clean Water staff
453	Volunteers participating in <i>new</i> TAS projects
48	Groups represented at Watershed Network Gathering
90	Individuals who attended Watershed Network Gatherings



Door Creek

*LWRD appreciates the financial support for preparing this plan from the Sand County Foundation.*

# LAND CONSERVATION

The Land Conservation Division (LCD) focuses on assisting Dane County landowners with planning, design, implementation and certification of conservation practices. This work allows landowners to meet various program requirements and receive program benefits. Conservation practices may include manure storage structures, contour farming, grass waterways, habitat restoration, and nutrient management. These practices aid in protecting water quality and conserving soil in Dane County.

This year brought many staffing changes to the LCD with the hiring of Amy Callis as the new County Conservationist as well as two new conservation specialists, Shawn Esser and Eric Krueger, working on projects focused in the Yahara River Watershed. In addition, two long time LCD staff retired; Craig McCallum (Conservation Engineer, 24 years) and Duane Wagner (Soil & Water Conservationist, 38 years). LCD continues to focus on working with landowners to implement sound conservation practices to protect and preserve Dane County resources.

CONSERVATION ACHIEVEMENTS	2015	2014
Landowners Assisted	1,122	960
Landowners Applying Practices	497	356
Landowners Applying Engineering Practices	32	26
Conservation Plans Updated (ac.)	36,447	38,255
Conservation Plan Status Reviews Completed	549	744
Tolerable Soil Loss Rate (T/Ac/Y)	4.3	4.3
Average Soil Loss (T/Ac/Y)	3.7	3.7
Cropland that Exceeds T (%)	8.1	8.6
Winter Manure Spreading Permits (total)	87	111
CONSERVATION PRACTICES	2015	2014
Nutrient Management Plans (ac.)	127,192	93,734
Grassed Waterways (ac.)	19.6	21.1
Grassed Buffers and Filter Strips (ac.)	213.5	167.1
Contour Farming (ac.)	250.5	176.6
Wetland Restoration (ac.)	57.5	34
Wildlife Habitat Restoration (ac.)	181.4	274.7
Manure Storage Structure Permits	9	11

## REGIONAL CONSERVATION PARTNERSHIP PROGRAM

In January of 2015 Dane County LWRD was notified that its project proposal “Reducing Total Phosphorus and Sediment Loads in the Yahara Watershed through Wisconsin’s Adaptive Management Option” was selected for funding by the USDA-Natural Resources Conservation Service (NRCS). This project is a partnership between Dane County, Yahara WINs, Madison Metropolitan Sewage District, Sand County Foundation, Clean Lakes Alliance, UW-Madison, and NRCS. Over 600 applications were received by NRCS for funding in 2015. Dane County was one of 114 nationally and one of three in the State of Wisconsin that was selected for funding. The project focuses on providing a number of cost-share mechanisms and best management practices to assist land owners and producers with conservation implementation while also supporting planning, water quality monitoring, and outreach and education efforts. This is a five-year project with a total budget of roughly \$5.1 million.

**DID YOU KNOW?**  
A one acre harvestable buffer will reduce up to 28 lbs. of phosphorus per year



Press Conference at the Lussier Family Heritage Center announcing the NRCS Grant

# ADMINISTRATION

The Administration Division of the Land & Water Resources Department continued to function in 2015 as a support system for both internal and external customers. Quality customer service and departmental support is the primary mission of the Division.

One major initiative of the Division was overseeing the remodel of portions of the Lyman F. Anderson Agriculture & Conservation Center. The remodel was a necessary project that aligned our work space with current and projected staffing levels. Remodeling space while keeping up with regular work duties is a challenging task but Department staff handled it with grace. Most challenging of all was continuing to work in the building while the remodel occurred. No LWRD staff were spared and everyone found themselves having to temporarily relocate within the building at some point during the process. The remodel resulted in additional work space for individual staff, several new conference rooms, a permanent home for flat files (which store large-format items such as maps), and new storage space. Additionally, the remodel created a common area that encourages interaction and provides an opportunity to spread out when necessary.

Other Administration Division projects in 2015 included support for Farm Technology Days, website updates, promotional materials, aquatic and terrestrial species invasive management, GIS\mapping services, LWRD budget, water resources management, Friends of Dane County Parks endowment management, and more.



