CONSERVATION CONNECTIONS

Creating Pathways to Sustainability

SWCS 72nd International Annual Conference

FINAL PROGRAM

Presented by

SOIL AND WATER CONSERVATION SOCIETY

July 30 – August 2, 2017

Monona Terrace Convention Center

Madison, Wisconsin

Let's increase our food supply without reducing theirs.

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the good growth plan

There are 7 billion people in the world. Each year, we are joined by 80 million more. Clearly, we need to grow more food. Yet we must also protect the ecosystems that are vital to our planet's health. As one of the world's leading agricultural companies, Syngenta is helping farmers to grow more without taking new land into cultivation. As part of The Good Growth Plan, we are committed to increasing the average productivity of the world's major crops by 20% and to enhance the biodiversity of five million hectares of farmland. And we are ready to work with growers, governments, NGOs and all who share this agenda. Please follow our progress at www.goodgrowthplan.com

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General Information

Sponsors/Exhibits/Posters

Conference Program

CONFERENCE SCHEDULE IN BRIEF

SUNDAY, JULY 30

11:00 AM Registration Opens
Registration Desk 3 and 4

12:00 PM House of Delegates, State of Society Address, and Regional Roundtable Meetings
Madison Ballroom C/D

1:00 PM *Workshop – Agricultural Nutrient Management and Water Quality: Emerging Solutions and Ongoing Legal Challenges
Meeting Room MN

1:00 PM *Workshop – Using the Adaptation Workbook to Create a Weather and Climate Resilient Pathway to Sustainability
Meeting Room L

2:30 PM Leadership Development Training
Madison Ballroom C/D

4:00 PM Student Networking Session
Meeting Room OP

5:00 PM New Members/First Timers Orientation
Meeting Room QR

6:00 PM Regional Forum and Flavor
Madison Ballroom C/D

**Not included in standard registrations. Additional cost and ticket(s) required to attend.*

MONDAY, JULY 31

7:30 AM Registration Opens
Registration Desk 3 and 4

8:30 AM Opening Welcome and Pritchard Lecture
Madison Ballroom

10:00 AM Morning Break: Exhibit Hall and Poster Presentations Open
Grand Terrace and Madison Ballroom

10:30 AM Concurrent Sessions
See Pages 20-22

12:00 PM Lunch Break
On your own

12:00 PM ARCSE Lunch and Annual Business Meeting
Community Terrace

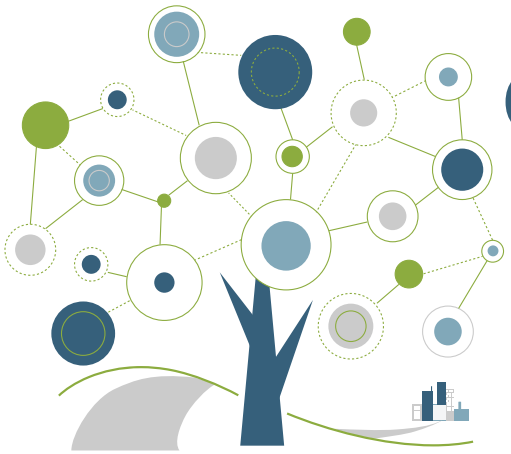
1:30 PM Concurrent Sessions
See Pages 20-22

3:00 PM Afternoon Break: Exhibit Hall and Poster Presentations Open
Grand Terrace and Madison Ballroom

3:30 PM Concurrent Sessions
See Pages 20-22

5:00 PM Poster and Exhibitor Reception
Grand Terrace and Madison Ballroom

7:00 PM Silent Auction Ends
Madison Ballroom



CONSERVATION CONNECTIONS

Creating Pathways to Sustainability

SWCS 72nd International Annual Conference

July 30 - August 2, 2017
Madison, Wisconsin

TUESDAY, AUGUST 1

7:30 AM Registration Opens
Registration Desk 3 and 4

8:00 AM Soil Health Partnership Farmer Panel
Madison Ballroom

9:00 AM Tuesday Plenary
Madison Ballroom

10:00 AM Morning Break: Exhibit Hall and Poster Presentations Open
Grand Terrace and Madison Ballroom

10:30 AM Concurrent Sessions
See Pages 30-32

12:00 PM Awards Luncheon
Madison Ballroom

1:30 PM Concurrent Sessions
See Pages 30-32

3:00 PM Afternoon Break: Exhibit Hall and Poster Presentations Open
Grand Terrace and Madison Ballroom

3:30 PM Concurrent Sessions
See Pages 30-32

WEDNESDAY, AUGUST 2

7:30 AM Registration Opens
Registration Desk 3 and 4

7:30 AM *Tour #1 – Sustainable Dairy Tour
Meet at Main Entrance of Terrace by 7:15AM

8:30 AM Concurrent Sessions
See Page 40-41

10:00 AM Refreshment Break
Grand Promenade

10:30 AM Concurrent Sessions
See Page 40-41

12:00 PM Conference Adjourns

1:00 PM *Tour #2 – Aldo Leopold Shack Tour
Meet at Main Entrance of Terrace by 12:45PM

1:00 PM *Tour #3 – Sustainable Agriculture in Wisconsin's Driftless Landscape Tour
Meet at Main Entrance of Terrace by 12:45PM

**Not included in standard registrations. Additional cost and ticket(s) required to attend.*

PROGRAM COMMITTEE CHAIR MESSAGE

Welcome to the 72nd International Annual Conference of the Soil and Water Conservation Society. The focus of this year's meeting is **"Conservation Connections: Creating Pathways to Sustainability."**

Conservation of soil and water resources is connected in both physical and social ways. There are the physical pathways of fields connecting to fields connecting to streams, and so on. There's the social aspect where a landowner or manager connects with others, such as other landowners, technical advisors, educators, organizations, or social media, for a few examples. For any changes that are made in a positive direction for soil health or water quality, there are always people behind those efforts, and I often find myself wondering about the backstory. Where did it start? Was it a tour that a landowner attended that caused a lightbulb moment? Was a landowner approached by someone who said, "I'd like to show you something"? I find the stories that I learn at this conference not only inspiring, but practical examples that I can take home, modify, and implement.

I have the honor of serving as program planning committee chair and have been impressed by the quality, breadth, and multidisciplinarity of the 2017 abstracts submitted. There are over 210 symposia, papers, and posters to choose from this year; these presentations represent a range of important topics for conservationists from protecting water quality to improving the health of our soil resources. Many presentations exemplify the excellent and creative work our members have accomplished. The Soil and Water Conservation Society continues to represent the best of conservation practices and strategies.

This conference is only made possible by the many member volunteers, SWCS staff, and sponsors who have volunteered their time, talents, and treasures. I want to extend my personal thanks to all and wish Francisco Arriaga the best as he assumes the chair for next year's meeting.

We are happy you have joined us and hope that you can connect with your old friends and colleagues and forge some new connections too!

DeAnn Presley
2017 Program Planning Chair
Kansas State University

WELCOME TO WISCONSIN

The Wisconsin Chapter of the Soil and Water Conservation Society is honored to welcome the 2017 SWCS International Conference to the Monona Terrace, Madison, Wisconsin. Wisconsin has a long history of soil and water conservation leadership. Famous Wisconsin conservation leaders include John Muir, Aldo Leopold, and Gaylord Nelson. Each of these visionaries created a legacy that continues to influence public policy, conservation implementation, and citizen-driven leadership. It is this citizen demand for the protection and wise use of soil, water, and related resources that continues to move conservation forward regardless of the politics or economics in play at any moment in time.

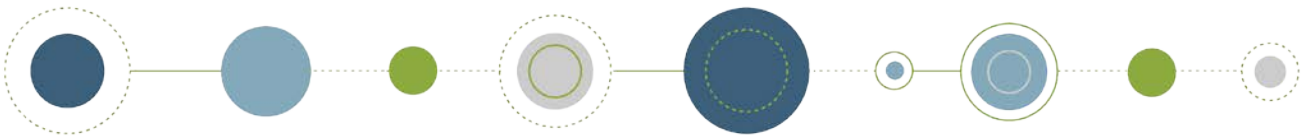
Southwest Wisconsin is home to the Coon Creek demonstration watershed project where many of the first formal conservation practices were developed. Local farmers in cooperation with Hugh Hammond Bennett, Aldo Leopold, and the Civilian Conservation Corps (CCC) work crews installed conservation practices that are still visible on the landscape 80 years later.

Wisconsin has an established tradition of partnership between state and federal conservation/agricultural agencies, county government, and academic institutions led by our land-grant university, the University of Wisconsin. In the mid-1970s, the Wisconsin legislature created the county land conservation departments to serve as the local source of conservation leadership. The land conservation departments are a local unit of government with the authority to collect fees, create and enforce local regulations, and provide a consistent structure for public input and oversight of conservation implementation.

Most recently Wisconsin has finalized its updated Clean Water Act planning process and is moving ahead with pollutant trading and adaptive management. These strategies hold Clean Water Act permitted dischargers to enforceable limits but allow the use of creative alternatives to reach water quality goals. A promising alternative strategy is utilizing the installation of upland conservation treatment to reduce pollutant delivery instead of constructing expensive treatment infrastructure. The permitted discharger can either enter into direct contacts with landowners (pollutant trading) or pool funds with other permitted dischargers (adaptive management) to fund the implementation of conservation practices within the watershed where their discharge occurs. This additional source of conservation funding comes at a time when traditional voluntary conservation programs are in decline.

Finally, Wisconsin is dealing with increasing demands for the use and enjoyment of its natural resources. Increased water use caused in part by the expansion of irrigated agriculture, large livestock operations, and municipal water systems have raised public awareness that groundwater is a finite resource even though our area receives substantial rainfall.

The SWCS Wisconsin Chapter membership looks forward to participating in the 2017 International Conference to learn and share experiences related to these and the other numerous natural resource challenges facing today's conservationists, affiliated scientists, farmers, public officials, and agribusiness partners.



2017 SWCS CONFERENCE VOLUNTEERS

Annual Conference Planning Committee

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Lisa Neuenfeldt, USDA-NRCS

Matt Otto, USDA-NRCS

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Craig Allen, University of Nebraska-Lincoln
Adaptive Management of Conservation Efforts

Katie Flahive, USEPA
Water Resource Assessment and Management

Deanna Osmond, North Carolina State University
Conservation in Nontraditional Agriculture

Janet Perry, USDA-NRCS
Conservation Economics and Policy

DeAnn Presley, Kansas State University
Soil Health Resources, Indicators, Assessment, and Management

Linda Prokopy, Purdue University
Social Sciences Informing Conservation

Mark Risse, University of Georgia-Athens
Outreach, Education, and Community Engagement

Aleksey Sheshukov and Skye Willis, Kansas State University
Conservation Models, Tools, and Technologies

Thank you to all who assisted in planning the 72nd SWCS International Annual Conference!

CONFERENCE REGISTRATION AND FACILITY INFORMATION

The Soil and Water Conservation Society registration desk is located on level 4 of Monona Terrace. SWCS staff will be on site to assist you.

