May 2016

SOIL AND WATER CONSERVATION SOCIETY

Healthy Land
Clean Water
For Life

CONSERVOGRAM

The newsletter of the Soil and Water Conservation Society

In This Issue

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Join Give Journal

Annual Conference News

71st SWCS International Annual Conference
Galt House Hotel • Louisville, Kentucky
July 24-27, 2016
www.swcs.org/16ac

Make the Most of Your 2016 Annual Conference Experience

The agenda for this year's Annual Conference in Louisville is brimming with opportunities to network and learn about the latest research, trends, and programs in the conservation industry. In addition to the two and a half days of general sessions and breakouts, pre-conference workshops and post-conference conservation tours are a great way to enhance your experience at the Annual Conference.

MANAGING Great River LANDSCAPES

On Sunday, July 24, participants may choose from two interactive technical workshops offering a unique hands-on learning opportunity in a smaller group setting. Registration for workshops may be purchased in addition to conference registration or as a stand-alone option. In addition to the technical workshops, the Chapter Development Committee will also be hosting a free workshop focusing on improving chapter communication and outreach. For more information about the workshops, please visit www.swcs.org/16ac_workshops.

Conservation tours are another great way to make the most out of your time at the conference. This year, the Kentucky Chapter has planned three diverse tours that offer a little something for everyone.

Tour #1: Mammoth Cave National Park

Participants will enjoy a trip to the world's largest known cave system, Mammoth Cave National Park. This tour will highlight the unique karst terrain in south-central Kentucky

and emphasize the interrelationship of surface activities, including agriculture, and the vulnerable groundwater in this part of the commonwealth. Participants will observe and briefly discuss this karst terrain, which includes sinkholes, springs, and caves, and then enter the cave to see the processes first hand. The goal of this tour is to give a better understanding of how this type of groundwater system works and why it is so important to protect such a unique resource. Lunch will be provided for participants of this tour.

Tour #2: Roundstone Native Seed Facility

Participants of this tour will visit the Roundstone Native Seed facility in Upton, Kentucky. It will include a brief history of native species in Kentucky and the eastern United States and will discuss the many uses for native species and their benefits over introduced species. Participants will go on a walking tour of the local production fields, cleaning facilities, and warehouse where they will experience the production process that occurs after harvest. Roundstone Native Seed has been growing and supplying regionally adapted native seeds to the eastern half of the United States for over 20 years.

Tour #3: The Falls of the Ohio State Park

The Falls of the Ohio State Park is located across the Ohio River in Clarksville, Indiana. The 390-million-year-old fossil beds are among the largest, naturally exposed, Devonian fossil beds in the world. The park features a spectacular interpretive center overlooking the fossil beds containing an exhibit gallery and video presentation. Participants will have the opportunity to tour the interpretive center to see over 100 different exhibits about the long and exciting history at the Falls of the Ohio. The tour will conclude with a one-hour hike, facilitated by park personnel, around the fossil beds to learn why the Devonian fossil beds are an extraordinary geological feature.

To learn more about these enhancement opportunities or to register, please visit www.swcs.org/16ac.

2016 SWCS Student Moderator Program Still Accepting Applications

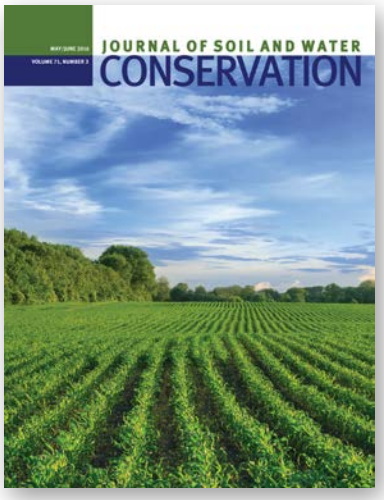
SWCS offers the Student Moderator Program as an opportunity for full-time student members of SWCS with a major in conservation and/or environmental affairs to experience the SWCS Annual Conference in a hands-on learning capacity. In exchange for volunteer hours, the SWCS will cover the cost of conference registration as well as a three night hotel stay at the conference hotel (July 24-27).