## The Friends of Dane County Parks Endowment

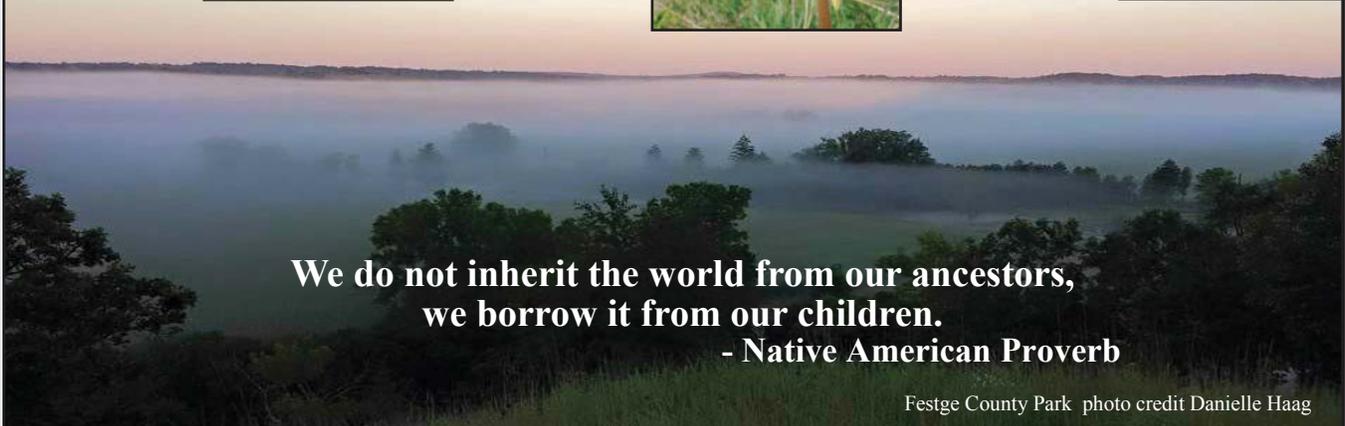
*Providing for today ...Creating a legacy for tomorrow*

### Thank You to our 2015 Corporate Sponsors

Madison Metropolitan Sewerage District  
Natural Heritage Land Trust  
Sierra Club - Four Lakes Group  
WEA Trust  
Dane County Conservation League  
CRANES  
Madison Fishing Expo  
MGE Foundation

Don Tierney - Livable Communities  
Culvers Foundation  
American Transmission Company  
SVA Plumb Financial  
Cambridge Foundation  
Dean Health Plan  
Stafford Rosenbaum  
WISC - TV Channel 3

Vandewalle & Associates  
Liliana's Restaurant  
Sugar Maple Traditional Music Festival  
Kelly Stelzer - Stark Company Realtors  
It's Your Party  
Lundgren's Sign Service  
Carl's Cakes  
Lussier Family Heritage Center



**We do not inherit the world from our ancestors,  
we borrow it from our children.  
- Native American Proverb**

Festge County Park photo credit Danielle Haag

For information on the Friends of Dane County Parks Endowment Fund please visit [www.countyofdane.com/lwrp/parks/endowment](http://www.countyofdane.com/lwrp/parks/endowment)



## DANE COUNTY LAND & WATER RESOURCES DEPARTMENT

Land Conservation • Office of Lakes & Watersheds • Parks • Water Resource Engineering • Administration

### STAFF CHANGES

#### Welcome:

**Amy Callis** – County Conservationist, Land Conservation  
**Christal Campbell** – Stormwater Education Coordinator, Water Resource Engineering  
**Shawn Esser** – Conservation Specialist, Land Conservation  
**Eric Krueger** – Conservation Specialist, Land Conservation  
**Susan Sandford** – Strategic Engagement Coordinator, Office of Lakes and Watersheds

#### Retirements:

**Deb Flanders** – Clerk Typist III, Administration  
**Craig McCallum** – Conservation Engineer, Land Conservation  
**Duane Wagner** – Soil and Water Conservationist, Land Conservation  
**Paul Wipperfurth** – Mechanical Repair Worker, Parks

#### Will Be Missed:

**David Volkmann** – Park Maintenance Technician, Parks

### DEPARTMENT AWARDS

**Darren Marsh** – Wisconsin Park and Recreation Association Park Section – 2015 Professional of the Year Award  
**Pete Jopke** – Outdoor Writers Association, Ultimate Outdoors Radio Interview on Aquatic Invasive Species  
**Curt Diehl** – Trout Unlimited, Silver Reel Certificate of Appreciation  
**Adam Alves** – Board Certified Master Arborist, International Society of Arboriculture  
**Adam Alves** – Elected Vice President of the Wisconsin Arborist Association  
**Dave Haag** – Certified Arborist from the International Society of Arboriculture

### CONTACT US

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[www.countyofdane.com/lwrp](http://www.countyofdane.com/lwrp)