Registration Hours

Sunday	11:00 AM – 6:30 PM
Monday	7:30 AM – 5:00 PM
Tuesday	7:30 AM – 5:00 PM
Wednesday	7:30 AM – 12:00 PM

Conference Admission

The conference registration fee covers one participant. All registered attendees will receive a registration packet, which contains a formal name badge and tickets for purchased events.

Your name badge acts as your admission ticket to educational sessions (including the plenary sessions), exhibits, posters, and special events. Please be sure your name badge is worn at all times in the conference area. For your safety, it is recommended that you do not wear your name badge outside the conference area. Please note that tickets may be collected for ticketed events.

Formal name badges are not provided for guests. Additional tickets for guests to attend the Exhibit and Poster Reception, the Awards Luncheon, and conservation tours may be purchased at the registration desk and are subject to availability.

Please Note: No refunds will be given for conference registrations, workshops, tours, meal functions, or activities. Registration personnel will not exchange tickets. SWCS reserves the right to cancel events/activities without prior notice.

Lost and Found

Check with the Monona Terrace visitor's desk or at the SWCS registration desk.

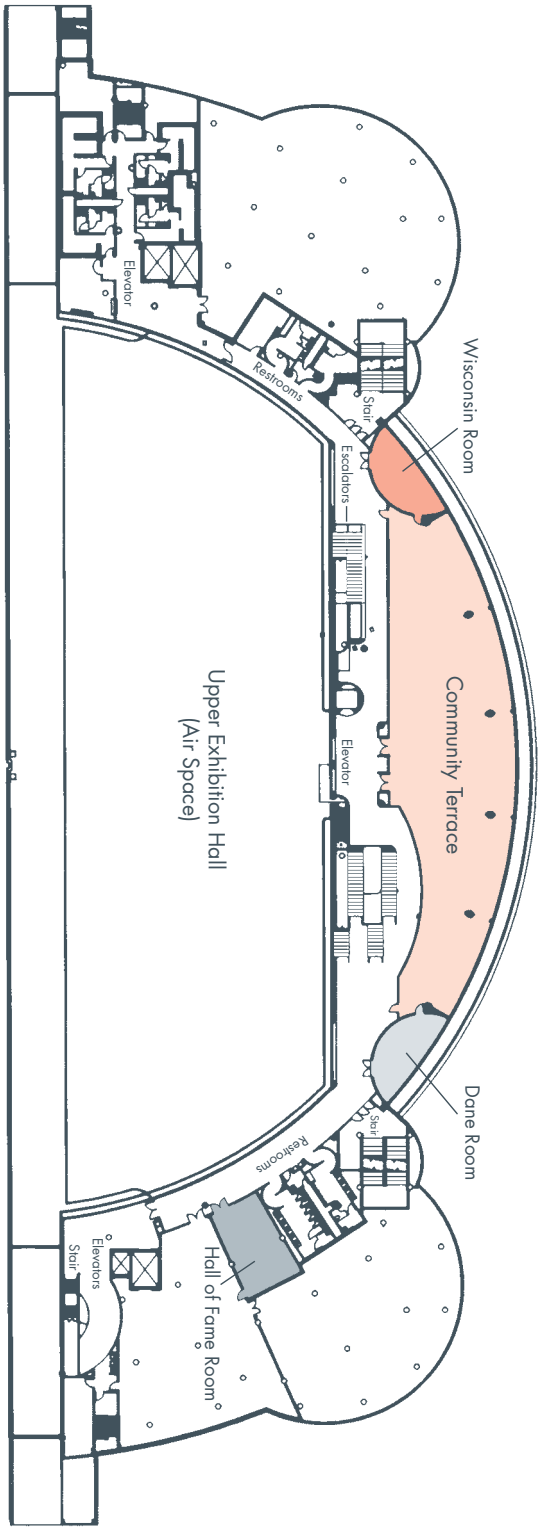
CEUs

SWCS has worked to secure continuing education credits (CEUs) from various certifying organizations. Certified, licensed, or professional engineers (PE), agronomists (CPAg), soil scientists and classifiers (CPSS and CPSC), crop advisors (CCA), crop consultants (CPCC), foresters, range managers (CPRM), grassland professionals (CGP), professionals in erosion and sediment control (CPESC) and storm water quality (CPSWQ), and other professional conservationists may be able to obtain CEUs.

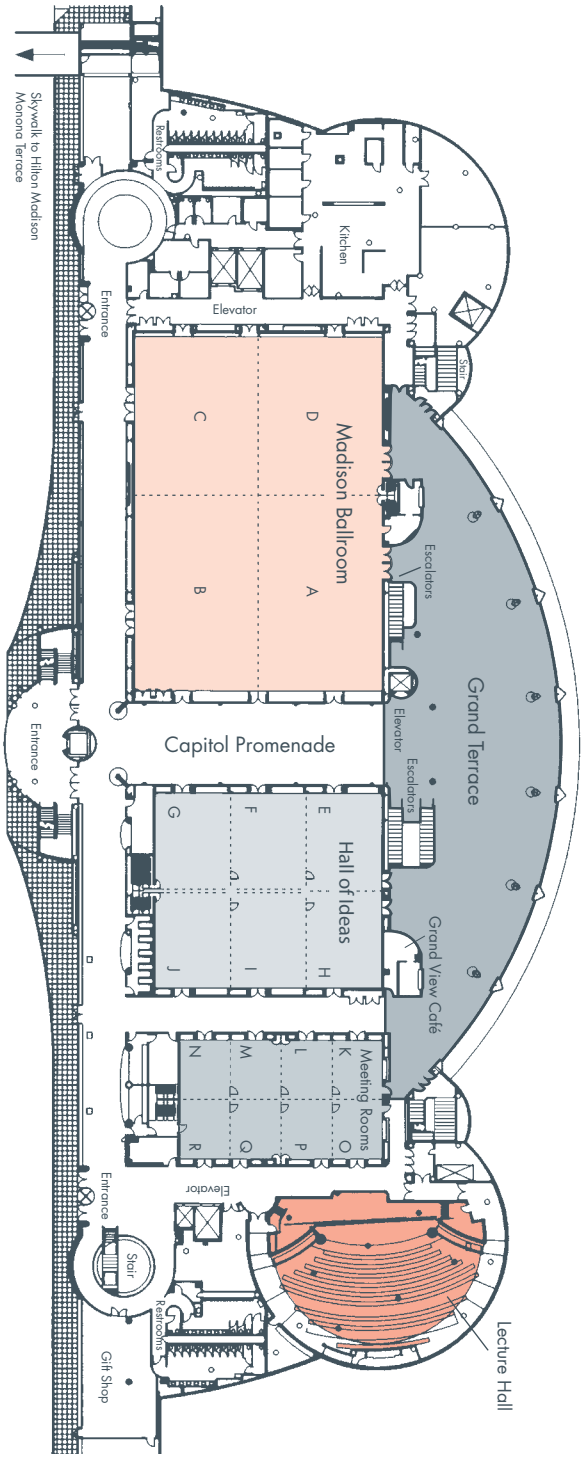
Please pick up a CEU tracking/sign in sheet at the registration desk and have each room moderator sign the sheet as appropriate. Return the form to registration at the end of the conference, and we will submit on your behalf.

MONONA TERRACE MEETING SPACE MAPS

Level 2



Level 4



SWCS BOARD OF DIRECTORS, OFFICERS, AND STAFF

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SWCS is pleased to have the following organizations as corporate members and partners in the effort to advance natural resource conservation and environmental sustainability.

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Agri Drain Corporation

Hickenbottom Inc.
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The Fertilizer Institute

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IowaNREC.org
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Ecosystem Services Exchange
Valuing Conservation

La Crosse Seed

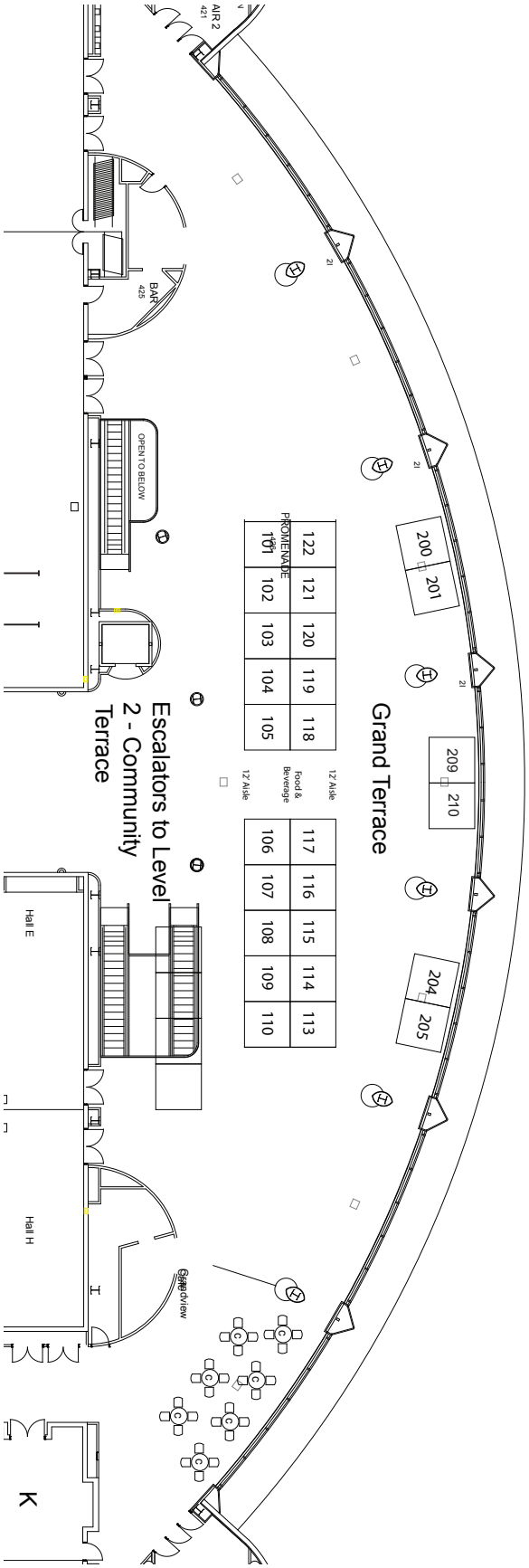
White River Irrigation District

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

Watershed Materials

Are you interested in having your organization recognized for its dedication to natural resources protection and sustainability? Contact Jamie Nieman at 515-289-2331 x 114 or email corporate.info@swcs.org to discuss all of the benefits of becoming an SWCS corporate member.