For additional information regarding the Student Moderator Program, please visit www.swcs.org/16ac_SMP.

APPLICATION DEADLINE: June 3, 2016

The May/June Issue of the Journal Is Here!

In the May/June issue of the *Journal of Soil and Water Conservation*, find articles about rangeland soil health, the potential of US agricultural land for carbon sequestration, integration of bioenergy crops into row crops, the effectiveness of conservation practices in improving water quality, and many other conservation issues. Read these and more articles in your print issue or online at the JSWC website.



Upcoming Events

Alabama Chapter Meeting: Protecting Alabama's Natural Resources
Auburn, Alabama
June 8-10, 2016

Iowa Chapter Summer Meeting
Iowa City, Iowa
June 10, 2016

Finding Environmental Synergy in the Oil Field: Strategies and Lessons Learned
Medora, North Dakota
June 14-15, 2016

71st SWCS International Annual Conference
Louisville, Kentucky
July 24-27, 2016

North Dakota Chapter Annual Meeting
Bismarck, North Dakota
November 28-29, 2016

Innovative Solutions for Managing Nutrient Losses

By James VeVerka, SWCS Special Projects Director

Numerous conservation practices serve to protect soil and water resources. Many of these practices are scientifically proven effective, yet water quality issues are commonplace across the waterways of Iowa and many other Mississippi River basin states. The challenge largely exists with informing and educating the public, primarily landowners and producers. Once informed, implementing these practices at efficient rates and effective scale is the next hurdle. The Soil and Water Conservation Society (SWCS), partnering with Agribusiness Association of Iowa (AAI) and Iowa State University (ISU), is promoting and developing methods to employ innovative and proven conservation management practices at a broader scale. Funding to move forward with these efforts is provided by the Iowa Department of Agriculture and Land Stewardship (IDALS), via the Iowa Water Quality Initiative (WQI). A series of management practices have been targeted for support from allocated funds.

Strategically placed and designed water quality wetland systems are a proven edge-of-field nutrient management practice. Iowa State University has demonstrated these systems can potentially remove 40% to 90% of the nitrate from tiled Iowa landscapes (Crumpton and Stenback 2014). The effectiveness of these systems is dependent on the amount of nitrate intercepted (hydraulic loading rate) by a given system within a watershed. Additional factors affecting system performance include nitrate concentrations, temperature, and wetland hydraulic efficiency (Crumpton and Stenback 2014). Expanding these systems across Iowa watersheds is important to effectively achieve Iowa's nutrient reduction goals. Currently wetland nutrient management practices are focused in the north-central portion of Iowa, the prairie pothole region of the state, commonly referred to as the Des Moines Lobe. Establishing systems outside the prairie pothole region is an SWCS goal. Determining system effectiveness across varying Iowa landform regions will allow for progress towards state-wide implementation.

Saturated buffers are a new practice presenting great potential for nutrient reduction. These buffers reduce nutrients from surface flow, shallow groundwater, and interflow. Preliminary studies show strong potential for nitrate removal from infiltrated diverted tile flow water, restoring hydrologic conditions between drained row crop lands and buffer systems (Jaynes and Isenhart 2014). Saturated buffers function by diverting tile flow via control box structures to tile lines paralleling a waterway, allowing tile source runoff to subsurface drain across a vegetated buffers before entering the stream. Similar to wetland systems, nitrate removal occurs in saturated buffer systems by plant uptake, denitrification, and microbial immobilization. Soil type, vegetation coverage, soil organic carbon content, nitrate loading, and amount of water diverted influence the amount of nitrate removal. Implementing additional pilot saturated buffer systems will provide valuable data to determine their future role in the Iowa Nutrient Reduction Strategy.