EXHIBIT HALL LAYOUT



Booth #	Exhibitor
101	NACD
102	Agri Drain Corporation
103	EnviroCert
104	USDA-NRCS-CNTSC
105	American Farmland Trust
106	Alliance of Crop, Soil and Environmental Science Societies (ACSESS)
107	Soil Science Society of America
108	Wellntel, Inc.
109	Spectral Evolution
110	North Central SARE
113	Dairy Management, Inc.
114	Soil Health Institute
115	GreenBlue Urban
116	US Environmental Protection Agency
117	Watershed Materials/Nancy's Blankets
118	LaCrosse Seed
119	AMS, Inc.
120	The Nature Conservancy
121	Ralph Morris Foundation
122	Agribusiness Association of Iowa/Iowa Nutrient Research and Education Council
200 & 201	Soil Health Partnership/Monsanto
204 & 205	USDA-NRCS
209 & 210	Syngenta

CONFERENCE EXHIBITORS

Booth #	Exhibitor	Contacts/Representatives
101	National Association of Conservation Districts (NACD) nacdnet.org	Beth Mason Beth-Mason@nacdnet.org
102	Agri Drain Corporation agridrain.com	Charlie Schafer charlie@agridrain.com
103	EnviroCert International envirocertintl.org	Melissa McKinney melissa@envirocertintl.org
104	USDA-Natural Resources Conservation Service (NRCS)-Central National Technology Support Center (CNTSC) nrcs.usda.gov	Sally Mills sally.mills@ftw.usda.gov
105	American Farmland Trust farmland.org	Mike Baise mbaise@farmland.org
106	Alliance of Crop, Soil and Environmental Science Societies (ACSESS) myacsess.org	Danielle Lynch dlynch@sciencesocieties.org
107	Soil Science Society of America soils.org	Susan Chapman schapman@sciencesocieties.org
108	WellIntel, Inc. wellntel.com	Chuck Dunning cpdunning@wellntel.com
109	Spectral Evolution spectralevolution.com	Joe Mayr joseph.mayr@spectralevolution.com
110	North Central Sustainable Agriculture Research and Education (SARE) northcentralsare.org	Marie Raboin and Marie Flannagan Raboin.Marie@countyofdane.com; mart1817@umn.edu
113	Dairy Management, Inc. dairy.org	Rex Martin rex.martin@dairy.org
114	Soil Health Institute soilhealthinstitute.org	Byron Rath brath@soilhealthinstitute.org
115	GreenBlue Urban greenblue.com	Jeremy Bailey jeremy.bailey@greenblue.com
116	US Environmental Protection Agency (USEPA) epa.gov	Katie Flahive and Erika Larsen flahive.katie@epa.gov; Larsen.Erika@epa.gov
117	Watershed Materials/Nancy's Blankets watershedm.com/nancys-blankets	Nancy Hamman nhamman352@aol.com
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119	AMS, Inc. ams-samplers.com	Hari Anestos hari@ams-samplers.com
120	The Nature Conservancy nature.org	Larry Clemens larry.clemens@tnc.org
121	Ralph Morris Foundation ralphkmorrisfoundation.org	Jayne Wilgus wilgus.jayne@dorsey.com
122	Agribusiness Association of Iowa/Iowa Nutrient Research and Education Council agribiz.org	Dean Lemke, P.E. dean@agribiz.org
200 & 201	Soil Health Partnership/Monsanto soilhealthpartnership.org; monsanto.com	Anne Dietz and Nick Goeser Dietz@ncga.com; goeser@ncga.com
204 & 205	USDA-NRCS nrcs.usda.gov	Tyrone Larson and Tivoli Gough Tyrone.Larson@wi.usda.gov; Tivoli.Gough@wi.usda.gov
209 & 210	Syngenta syngenta.com	Karyn Ostrom and Heather Blanken kostrom@gscommunications.com; hblanken@gscommunications.com

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POSTER PRESENTATIONS

Adaptive Management of Conservation Efforts

1. Cover Crop Influence on Soil Quality under Corn–Soybean Rotation
2. Cover Crop Influence on Soil Water Dynamics under Corn–Soybean Rotation
3. Cover Crop Mix Seeding Rate Calculator for the Systematic Development and Evaluation of Cover Crop Mixes
4. Helping Farmers and Forest Land Managers Adapt to Extreme Weather and Variable Climate
5. Measuring and Improving Nitrogen Use Efficiency with 40 Wisconsin Farmers
6. Topographic Controls on Groundwater Nitrogen Dynamics with Grass and Poplar Vegetated Riparian Buffers under Cattle Grazing

Conservation Economics and Policy

7. Reclaimed and Renewed: Delavan's Ann Street Corridor
8. Social and Economic Characteristics of Public Lands Ranchers in the United States

Conservation in Organic, Specialty, and Small-Scale Agriculture

9. Effects of Agroforestry on Pollinators and Crop Pollination: A Systematic Review
10. Equipment Development for Limited Resource Small and Urban Conservation Farming Systems
11. NRCS Conservation Information Exchange with Cuba and Implications for Soil Management/Interpretations

Conservation Models, Tools, and Technologies

12. A Plot Study on the Effect of Water Erosion on Tillage Erosion
13. Application of the Daily Erosion Project (DEP) in Northeast China
14. Commodity-Based Assessment of Soil Erosion Risks at the National Scale for Canada
15. Cover Crops: A Sink but Not Always a Source of Nitrogen
16. Impact of Seasonal and Short-Term Manure Application Decisions on Phosphorus Loss in Runoff
17. Migration of Landfill Contaminants towards Groundwater System: Prediction and Simulation
18. Nutrient Tracking Tool: A User-Friendly Tool for Evaluation of the Water Quality and Quantity as Affected by Various Agricultural Management Practices
19. Where is the Oak Ecosystem in Models for Corn Belt Conservation?
20. WQIag – A Tool of Multiple Applications

Outreach, Education, and Community Engagement

21. Dairy Grazing Apprenticeship Trains the Next Generation of Conservation Farmers
22. IPM Institute Partnering with Ag Retailers, Growers, and Landowners for Resource Management and Water Quality
23. Soil Health Economic Case Studies: Two New York State Farmers' Experiences
24. The Power of Partnerships: Creating Opportunities for Conservation at the Watershed Scale

Soil Resource Assessment and Management

25. Is Laser Diffraction PSA an Appropriate Method for Measuring Soil Aggregate Stability?
26. An Ecological Approach to Nutrient Management for Soil Health
27. Conservation Behaviors in Family Farm Businesses
28. Disease Risks and Mitigation Strategies for Minimum Tillage Wheat
29. Diversification of the Corn–Soybean Rotation for Improved Sustainability
30. Effects of Biomass Crops, Agroforestry Buffers, and Grass Buffers on Soil Hydraulic Properties Compared to Row Crop Management
31. Fostering Soil Health in North Dakota
32. Hydrocarbon Status of Soil as Ecological and Genetic Indicator
33. Impact of Maize Hybrids with Enhanced Nitrogen Use Efficiency on Soil Nitrogen Depletion in Sub-Saharan Africa
34. Increasing Labile Carbon and Nitrogen Pools in Wisconsin Agricultural Soils Requires a Change in System, Rather than Practice
35. Linking Soil Health and Water Quality in the Great Lakes Region
36. Runoff and Sediment Yield from Strong Storms on Sloping Laterite Soils Producing Sugarcane
37. Short-Term Effects of Grazing and Plant Species Composition on Soil CO_2 Efflux in Southwest Wisconsin
38. Soil Organic Matter, Bulk Density, and Aggregate Stability – Important Indicators of Soil Health
39. Soil Survey Interpretation: Fragile Soil Index
40. The Impact of Mixed Species Cover Crops on Soil Health Indicators in Alaska
41. The Use of FGD Gypsum to Improve Soil Quality and Crop Yield
42. Using Soil Tests to Track Nutrient Trends in Corn–Soybean Cropping Systems

Water Resource Assessment and Management

43. A Comparison of Nutrient Losses from Agricultural Activities in Two Physiographic Regions of North Carolina
44. Advancing Drainage Water Storage to Improve the Resiliency and Environmental Performance of Drained Agricultural Lands
45. Phosphorus Leaching in Fine-Textured Soils: Effect of Fertilizer Placement
46. Novel Bioreactor Designs to Enhance Nutrient Removal
47. Water Resource Management Collaboration through the Regional Conservation Partnership Program

Field to Watershed: Connecting Local Scale Influence with Larger Scale Significance

48. Subsurface Drip Irrigation (SSDI) – Application for Northeast Colorado Corn Silage Production
49. Comparing Measurements of Labile Nitrogen and Carbon Soil Fractions to Assess Soil Health on Wisconsin Farms
50. Elevated Spring Turbidity Values in Bayou Chene, Louisiana: Causes and Consequences
51. Water Ambassadors Program (WAP): A Pilot Program of Education on the Hydrologic Cycle and Watershed Issues Targeted at Students in Public and Private Schools in the United States Virgin Islands
52. Watershed Wide Impacts from Local Erosion and Sedimentation

Extreme Weather and Its Impact on Conservation

53. Impacts on Predicted WEPP Runoff and Soil Loss from Use of the Updated 2015 CLIGEN Database Compared to the Existing 1995 Database

Benefits and Challenges of Public and Private Conservation Partnerships

54. Discourse around Nutrient Problem in Western Basin of Lake Erie

Conservation Innovation Grants (CIG) Showcase

55. Comparing Measurements of Labile Nitrogen and Carbon Soil Fractions to Assess Soil Health on Wisconsin Farms
56. Bering Straits Native Corporation
57. Demonstration of Water Purification/Treatment/Recycling and Power Generation in a Commercial Dairy
58. Demonstrating Soil Biological Health using a Reactive Color-Changing Dye
59. Do Cover Crop Mixtures Make Sense on Iowa Farmland?
60. Early-Season Planting Dates for Interseeded Cover Crops in Minnesota
61. Field Stewards: Building a Private Market for Water Quality and Conservation
62. Impacts of Conservation Practices on Soil Health and Cotton Production in a Semi-Arid Region of Texas
63. Impact of Cover Crops on Microbial Diversity in Monoculture Cropping Systems of Semi-Arid Regions of Texas
64. Impact of Cover Crops on Soil Microbial Populations and Mycorrhizal Diversity in Dryland Cotton
65. Measuring and Improving Nitrogen Use Efficiency with 40 Wisconsin Farmers
66. On Farm Demonstration of Cover Crop Impacts on Soil Water Dynamics in Texas Wheat and Bermudagrass Grazing Systems
67. Overcoming Tunnel Vision: Incorporating Cover Crops into High Tunnel Rotations to Improve Soil Health
68. The Power of Partnerships: Creating Opportunities for Conservation at the Watershed Scale
69. Validation and Evaluation of an Internet ET Weather Program
70. Quantifying Time and System-Dependent Dynamics of Soil Health

SUNDAY, JULY 30
SCHEDULE AND EVENTS

SCHEDULE

11:00 AM Registration Opens
Registration Desk 3 and 4

12:00 PM House of Delegates, State of Society Address, and Regional Roundtable Meetings
Madison Ballroom C/D

1:00 PM *Workshop – Agricultural Nutrient Management and Water Quality: Emerging Solutions and Ongoing Legal Challenges
Meeting Room MN

1:00 PM *Workshop – Using the Adaptation Workbook to Create a Weather and Climate Resilient Pathway to Sustainability
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2:30 PM Leadership Development Training
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4:00 PM Student Networking Session
Meeting Room OP

5:00 PM New Members/First Timers Orientation
Meeting Room QR

6:00 PM Regional Forum and Flavor
Madison Ballroom C/D

**Additional fees apply.*

EVENTS

State of the Society, House of Delegates, and Regional Roundtable Meetings
12:00 PM – 2:00 PM, *Madison Ballroom C/D*

The annual SWCS meeting will include President Jon Scholl's State of the Society address, the Annual Report from Executive Director Jim Gulliford, and the House of Delegates session. Immediately, following the House of Delegates, the regional roundtable meetings will take place. Regional meetings provide conference attendees an opportunity to meet with others from their chapter and/or region for a roundtable discussion on local events and issues.

Workshop #1
Agricultural Nutrient Management and Water Quality: Emerging Solutions and Ongoing Legal Challenges
1:00 PM – 5:00 PM, *Meeting Room MN*

Instructors: *Stephanie Otts, University of Mississippi School of Law; Catherine Janasie, University of Mississippi School of Law; Peggy Hall, The Ohio State University; Ellen Essman, The Ohio State University; Harrison Pittman, University of Arkansas*

Science points to runoff from agricultural fields as a cause of elevated levels of nitrogen and phosphorus in our nation's waterways, leading to harmful algal blooms, hypoxia, and other water quality issues, including the impairment of drinking water supplies. This workshop will provide participants with an overview of the legal framework governing agricultural nutrient runoff and different approaches, both voluntary and mandatory, states are taking to address water quality impacts from the surface application of agricultural nutrients. Presentations will cover a range of topics, including agricultural best management practices, the impact of surface and groundwater interactions, water quality trading programs, development of water quality criteria for nutrients and cyanotoxins, and ongoing litigation challenging agricultural runoff exemptions under the Clean Water Act and other environmental laws. In addition, the workshop will address the requirements of the Safe Drinking Water Act for drinking water supplies with excess levels of nutrients.

Participants will be encouraged to explore the policy and economic tradeoffs (i.e., who should bear the cost of pollution reduction) associated with nutrient management reduction goals. The workshop will employ a number of strategies to create an interactive learning environment, including an audience response system ("clickers") that will be utilized during the introductory presentations to increase participation, confirm understanding, and identify knowledge gaps. The introductory presentations will be followed by facilitated small group discussions in which participants will analyze nutrient management problems based on real-world and hypothetical scenarios to identify scientific, legal, and practical challenges and solutions. Throughout the workshop participants will be encouraged to share experiences with nutrient management regulation to help inform the development of future research projects and workshops.

Workshop #2
Using the Adaptation Workbook to Create a Weather and Climate Resilient Pathway to Sustainability
1:00 PM – 5:00 PM, *Meeting Room L*

Instructors: *Dan Dostie, USDA-NRCS; Jerry Hatfield, USDA-ARS; Mike Kucera, USDA-NRCS*

Extreme and variable weather creates substantial uncertainty about the future, but it is certain there will be important impacts

on agricultural and forestry sectors of the economy as well as wildlife resources. Uncertainty in decision making increases risks and challenges for landowners and farm managers on how to address the impacts of extreme weather and variability in their activities. Further, differences in current management goals and approaches will naturally result in a diversity of adaptation actions. Rather than providing recommendations or a prescriptive set of actions, an iterative process was designed to consider extreme and variable weather conditions as part of conservation planning and project implementation.

One core resource for making climate adaptation decisions through an iterative planning process is a comprehensive synthesis of peer-reviewed, science-based strategies for common agricultural production systems and approaches. The strategies are part of a continuum of adaptation actions ranging from broad, conceptual application to practical implementation, and are presented as a "menu" of adaptation actions. Additionally, an adaptation workbook was developed that provides a structured process for considering hazardous weather and other climate impacts and developing adaptation actions.

This hands-on workshop will engage participants in identifying risks/vulnerabilities to their operations and natural resources, and in discussing successful strategies, adaptive management thresholds, and monitoring programs for enhancing the ability of systems to cope with and recover from impact. Finally, participants will identify what additional resources, information, and tools they need to adapt to extreme and variable weather.

Leadership Development Training

2:30 PM – 4:30 PM, *Madison Ballroom C/D*

Join the Chapter Leadership Committee for a workshop designed for leaders and members who want to see their chapter succeed. Participants will hear from some of the leading chapters on how they have built enthusiasm and momentum in a time where everyone is busy. This is an informal discussion about building strong partners, keeping members informed and engaged, making the best use of your time, and maintaining credibility and visibility as a local conservation leader. Whether you are a new chapter member or someone who has been around awhile, this workshop is for you!

Student Networking Session

4:00 PM – 6:00 PM, *Meeting Room OP*

SWCS student colleagues are invited to join the SWCS Professional Development Committee, along with a variety of conservation industry professionals and guests from various conservation disciplines, for an interactive discussion about planning for a career in environmental conservation. Students will gain advice on how to match education to the needs of the industry and learn successful practices for employment after graduation. Attendees will also engage in professional networking and more. Attendance is encouraged for student members and professionals wishing to connect with students.

New Members/First Timers Orientation

5:00 PM – 6:00 PM, *Meeting Room QR*

New members and conference first-timers will have the opportunity to network with one another and discuss the conference with a few experienced SWCS Board members, who will share tips for navigating the agenda, connecting with fellow conservationists, and making the most out of time spent at conference. Participants are encouraged to use this time to ask questions about membership benefits and the services offered by the society.

Regional Forum and Flavor Reception (formerly known as Fellows Forum)

6:00 PM – 8:30 PM, *Madison Ballroom C/D*

This year's conference kickoff event, organized by the SWCS Wisconsin Chapter, will feature light hors d'oeuvres highlighting the local flavor of Madison, along with a cash bar. Spend time networking with colleagues from 6:00 to 6:45 p.m., followed by a panel presentation of invited speakers.

Conservation Connections within the Yahara Watershed

Presenters: *Dave Taylor, former Madison Metropolitan Sewerage District; Chris Kucharik, University of Wisconsin- Madison; Jeff Endres, Yahara Pride Farms and Endres Berryridge Farms; Greg Fries, City of Madison; Kevin Conner (invited), Dane County Land and Water Resources Department*

The Yahara Watershed, a rich mix of agricultural land, rural communities, and urbanized landscapes, runs through the heart of Dane County and Wisconsin's capital city, Madison. Citizens take pride in this diverse landscape; however, water quality in rivers, lakes, and groundwater is being compromised by excess phosphorus. Algae blooms are common, keeping people from enjoying the lakes and affecting lake ecology.

To address these issues, stakeholders have joined to form the Yahara Watershed Improvement Network (Yahara WINs), a partnership with the shared goal of cost-effective phosphorus pollution reduction. In addition, a collaborative research project, the Water Sustainability and Climate Project (WSC), provides critical insights into current land and water conservation practices and policy, and considers adaptations needed to protect the Yahara Watershed under changing weather and climate patterns of the future.

Participants in both of these efforts will discuss what they are learning about watershed management and the opportunities and challenges inherent in the conservation connections they are building across geographies, constituencies, and disciplines.

A ticket for this event is included with full conference registration. Additional tickets may be purchased online in advance for guests or at the registration desk if available.

MONDAY, JULY 31
SCHEDULE AND EVENTS

SCHEDULE

7:30 AM	Registration Opens *Registration Desk 3 and 4*
8:30 AM	Opening Welcome and Pritchard Lecture *Madison Ballroom*
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open *Grand Terrace and Madison Ballroom*
10:30 AM	Concurrent Sessions *See Pages 20-22*
10:30 AM	CIG Showcase *Hall of Ideas H*
12:00 PM	Lunch Break *On your own*
12:00 PM	ARCSE Lunch and Annual Business Meeting *Community Terrace*
12:30 PM	Science and Policy Committee Meeting *Meeting Room M*
1:30 PM	Concurrent Sessions *See Pages 20-22*
1:30 PM	CIG Showcase *Hall of Ideas H*
3:00 PM	ARCSE Board Meeting *Community Terrace*
3:00 PM	Afternoon Break *Grand Terrace and Madison Ballroom*
3:30 PM	Concurrent Sessions *See Pages 20-22*
3:30 PM	CIG Showcase *Hall of Ideas H*
5:00 PM	Poster and Exhibitor Reception *Grand Terrace and Madison Ballroom*
7:00 PM	Silent Auction Ends *Madison Ballroom*
7:00 PM	International Committee Meeting *Meeting Room M*

EVENTS

2017 Pritchard Lecture: Leading America's Movement for Clean Water

9:00 AM – 10:00 AM, *Madison Ballroom*

Presenter: *John Piotti, American Farmland Trust*

America is at a critical inflection point. With a growing world population, there is intense competition for land and water resources in an uncertain environment of a changing climate. We need to produce more with less, which makes protecting our most valuable land and building soil health imperative. Despite having more arable and productive farmland than any other nation, the United States continues to lose this land as a result of development and soil erosion.

We need a catalyst to generate awareness of the insidious loss of our most precious agricultural lands and build momentum and urgency nationwide to spur people and policymakers to protect them. Piotti will speak about the results of American Farmland Trust's *State of America's Farmland Initiative*, an analysis of the current and future threats to America's remaining farm and ranch lands. The USDA Natural Resources Conservation Service serves a key partner in this effort to document the loss of agricultural lands over the past decades and identify our most valuable and vulnerable agricultural lands. Piotti also will discuss where state policies are working and what can be done to accelerate the pace of protection.

John Piotti joined American Farmland Trust as president in July of 2016. He holds three degrees from MIT, helped found Maine Farmland Trust in 1999, and served in Maine's state legislature from 2002 to 2012, where he chaired the Committee on Agriculture, Conservation, and Forestry, and later served as House Majority Leader. He managed all farm programs for Coastal Enterprises, Inc., a community development organization in Maine, until 2006 when he became president of Maine Farmland Trust.

Exhibitor and Poster Presenter Reception

5:00 PM – 7:00 PM, *Grand Terrace and Madison Ballroom*

This reception is an opportunity to visit with authors presenting posters; make connections with potential business associates; reconnect with colleagues; and meet vendors showcasing their newest technology, programs, and products. Light hors d'oeuvres will be served along with a cash bar. A ticket for this event is included with full conference and Monday-only registration. Additional tickets for guests may be purchased at the registration desk for $40/person.