Restored previously farmed wetlands and wetland buffers serve to improve water quality and diversify wildlife habitat. Restored wetlands can prevent soil erosion, mitigate downstream flood damage, and improve water quality by trapping nutrients and pollutants. Groundwater recharge and reduced siltation to downstream water bodies are another valuable function of restored farmland wetlands. Cropping history is not required for wetland restoration eligibility. Wetland drainage area is required a minimum 25% row crop land usage, while at least receiving 50% of tiled cropland drainage. Tile drainage must be altered to support water retention within the wetland. Potential wetland locations include terminal of grassed waterways; buffer and pasture corridors along intermittent streams; drainage areas adjacent to larger drainage areas; and isolated depressions (potholes), which can be daylighted into wetlands. Project efforts aim to broaden farmable wetland practices and further establish system nutrient reduction efficiency.

These systems are small footprint (0.5% to 2% of receiving drainage area), remain private property under easement contract, and provide environmental stewardship opportunities. Wildlife habitat, ecological diversity across the landscape, and flood mitigation are also benefits gained from practice implementation. Financial assistance and incentives are available to perspective producers and landowners for select practices. Environmental and economic benefits (ecosystem services) provided by conservation reserve program (CRP) lands often surpass the land rental payment cost invested to convert lands from crop production (Johnson et al. 2016). Broadening funding sources beyond state and federal government sources will be important to expanding practices across the state. SWCS and project partners are evaluating private party interest for funding practice deployment, potentially providing opportunities for mitigation, nutrient, and water quality credit programs.

SWCS strives to promote conservation practices that support producers and the environment. Project action plans for 2016 are currently underway, with practice implementation scheduled for late summer to early fall. Monitoring of practice performance will be important to further support broader practice implementation. Iowa State University plans to monitor performance of newly implemented systems through the WQI funded projects. Project goals look to provide a foundation to address water quality and soil health concerns across the state and greater Midwest.

Crumpton, W., and G. Stenback. 2014. 2014 Annual Report on Performance of Iowa CREP Wetlands: Monitoring and Evaluation of Wetland Performance. Iowa State University, Department of Ecology, Evolution and Organismal Biology. Ames, IA: Iowa State University.

Jaynes, D., and T. Isenhart. 2014. Reconnecting tile drainage to riparian buffer hydrology for enhanced nitrate removal. Journal of Environmental Quality 43:631-638.

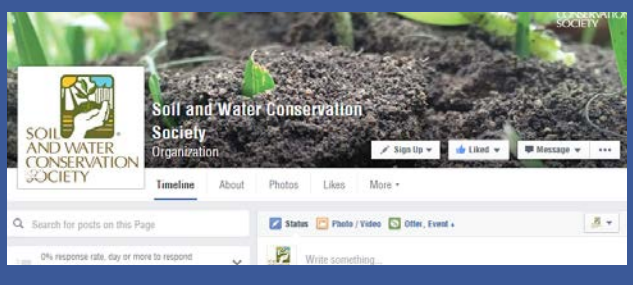
Johnson, K., B. Dalzell, M. Donahue, J. Gourevitch, D. Johnson, G. Karlovits, . . . J. Smith. 2016. Conservation Reserve Program (CRP) lands provide ecosystem service benefits that exceed land rental payment costs. Ecosystem Services 18:175-185.