72nd SWCS International Annual Conference At-A-Glance

Monday, July 31, 2017				
7:30AM - 5:00PM	**Conference Registration Desk Open**			**Registration Desk - Level 4**
8:00AM - 8:30AM	**Morning Coffee**			**Madison Ballroom**
8:30AM - 9:00AM	**Opening Remarks:** *Jim Gulliford, Soil and Water Conservation Society; (TBD), Syngenta*			**Madison Ballroom**
9:00AM - 10:00AM	**Pritchard Lecture: Leading America's Movement for Clean Water -** *John Piotti, American Farmland Trust*			**Madison Ballroom**
10:00AM - 10:30AM	**Refreshment Break with Exhibitors**			**Madison Ballroom/Grand Terrace**
10:30AM - 12:00PM	**Symposia Sessions**			
Hall of Ideas E Conservation Models/Tools/Technology	Development of the Runoff Risk Advisory Forecast - *Mark Jenks, Wisconsin Department of Agriculture*			
Hall of Ideas F Outreach/Education/Engagement	Demonstration Farm Networks: Conservation Partnerships and Information Transfer - *Aaron Heilers, Blanchard River Demonstration Farms*			
Hall of Ideas G Extreme Weather	Helping Farmers Adapt to Extreme Weather and Variable Climate - *Dan Dostie, USDA-NRCS*			
Hall of Ideas H Conservation Innovation Grants	Conservation Innovation Grants Showcase - *Melleny Cotton, USDA-NRCS*			
	Oral Presentations			
	10:30AM	**10:50AM**	**11:10AM**	**11:30AM**
Hall of Ideas I Field to Watershed	Assessing Soil Health and Forage Productivity with Rotational Grazing and Winter-Hay Feeding Strategies for Grazed Pastures in Northwest Arkansas *Andrew Sharpley, University of Arkansas*	Can Ecological Practices Mitigate Floods and Droughts? Pairing Meta-Analysis with a Hydrologic Model to Understand Soil Water Impacts *Andrea Basche, Union of Concerned Scientists*	Conservation Practice Effectiveness and Application for Water Quality Improvements in Agricultural Subwatersheds of the Mackinaw River, Illinois, USA *Maria Lemke, The Nature Conservancy*	Determining the Impact of Best Management Practices in the Great Lakes Priority Watersheds with Field-Scale SWAT Models and Edge-of-Field Monitoring Data *Katherine Merriman, USGS*
Hall of Ideas J Adaptive Management	Exploration of the Use of Enhanced Treatment Wetlands to Manage Both Sediment and Nutrients in Agricultural Runoff in Wisconsin *Nicole Van Helden, The Nature Conservancy*	Soil and Yield Changes by Cover Crops on a Corn–Soybean Rotation *Clark Gantzer, University of Missouri*	Tillage and Cover Crop Impacts on Runoff and Soil Health of Dairy Forage Production Systems *Francisco Arriaga, University of Wisconsin-Madison*	Watershed-Based Fisheries Development in Uttarakhand Himalayas, India *Muruganandam Muthiah, Indian Council of Agricultural Research*
Meeting Rooms KL Conservation Models/Tools/Technology	Development of Remote Sensing Techniques to Map Drainage Tiles in the Prairie Pothole Region of Iowa *James Giglierano, Wisconsin DOA*	Weather Observers *Duane Friend, University of Illinois Extension*	Enhanced Topographic Analysis Tools for Watershed Assessment of Integrated Conservation Management Practices *Ron Bingner, USDA-ARS*	Who Will Farm the Land? *Laura Paine, Dairy Grazing Apprenticeship*
12:00PM - 1:30PM	**Lunch on Your Own**			

1:30PM - 3:00PM	Monday, July 31, 2017 - Symposia Sessions			
Hall of Ideas E Conservation Models/Tools/Technology	Integrating Perennial and Cover Crops into Annual Crop Systems for Multiple Benefits - *Gregory McIsaac, University of Illinois*			
Hall of Ideas F Soil Health Resources	18th Annual Joint SWCS-SSSA Symposium: The Nutrient Uptake and Outcome Network (NUOnet) - *Jeffrey Strock, University of Minnesota*			
Hall of Ideas G Public/Private Conservation Partnerships	Metz Lateral Conservation Project: How 15 Local, State, Federal, Non-Profit, Corporate, Agriculture, and Private Contributors Collaborated to Reconstruct a Stream to the Benefit of Both Agricultural Production and Conservation - *Carrie Parmenter, Posey County SWCD*			
Hall of Ideas H Conservation Innovation Grants	Conservation Innovation Grants Showcase - *Melleny Cotton, USDA-NRCS*			
	Oral Presentations			
	1:30PM	**1:50PM**	**2:10PM**	**2:30PM**
Hall of Ideas I Field to Watershed	Performance Based Conservation: Scaling Innovative Approaches for Healthy Watersheds *Ryan Smith, Delta Institute*	Simulating Critical Source Areas Across Scales Using Watershed Mode *Margaret Kalcic, Ohio State University*	Soil Erosion Impacts on Soil Water Storage Capacity and Flooding Potential *Richard Cruse, Iowa State University*	The Daily Erosion Project: Hillslope to Regional Scale Estimates of Erosion *Brian Gelder, Iowa State University*
Hall of Ideas J Organic/Specialty/Small-Scale	Environmental Benefits of Organic Systems *Ben Bowell, Oregon Tilth*	Organic Livestock and Conservation *Ben Bowell, Oregon Tilth*	Overview of NRCS Conservation Information Exchange with Cuba *Lillian Woods, USDA-NRCS*	Partnerships for Monarch and Pollinator Conservation *Alex Echols, Sand County Foundation*
Meeting Rooms KL Water Resources	Is It Working? A Look at the Changing Nutrient Practices in the Southern Willamette Valley's Groundwater Management Area *Susanna Pearlstein, Oak Ridge Institute for Science and Education*	Phosphorus Export from Artificially Drained Fields Across the Eastern Corn Belt *Lindsay Pease, USDA-ARS*	Evaluating the Role of Hydraulic Residence Times on Denitrification and GHG Emissions in Woodchip Bioreactors *Emily Martin, Iowa State University*	Field Evaluation of a Passive Sampler for Soluble Nitrogen and Phosphorous: Performance Comparison to Grab and Continuous Sampling *Niroj Aryal, USDA-ARS*
3:00PM - 3:30PM	**Refreshment Break with Exhibitors**			**Madison Ballroom/Grand Terrace**

3:30PM - 5:00PM	Monday, July 31, 2017 - Symposia Sessions			
Hall of Ideas E Conservation Models/Tools/Technology	Update on the Agricultural Conservation Planning Framework: New Tools, Training Resources, and Watershed Engagement Efforts - *Mark Tomer, USDA-ARS*			
Hall of Ideas F Public/Private Conservation Partnerships	Landscape Conservation Cooperatives (LCCs) Facilitate Networks for Large-Scale Multisector Conservation Planning - *Gwen White, Tallgrass Prairie LCC*			
Hall of Ideas G Field to Watershed	A Tool and Recognition for Resource Stewardship - *Bill Berry, NACD*			
Hall of Ideas H Conservation Innovation Grants	Conservation Innovation Grants Showcase - *Melleny Cotton, USDA-NRCS*			
	Oral Presentations			
	3:30PM	**3:50PM**	**4:10PM**	**4:30PM**
Hall of Ideas I Extreme Weather	"As If You Were There" a Virtual Network of Demonstration Sites Featuring Climate-Informed Practices in Agriculture and Forestry *Dan Dostie, USDA-NRCS*	Adaptive Management, Conservation Measures and Their Impact on Sustainability of a Nebraska Farm *Michael Kucera, USDA-NRCS*	Impact of Extreme Precipitation Events on Edge-Of-Field Surface Runoff in Wisconsin and Minnesota *Timothy Radatz, Discovery Farms*	
Hall of Ideas J Outreach/Education/Engagement	Communicating the Importance of Public Investment in Conservation to Elected Officials: Using Site Tours and Effective Messaging as Best Management Practices *Ashley Maybanks, The Nature Conservancy*	Construction Stormwater Activities by the Alabama Chapter, Still Going Strong after 15 Years *Earl Norton, Norton and Associates*	Effect of Crop Residue Management on Grain Yield and Soil Properties in Minnesota *Jodi DeJong-Hughes, University of Minnesota Extension*	Evaluation of the Effectiveness of a USDA Southeast Regional Climate Hub (SERCH) Climate Threat Email Alert System *Sarah Wiener, USDA Southeast Regional Climate Hub*
Meeting Rooms KL Conservation Models/Tools/Technology	Development of a Dynamic Soil Property and Soil Health Database for Soil Survey *Michael Robotham, USDA-NRCS*	Effects of Long-Term Cattle Manure Application on Soil Health under a Corn–Soybean Rotation of Two Locations in Eastern South Dakota *Ekrem Ozlu, University of Wisconsin-Madison*	Identifying the Most Suitable Soil Health Assessment Metric Across Different Soil Textures *Ross Wilson, Ausable Bayfield Conservation Authority*	Impacts of Grazing and Manure Management on Soil Phosphorous and Water Quality in the Buffalo National River Watershed *James Burke, University of Arkansas*
5:00PM - 7:00PM	**Exhibitor and Poster Reception**			

MONDAY, JULY 31
SYMPOSIA SESSIONS

Development of the Runoff Risk Advisory Forecast

10:30 AM – 12:00 PM, *Hall of Ideas E*

Moderator: *Mark Jenks, Wisconsin Department of Agriculture, Trade, and Consumer Protection*

Concerns about nutrient loadings leading to algal blooms and hypoxic zones in the Great Lakes and the Gulf of Mexico have increased the interest in tools that facilitate achievement of nutrient reduction goals, especially in agricultural settings. Edge-of-field data collected in Wisconsin have demonstrated that the timing of nutrient applications on farm fields can have a significant influence on nutrient loading to streams. This presentation will examine the development of Wisconsin's Runoff Risk Advisory Forecast (RRAF), which was created as a decision support tool to help farmers and nutrient applicators decide if "today is a good day to spread."

The first generation RRAF used hydrologic model output provided by the National Weather Service North Central River Forecast Center to assess the risk of runoff in over 200 watershed basins with an average area of 301 square miles. Model output examines forecast precipitation, temperature, soil moisture content, snow accumulation, and individual basin characteristics. The results are displayed on a website that is updated multiple times daily and provides the ability to examine risk levels 5 to 10 days out, depending on the season. Wisconsin is preparing to launch the second generation of the RRAF which significantly reduces the scale of the model from the 301 square mile basins down to a 4 kilometer x 4 kilometer grid forecast area, bringing the model and its forecasts a little "closer to home" for our users. An eventual Phase 3 will explore the use of a national water model to generate output needed for the forecasting tools. Other Great Lakes states with similar water quality concerns have expressed interest in expanding the RRAF for use in their own states.

Does the RRAF have an influence on nutrient application decisions? The session will cover our strategy and initial data collected on the social science evaluation of the use of the RRAF, including where future examinations of this important question are headed.

Presentation 1: Background on the Development of the RRAF in Wisconsin – *Sara Walling, Wisconsin Department of Agriculture, Trade, and Consumer Protection*

Presentation 2: Edge-of-Field Data in Wisconsin: How Data Are Used to Demonstrate Need for and Validation of a Runoff Risk Advisory Tool – *Todd Stuntebeck, US Geological Survey*

Presentation 3: Technical Discussion: How the Model Works, What Information Is Provided from National Weather Service Forecast Models, and How the Models Are Validated – *Dustin Goering, National Weather Service North Central River Forecast Center*

Presentation 4: Evaluating the Wisconsin RRAF: Past, Present, and Future – *Amber Saylor Mase, University of Wisconsin Extension*

Presentation 5: Challenges Discovered in the Use of a Runoff Risk Advisory Tool and Where Things Are Likely to Head in the Future – *Mark Jenks, Wisconsin Department of Agriculture, Trade, and Consumer Protection*

Demonstration Farm Networks: Conservation Partnerships and Information Transfer

10:30 AM – 12:00 PM, *Hall of Ideas F*

Moderator: *Aaron Heilers, Blanchard River Demonstration Farms*

Utilizing funding made available from the US Environmental Protection Agency through the Great Lakes Restoration Initiative (GLRI), the USDA Natural Resources Conservation Service entered into partnership agreements with the Great Lakes Commission to establish a Demonstration Farm Network in Wisconsin and with the Ohio Farm Bureau Federation to establish a Demonstration Farm Network in Ohio. The purpose of the farms is to demonstrate the best leading-edge conservation practices to reduce phosphorus and sediment entering Green Bay on Lake Michigan and Maumee Bay on Lake Erie.