News from DC

Courtesy of SWCS DC Representative John Peterson

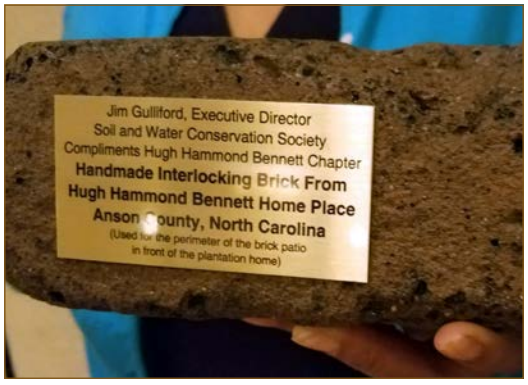
- The Obama administration's climate change policy, "The Clean Power Plan," has been challenged in federal appeals court, and merits of the lawsuit will be argued on June 2.
- USDA NRCS announced on April 5 that $15 million will be available to conservation partners to provide technical and financial assistant for private land wetlands protection and improvement. Click here for more information, and click here for a full press release.
- On April 13, the House Committee on Appropriations Subcommittee on Agriculture, Rural Development, Food and Drug Administration and Related Agencies held a markup of the fiscal year 2017 (FY17) agriculture appropriations bill. Positive highlights include funds for conservation operations, watershed dam rehabilitation, and the Emergency Watershed Program (EWP). The bill does not include watershed operations funding, reduces the Conservation Stewardship Program acreage, and caps the Environmental Quality Incentives Program (EQIP) at $1.425 billion.
- On Tuesday, April 19, the National Geographic Society hosted the US Secretary of the Interior Sally Jewell. Secretary Jewell, while talking about the history of the National Park Service as it turns 100 this year, stressed the importance of conservation. A text of her speech can be found here.
- The 61st anniversary of Soil and Water Stewardship Week was celebrated April 24-May 1.
- USDA unveiled a new" Urban Agriculture Toolkit" to help urban farmers, agribusiness entrepreneurs, and community leaders successfully create jobs and increase access to healthy food through urban agriculture. The toolkit can be viewed here.
- Several states held high school Envirothon competitions the week of April 25-29 with teams advancing to the North American Envirothon. For updates on local Envirothon competitions, including photos and media, click here.

"Like" the Soil and Water Conservation Society on Facebook to keep up with the latest Society news and conservation current events!



Hugh Hammond Bennett Gift to SWCS

During the SWCS Board of Directors meeting in April, incoming Board member Dale Threatt-Taylor (left) surprised Director Jim Gulliford (right) with a brick from the Hugh Hammond Bennett home place. Thank you for sharing this piece of conservation history, Hugh Hammond Bennett Chapter!



Conservation NewsBriefs: Popular Articles from April

Are you up-to-date with news about soil and water conservation research and policy? *Conservation NewsBriefs* is a highly informative e-news brief that delivers the most relevant content to your inbox each and every Thursday. Below are links to some of the most read articles from over the past month:

- Carbon farming is a zero-risk strategy for curbing climate change (The Hill)
- How soil erosion contributes to desertification and dust storms (Mother Earth News)
- Study shows phosphorus from fertilizer builds up in soil for decades (CBC News)
- Soil-mapping tools available to growers (Good Fruit Grower)

Click here to sign up and start receiving your weekly *Conservation NewsBriefs* today!

New Members

Welcome members who joined in April!

International
Jamil Alexandre Ayach Anache
Ojong Emmanuel Tambe

Alabama
Donna Elliott
Demetris Johnson
Summer Stidham

Canada—Alberta
Shane Colby Oracheski

Canada—Atlantic Canada
Joseph Culp

Canada—Ontario
Kathleen Parewick

DC—National Capital Chapter
William Kuckuck

Florida
Matthew Couch

Iowa
Taylor Feauto
Gretchen Webster

Idaho/Washington—Inland Empire
Tami Stubbs

Illinois
Allison Rhanor

Maryland—Maryland Old Line
Mason King

Missouri—University of Missouri Student Chapter
Dinesh Panday

Mississippi—Mississippi State University Student Chapter
Beth Baker

North Carolina—North Carolina State University Student Chapter
Dorian Perez

North Dakota
Jose Franco Jr.

Oklahoma
Prasanna Gowda

Texas—Heart of Texas
Douglas Smith

Virginia
Youtong Fu

Wisconsin—University of Wisconsin-Stevens Point Student Chapter
Andrea Taylor

Corporate Members

Please contact corporate.info@swcs.org for more details.

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Agri Drain Corporation

Hickenbottom Inc.
Look for the bright orange inlet - Hickenbottom's Trademark®

Silver

VERDESIAN

The Fertilizer Institute

DMI Dairy Management Inc.™

Bronze

CTIC Conservation Technology Information Center

Watershed Materials

White River Irrigation District

La Crosse Seed

The Nature Conservancy
Saving the last great places on earth

Ecosystem Services Exchange
Valuing Conservation