The networks will publicly highlight the most effective conservation systems for these areas. Utilizing the right combination of traditional conservation practices and new technologies, the networks will be able to produce viable, sustainable economic and environmental results. The challenges and benefits encountered in establishing the conservation partnerships needed to develop the demonstration farm networks and information dissemination strategies will be highlighted during this symposium. Attendees will have the opportunity to provide input through focused discussion, and compiled comments will be made available after the conclusion of the meeting.

Presentation 1: Conservation Partnerships

Presentation 2: Farm to Basin Information Transfer

Helping Farmers Adapt to Extreme Weather and Variable Climate

10:30 AM – 12:00 PM, *Hall of Ideas G*

Moderator: *Dan Dostie, USDA-NRCS*

Extreme weather and other impacts from a variable climate have already occurred and are expected to continue increasing challenges for agriculture and natural resource stewardship on the farm and surrounding regions. To help educators, conservationists, and agricultural producers address these challenges, USDA's Climate Hubs released the report "Adaptation Resources for Agriculture, Responding to Climate Variability and Change in the Midwest and Northeast" in October of 2016. Resources released include an Adaptation Workbook, a regional menu of Adaptation Strategies and Approaches, and four on-farm examples. Presenters will share how the materials were developed and engage the audience

in a sped up version of using them. The Adaptation Workbook is modeled after one developed by the US Forest Service, while Adaptation Strategies and Approaches emerged from literature review by scientists, specialists, and producers. Conservation professionals and producers tested concepts and translated them into practical information including lists of example adaptation tactics and four examples of using the workbook for farming systems in the region. We conclude that these resources help agricultural producers make climate-informed decisions necessary to achieve production, profit, and stewardship outcomes. The workshop method used to deliver these new resources engages participants in understanding a complex, controversial topic and successfully applying adaptation concepts. The USDA report serves as a template for all other regions of the United States to summarize potential climate effects, organize contingent adaptation responses, and develop examples of applying the workbook framework.

Conservation Innovation Grants (CIG) Showcase

10:30 AM – 5:00 PM, *Hall of Ideas H*

Moderator: *Melleny Cotton, USDA-NRCS*

The USDA Natural Resources Conservation Service (NRCS), in conjunction with SWCS, will again host the Conservation Innovation Grants (CIG) Showcase at the SWCS annual conference. Since 2004, CIG has supported the development of innovative natural resource conservation approaches and technologies on working lands. This year's showcase includes project presentations, a CIG economics breakout session, and a CIG stakeholder feedback session. The project presentations highlight exciting work currently underway by CIG grantees. The economics breakout session explores ways to better incorporate economic considerations into CIG projects and proposals. The stakeholder feedback session, hosted by CIG staff, is a forum for interested stakeholders to provide input on all aspects of the CIG program.

This showcase runs from 10:30 a.m. to 5:00 p.m. on Monday, July 31. Following the showcase, CIG project posters are included in the poster presentation session held in the poster display area of the Exhibit Hall from 5:00 p.m. to 7:00 p.m.

Presentation 1: USDA-NRCS Conservation Innovation Grant Economic Workshop (10:30 a.m.)

Presentation 2: CIG Stakeholder Listening Session (1:30 p.m.)

Presentation 3: Improving Soil Health and Water Dynamics in Deficit-Irrigated Agriculture (2:15 p.m.)

Presentation 4: Field Stewards: Building a Private Market for Water Quality and Conservation (2:35 p.m.)

Presentation 5: Managing Cover Crops in High Tunnels for Fertility and Soil Health (3:35 p.m.)

Presentation 6: Demonstrating Gains in Nitrogen Use Efficiency in Wisconsin Farming Systems (3:55 p.m.)

Presentation 7: Locally Led On-Farm Soil Health Management Demonstrations (4:15 p.m.)

Presentation 8: Monarch Habitat Establishment in Agriculture Landscapes (4:35 p.m.)

Integrating Perennial and Cover Crops into Annual Crop Systems for Multiple Benefits

1:30 AM – 3:00 PM, *Hall of Ideas E*

Moderator: *Gregory McIsaac, University of Illinois*

Soil and water degradation associated with agricultural production largely and ultimately stems from converting perennial prairie, wetland, savannah, and forest communities to annual row crops. Reduction of soil cover, shorter growing seasons, and smaller root systems of annual crops often lead to loss of soil and organic matter, release of greenhouse gases, and emission of soil nutrients to both surface and groundwater. While there are many available BMPs, such as nutrient management and conservation tillage, that can reduce negative impacts of annual row crop production, perennial crops and cover crops often produce multiple benefits because of similarities to the perennial vegetation that shaped and protected soils. In this session, speakers will present information on the (1) history and scale of land conversion from perennial vegetation to annual row crops, (2) benefits and opportunities of incorporating perennial and cover crops into annual row crop systems, and (3) ways to overcome barriers to adoption.

Presentation 1: Introductory Comments Outlining the Scale of Land Conversion to Row Crops, the Resulting Problems, and Recent Research on the Benefits of Perennial Crops – *Gregory McIsaac, University of Illinois*

Presentation 2: Effects of Increased Crop Rotation Diversity in Iowa on Weed Control, Aquatic Toxicity, and Economics – *Matt Liebman, Iowa State University*

Presentation 3: Multifunctional Landscapes: Site Characterization, Field-Scale Design, Watershed Outcomes, and Economics of Incorporating Biomass Production into an Agricultural System – *Cristina Negri, Argonne National Laboratory*

Presentation 4: The Potential for Water Quality Benefits from a New Perennial Grain Crop: Intermediate Wheatgrass – *Jacob Jungers, University of Minnesota*

Presentation 5: Overcoming Barriers to Adoption by Expanding our Scale of Consideration: Examples from Crop Insurance and Conservation Programs – *Michelle Wander, University of Illinois at Urbana Champaign*

18th Annual SWCS-SSSA Joint Symposium: The Nutrient Uptake and Outcome Network (NUOnet)

1:30 PM – 3:00 PM, *Hall of Ideas F*

Moderator: *Jeffrey Strock, University of Minnesota*

The 18th Annual Joint Soil and Water Conservation Society–Soil Science Society of America (SWCS-SSSA) Symposium will be held at the 2017 SWCS annual meeting in Madison, Wisconsin, and at the 2017 SSSA annual meeting in Tampa, Florida. Previous joint symposia have been very successful and contributed to the development of special journal issues, research editorials, features, books, and/or other significant technology transfer efforts. The title of the 18th joint SWCS-SSSA symposium is "The Nutrient Uptake and Outcome network (NUOnet)." The topic of conservation databases is of very high interest to members of the SWCS and SSSA, and it is important for maintaining food security. Developing a national nutrient management database network and other related databases is a programmatic goal of the USDA Agricultural Research Service. This symposium is occurring at a key time when both societies are considering how to handle publication of databases in journal articles, as well as looking for other potential ways for scientists to publish their databases. Reduction of off-site transport of nutrients from agricultural landscapes via atmospheric, surface, and/or leaching pathways for nutrient loss is a great challenge. Implementing a nutrient management database network to facilitate data archiving and retrieval at a national level will increase the availability of information to users, will contribute to team efforts to evaluate the potential positive impacts of best management practices, and will be useful to users interested in calibrating and validating new tools and software systems. Additionally, NUOnet could facilitate identifying the connections between nutrient management and other key areas such as soil biology and health, and human and animal health. This joint symposium will continue the tradition of cooperation between these professional societies and help bring together scientists, conservation practitioners, and other national and international cooperators.

Presentation 1: Data Stewardship Perspectives from the Crop Nutrition Industry – *Tom Bruulsema, International Plant Nutrition Institute*

Presentation 2: Critical Infrastructure to Promote Data Synthesis into Evidence-Based Nutrient Management – *Sylvie M. Brouder, Purdue University*

Presentation 3: Toward a Sustainable Future Food System: The Need for Integrated Data across Multiple and Diverse Disciplines – *John Finley, USDA-ARS*

Presentation 4: The Potential of the Nutrient Uptake and Outcome Network (NUOnet) to Contribute to Soil and Water Conservation – *Jorge A. Delgado, USDA-ARS*

Metz Lateral Conservation Project: How 15 Local, State, Federal, Nonprofit, Corporate, Agriculture, and Private Contributors Collaborated to Reconstruct a Stream to the Benefit of Both Agricultural Production and Conservation

1:30 PM – 3:00 PM, *Hall of Ideas G*

Moderator: *Carrie Parmenter, Posey County SWCD*

Creating a stream that satisfies the needs of agricultural production, conservation, and drainage is a challenge that soil and water conservationists have been fighting for decades. One of the biggest challenges is getting all the partners to agree on an appropriate approach and securing funding for the project.

This presentation will focus on how the local soil and water conservation districts partnered with Clean Water Indiana, Lake and River Enhancement, the Indiana Department of

Environmental Management, The Nature Conservancy, USDA Natural Resources Conservation Service, Posey County Drainage Board, Posey County Surveyor, landowners, farmers, construction contractors, and Vectren Energy to secure funding and create a stable stream system that addresses the needs of the partners. The presenters will discuss successful alliances and difficulties that were faced in coordinating a project of this magnitude while working with a diverse group of private and public partners.

Even though all partners agreed that the ditch needed to be stabilized, there were varying opinions on the proper method. In the end, the two-stage ditch design was selected as the appropriate design to address multiple resource concerns simultaneously. Choosing a location was another hurdle when dealing with differing priorities. Metz Lateral was targeted due to the water quality impairments. It is also a legal drain and is close to a roadway, giving the area high visibility for outreach purposes. After the location and design were agreed upon, the original partnership encountered difficulties when the design team concluded that the depth at the mouth of the lateral and head cutting could jeopardize the integrity of the two-stage ditch. To address this complication, new partners were brought in and the project expanded to provide a comprehensive solution for the entire lateral instead of just installing a two-stage ditch.

The final product is a conservation showcase that demonstrates how agriculture and conservation can coexist when lasting partnerships are established.

Presentation 1: The Whys and Hows of the Metz Lateral Conservation Project – *Carrie Parmenter, Posey County SWCD*

Presentation 2: The Two-Stage Ditch Design – *Scott Wagner, USDA-NRCS*

Presentation 3: The Function and Positive Impacts of the Two-Stage Ditch – *Brad Smith, The Nature Conservancy*

Update on the Agricultural Conservation Planning Framework: New Tools, Training Resources, and Watershed Engagement Efforts

3:30 PM – 5:00 PM, *Hall of Ideas E*

Moderator: *Mark Tomer, USDA-ARS*

Efforts to improve water quality outcomes for agriculture have recently focused on small (HUC12) watersheds. The Agricultural Conservation Planning Framework (ACPF) provides a set of precision conservation planning tools designed to facilitate conservation planning in small watersheds through landowner participation. The conceptual planning approach first emphasizes practices that improve soil health on a watershed-wide basis, then provides multiple choices for placing a variety of structural and vegetative practices that control, trap, and treat water flows within and below fields on a site-specific basis. Riparian assessment and mapping tools are also included. The ACPF comprises an ArcGIS toolbox that identifies options for conservation practice placements by applying topographic, hydrologic, soils, and land use criteria to customized high resolution databases, now available for >7,000 HUC12 watersheds in the Midwest. The results provide a menu of conservation options, allowing local farm producers the discretion to select preferred practices and locations, and providing information to help identify key riparian management opportunities in a watershed. The ACPF toolbox has been applied in watershed planning efforts in five states. Further information can be found at www.northcentralwater.org/acpf. This symposium will provide an update on new tools, training resources being developed (Panel 1), present watershed case studies (Panel 2), and conclude with a summary of lessons learned through interviews with conservation planners and producers who are applying ACPF results in watershed planning.

Presentation 1: ACPF Updates – *Mark Tomer, USDA-ARS; Ann Lewandowski, University of Minnesota; Lyn Kirschner, USDA-NRCS*

Presentation 2: Watershed Case Studies – *John Sloan, Great Rivers Research and Education Center; Karl Gesch, Iowa Soybean Association; Joe Magner, University of Minnesota; Jessica Nelson, Minnesota State University*

Presentation 3: Synthesis and Lessons Learned – *Pranay Ranjan, Purdue University*

Landscape Conservation Cooperatives (LCCs) Facilitate Networks for Large-Scale, Multisector Conservation Planning

3:30 PM – 5:00 PM, *Hall of Ideas F*

Moderator: *Gwen White, Tallgrass Prairie LCC*

The Landscape Conservation Cooperatives (LCCs) are 22 stakeholder-driven, regional networks that convene partners, develop tools, and provide integrated science-based information about the implications of climate and other stressors for the long-term sustainability of natural and cultural resources. Stakeholders jointly develop shared, landscape-level conservation objectives and inform strategies based on a shared scientific understanding. Processes and tools facilitate the exchange of applied science to guide and coordinate implementation and evaluation of effective, large-scale conservation strategies that meet shared objectives. For large conservation collaborations involving multiple regions, the LCC Network coordinates strategic design and investment of conservation actions across the continent and into seascapes along the coasts. Examples of landscape-scale conservation planning and implementation processes and tools will include the following: assessing how habitat conservation, habitat restoration, and agricultural landscapes can interact to maintain and enhance water resources in the desert Southwest; spatial design of key agricultural conservation practices for wildlife, bioenergy, and water quality in the Mississippi Basin/Gulf Hypoxia Initiative; tools for planning aquatic connectivity and coastal wetlands in eastern Michigan and western Lake Erie; increasing connectivity for wildlife dispersal and aquatic integrity in productive agricultural working lands across large geographies in the northwest states and southwest Canada; grassland restoration tools and drylands farming in Texas and Oklahoma; habitat-based conservation planning for the lower Mississippi region; and a multistate Southeast Conservation Adaptation Strategy. The session will solicit interactive feedback from the audience to provide direction for refining tools and identifying additional needs for research and management of conservation planning across large landscapes.

Presentation 1: Ecosystem Services as Part of the Southeast Conservation Adaptation Strategy – *Cynthia Kallio Edwards, Wildlife Management Institute*

Presentation 2: Science and Decision-Making Tools to Maintain Water Resources for Multiple Benefits in Irrigated Arid Landscapes – *Matthew R. Grabau, Desert Landscape Conservation Cooperative*

Presentation 3: Habitat-Based Conservation Planning in the Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative – *Todd Jones-Farrand, Gulf Coastal Plains and Ozarks LCC*

Presentation 4: Mississippi Basin/Gulf Hypoxia Initiative: Precision Conservation Blueprint v1.5 – *Gwen White, Tallgrass Prairie Landscape Conservation Cooperative*

A Tool and Recognition for Resource Stewardship

3:30 PM – 5:00 PM, *Hall of Ideas G*

Moderator: *Bill Berry, NACD*

Presenters: *Angela Biggs, USDA-NRCS; Aaron Lauster, USDA-NRCS; Martin Adkins, USDA-NRCS; Whitney Forman-Cook, NACD*

USDA Natural Resources Conservation Service (NRCS) introduced the Resource Stewardship Evaluation Tool nationally in 2017. The voluntary conservation planning tool helps producers assess their stewardship of air quality, water quality and quantity, soil health, and wildlife habitat and develop plans to reach stewardship thresholds for these natural resources concerns. NRCS and the National Association of Conservation Districts (NACD) are cooperating in efforts to promote this new tool and provide recognition for farmers and ranchers who use it. This symposium will provide updates on new uses for the tool and share information about recognition programs and private sector engagement. It will also focus on how the tool is part of the larger effort to revitalize and equip the 21st century conservation planning process.

TUESDAY, AUGUST 1
SCHEDULE AND EVENTS

SCHEDULE

7:30 AM Registration Opens
Registration Desk 3 and 4

8:00 AM Soil Health Partnership Farmer Panel
Madison Ballroom

9:00 AM Tuesday Plenary
Madison Ballroom

10:00 AM Morning Break: Exhibit Hall and Poster Presentations Open
Grand Terrace and Madison Ballroom

10:30 AM Concurrent Sessions
See Pages 30-32

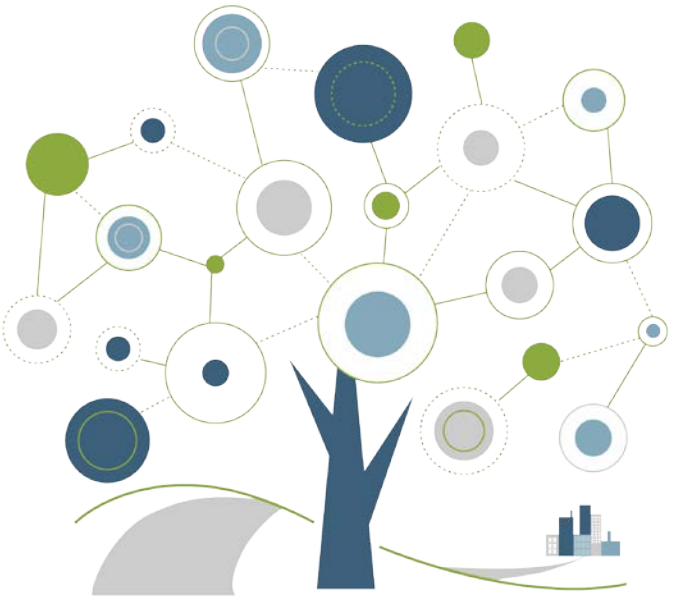
12:00 PM Awards Luncheon
Madison Ballroom

1:30 PM Concurrent Sessions
See Pages 30-32

3:00 PM Afternoon Break: Exhibit Hall and Poster Presentations Open
Grand Terrace and Madison Ballroom

3:30 PM Concurrent Sessions
See Pages 30-32

5:15 PM Annual Conference Program Committee Meeting
Meeting Room M



EVENTS

Soil Health Partnership Farmer Panel
8:00 AM – 8:45 AM, *Madison Ballroom*

Presenters: *Greg Whitmore, Nebraska Farmer; Mike Zwingmann, Central Valley Ag Coop*

Moderator: *Nick Goeser, Soil Health Partnership/National Corn Growers Association*

The Soil Health Partnership is excited to join the Soil and Water Conservation Society Annual Meeting to host a panel discussion with Greg Whitmore, Soil Health Partnership Farmer from Nebraska, and Mike Zwingman, Lead Analyst of Agronomy Research, CVA Coop. Early data results and learnings from the Soil Health Partnership Network will be shared and discussed with the panelists and audience members.

Plenary Panel: The Next Farm Bill—Opportunities and Challenges
9:00 AM – 10:00 AM, *Madison Ballroom*

Presenters: *John Larson, American Farmland Trust; Alyssa Charney, National Sustainable Agriculture Coalition; Pelham Straughn, 9b Group*

Moderator: *Bruce Knight, Strategic Conservation Solutions*

Each farm bill cycle brings a fresh set of opportunities and challenges to the legislative process. Congress considers the interests of farm, commodity, nutrition, conservation, and environmental organizations and enacts what becomes the primary agriculture and food policy instrument of the federal government. An omnibus bill, it authorizes programs and funding for generally a five-year period, subject to annual appropriations. Panel participants will discuss the priorities that different interests bring to the farm bill debate, as well as the current political landscape in terms of Congressional action and opportunities.

John Larson joined American Farmland Trust (AFT) as Senior Vice President of Policy and Programs in April of 2015, having previously served as the Chief Executive Officer of the National Association of Conservation Districts (NACD). Larson worked directly with Washington state conservation districts for six years as the Executive Director of the Washington Association of Conservation Districts (WACD), and several years as President of the Washington Association of District Employees (WADE). Larson has a passion for natural resources and the outdoors, and is an avid fly fisherman, marathon runner, and mountain biker. Before

his nearly 20 years with conservation districts, Larson owned and operated his family's irrigated row-crop farm in Royal City, Washington. Prior to moving to the Washington, DC, area, Larson was a lifetime resident of Washington state. He is an alumnus of Washington State University, where he studied agricultural economics.

Alyssa Charney is a Policy Specialist at the National Sustainable Agriculture Coalition (NSAC). She holds an MS in agriculture and food policy and an MPH from Tufts University, as well as a BA in environmental studies from Vassar College. Charney has worked on food and agriculture policy at the Center for Rural Affairs, New England Farmers Union, and the National Farm to School Network, and was the lead contributor to NSAC's 2015 Farmers' Guide to the Conservation Stewardship Program. Charney staffs NSAC's Conservation, Energy, and Environment Committee.

Pelham Straughn worked for over 17 years on Capitol Hill, which included 13 years with the House Committee on Agriculture. His final four years on the Hill, Straughn served with distinction as the Policy Director for the US House of Representatives Committee on Agriculture, leading his policy team during the formation, debate, and passage of the Agricultural Act of 2014.

During his 13 year tenure on the committee, Straughn worked on three different farm bills and served two subcommittee and three full committee chairmen in many different capacities including Subcommittee Staff Director and Senior Professional Staff. His portfolio includes farm and commodity programs, conservation, trade, livestock, crop insurance, disaster programs, sugar, peanut, and tobacco programs.

In 2015, Straughn and Dave White, former Chief of USDA Natural Resources Conservation Service (USDA-NRCS), founded the 9b Group as a Benefit Corporation providing clients with unparalleled expertise in agricultural conservation and sustainability. 9b Group has the purpose of creating a positive impact on the environment and society, and assisting clients in realizing, expanding, and surpassing their conservation and sustainability goals.

Bruce Knight is a nationally recognized expert on conservation, agriculture, and the environment. Knight is the principal and founder of Strategic Conservation Solutions, LLC. From 2002 to 2006, Knight served as Chief of USDA-NRCS, the lead US agency for conservation on private working agricultural lands. Knight was the Under Secretary for Marketing and Regulatory Programs at the USDA from 2006 to 2009. Drawing on his experience as a former association executive, lobbyist, regulator, and Capitol Hill staffer, Knight has a broad understanding of how Washington works. He also brings firsthand knowledge of farming to his national policymaking credentials. A third-generation rancher and farmer and lifelong conservationist, Knight operates a diversified grain and cattle operation in South Dakota using no-till and rest rotation grazing systems. His farming and ranching background gives him the opportunity to practice stewardship and husbandry, providing firsthand knowledge of the interdependency of animal, plant, and human health with the environment. Knight is a graduate of South Dakota State University, is married, and has two children.

SWCS Awards Luncheon

12:00 PM – 1:30 PM, *Madison Ballroom*

The Soil and Water Conservation Society is pleased to honor award recipients who have exhibited exemplary service to the conservation community. Award recipients demonstrate excellence in supporting the Society's mission to advance soil, water, and related natural resources conservation to achieve sustainability. Individuals, organizations, and chapters nominated for these awards competed on a national and international level against others who have demonstrated leadership, creativity, and dedication in delivering assistance to landowners, communities, or local governments. A ticket to this function is included with full conference registration and Tuesday-only registration. Guest tickets may be purchased for an additional $50/person at the registration desk.

	Tuesday, August 1, 2017			
7:30AM - 5:00PM	**Registration Desk Open**			**Registration Desk 3 & 4**
7:30AM - 9:00AM	**Morning Coffee**			**Madison Ballroom**
8:00AM - 8:45AM	**Soil Health Partnership Farmer Panel** - *Greg Whitmore, NE Farmer; Mike Zwigmann, Central Valley Ag Coop* **Moderator:** *Nick Goeser, National Corn Growers Association - Soil Health Partnership*			**Madison Ballroom**
9:00AM - 10:00AM	**Plenary Session: The Next Farm Bill—Opportunities and Challenges** - *Alyssa Charney, National Sustainable Agriculture Coalition; John Larson, American Farmland Trust; Pelham Staughn, 9b Group* **Moderator:** *Bruce Knight, Strategic Conservation Solutions*			**Madison Ballroom**
10:00AM - 10:30AM	**Refreshment Break with Exhibitors**			**Madison Ballroom/Grand Terrace**
10:30AM - 12:00PM	**Symposia Sessions**			
Hall of Ideas E	Conservation in the Next Farm Bill: Overview and Opportunities for Change - *Alyssa Charney, National Sustainable Agriculture Coalition; Sanaz Arjomand, American Farmland Trust*			
Hall of Ideas F Public/Private Conservation Partnerships	Measuring Nonpoint Source Nutrient Reductions to the Mississippi River - *Katie Flahive, Environmental Protection Agency*			
Hall of Ideas G Field to Watershed	Assessment in the Great Lakes: Informing More Effective Conservation and Management - *Lisa Duriancik, USDA-NRCS*			
	Oral Presentations			
	10:30AM	**10:50AM**	**11:10AM**	**11:30AM**
Hall of Ideas H Extreme Weather	Mississippi River Could Leave Illinois Farmland Stranded *Kenneth Olson, University of Illinois*	Sidedress N for Corn Reduced N_2O Emissions and Drainage Nitrate Concentration in Increasingly Wet Springs *Peter Scharf, University of Missouri*	Tillage Reduced Soil Carbon in Five Years in a Corn–Soybean Rotation *Peter Scharf, University of Missouri*	Winter Wheat Yields from North Central Texas to North Dakota as Affected by Climate Change *B. Stewart, West Texas A&M University*
Hall of Ideas I Conservation Models/Tools/Technology	A Comparative Modeling Study of Soil Water Dynamics with Different Pedotransfer Functions *Sara Acevedo, Pontificia Universidad Católica de Chile*	A Method to Assess Field Management Effects on Snowmelt Runoff Volume for Field-Scale Runoff Risk Evaluation Tools *Laura Good, University of Wisconsin-Madison*	Alfalfa Interseeded into Silage Corn Can Enhance Productivity and Soil and Water Conservation *William Osterholz, University of Wisconsin-Madison*	An Enhanced Field-Scale Conservation Management Planning Approach for Watershed-Scale Erosion Assessments *Henrique Momm, Middle Tennessee State University*
Hall of Ideas J Outreach/Education/Community Engagement	Farmer Nutrient Management Decision Making: Three-State Case Study *Deanna Osmond, NC State University*	NRCS Technical Soil Services: Highlights and Future Directions *Michael Robotham, USDA-NRCS*	Productive Buffers and Educational Programs in Minnesota *Gary Wyatt, University of Minnesota Extension*	Vegetative Windbreaks for Poultry Farms *Gary Wyatt, University of Minnesota Extension*
Meeting Rooms KL Water Resources	Atrazine Transport Through a Soil-Epikarst System: Hydrology and Impacts of Agriculture *Bob Lerch, USDA-ARS*	Observing Soil Loss and Soil Re-Deposition under Unobstructed Field Conditions *YP Hsieh, Florida A&M University*	Bargaining for Recharge: An Analysis of Cooperation and Conjunctive Surface Water-Groundwater Management *Kelly Cobourn, Virginia Tech*	Water Management Issues and Opportunities – Lessons from Colorado *Bethany Reinholtz, GDS Associates, Inc.*
Meeting Rooms MN Social Sciences	Reducing Phosphorus Loading to Lake Erie: Closing the Efficacy Gap among Future Adopters *Robyn Wilson, Ohio State University*	Combining Societal Acceptance and Biophysical Drivers of Conservation Practices to Improve Water Quality in Multi-Use Landscapes *Jennifer Domenech, Purdue University*	So You Did a Workshop – What Did You Really Accomplish? *Brian MacGowan, Purdue University*	Understanding Barriers to Adoption of Conservation Practices on Rented Cropland *Pranay Ranjan, Purdue University*
12:00PM - 1:30PM	**Awards Luncheon** (ticket included with full conference and Tuesday-only registrations)			**Madison Ballroom**

1:30PM - 3:00PM	Tuesday, August 1, 2017 - Symposia Sessions			
Hall of Ideas E Social Sciences	Meta-Review of Barriers and Motivations for Farmers to Adopt Conservation Practices - *Linda Prokopy, Purdue University*			
Hall of Ideas F Soil Health Resources	Soil Health Management Systems: Examples from across the USA - *Barry Fischer, USDA-NRCS*			
Hall of Ideas G Public/Private Conservation Partnerships	Partner-Ships Can Sail - *Carrie Vollmer-Sanders, The Nature Conservancy*			
	Oral Presentations			
	1:30PM	**1:50PM**	**2:10PM**	**2:30PM**
Hall of Ideas H Field to Watershed	Development of MU's Soil Health Website: Providing Regional Data For Realistic Goals *Ray Wright, UMC South Farm Research Center*	Ensuring the Effectiveness of Agricultural Best Management Practices: A Pilot Project in the Chesapeake Bay Watershed *Alisha Mulkey, Maryland Department of Agriculture*	Using Farmer Engagement and Decision Tools to Increase Continuous Living Cover in Midwest Watersheds *Aaron Reser, Green Lands Blue Waters*	Linking Agricultural Practices to Water Quality Improvement: The Importance of Scale in Accurately Characterizing N and P Loads Delivered to Streams *William Crumpton, Iowa State University*
Hall of Ideas I Public/Private Conservation Partnerships	Enlisting Conservation Districts to Accelerate Participation in Environmental Markets: Lessons from the Field *Brian Brandt, American Farmland Trust*	Farm Advisor Networks and Sustainable Nitrogen Management *Adam Reimer, Michigan State University*	Forming a Strong Private-Public Partnership without Compromising Your Own Identity *Jodi DeJong-Hughes, University of Minnesota Extension*	The Challenges, Benefits, and Opportunities in Using Various Partnerships to Maximize the Effectiveness of Agricultural Efficiency Programs *Bethany Reinholtz, GDS Associates, Inc.*
Hall of Ideas J Conservation Models/Tools/Technology	An Open Source GIS-Based Decision Support System for Watershed Evaluation of Best Management Practices *Hui Shao, University of Guelph*	Cover Crop Effect on Weed Management: A Meta-Analysis *Sarah Carlson, Practical Farmers of Iowa*	Developing a Place-Based Tool for Evaluating the Water Quantity and Quality Effects of Wetland Loss and Restoration Scenarios at a Watershed Scale *Wanhong Yang, University of Guelph*	Developing a Reactive Nitrogen Model for Canadian Agricultural Land *Jingyi Yang, Agriculture and Agri-Food Canada*
Meeting Room KL Outreach/Education/Engagement	Purdue Rainscaping Education Program: Utilizing Experiential Learning and Leveraging Partnerships to Support Community Rain Garden Education and Implementation *Kara Salazar, Purdue University IL/N Sea Grant*	Soil Connections: Creating Pathways for Future Scientists *Emily Fuger, ASA, CSSA, SSSA*	ThinkWater: A Case Study in Innovation and Success in Systems-Thinking Based Water Education *Jeremy Solin, University of Wisconsin Extension*	Practical Applications of Conservation Social Science in the Adoption of Best Management Practices Related to Soil Health – Lessons Learned and Processes Looking Forward *Lisa Holscher, Conservation Cropping Systems Initiative*
Meeting Rooms MN Water Resources	Reservoir Sedimentation Rates in the Little Washita River Experimental Watershed, Oklahoma *Daniel Moriasi, USDA-ARS*	Role of Land Use/Land Management in Affecting Future Outcomes of Water Quality *Melissa Motew, University of Wisconsin-Madison*	Sustainability of Stormwater BMPs – How to Ensure BMPs are Sustainable *Charles Eaton, CME Associates, Inc*	
3:00PM - 3:30PM	**Refreshment Break with Exhibitors**			**Madison Ballroom/Grand Terrace**

3:30PM - 5:00PM	Tuesday, August 1, 2017 - Symposia Sessions			
Hall of Ideas E Water Resources	The National Water Quality Initiative (NWQI): Partnerships, Monitoring, and Measuring Success - *James Kilgo, Environmental Protection Agency*			
Hall of Ideas F Public/Private Conservation Partnerships	Public–Privative Conservation Partnerships Promote Conservation in Arkansas that Empower Environmental Stewardship among the Agricultural Community: Fostering Success and Overcoming Challenges - *Teri Nehls, USDA-NRCS*			
Hall of Ideas G Field to Watershed	Transitioning to a Landscape Perspective in Agriculture: Implications for Policy, Farmers, Soil Health, and Water Quality - *John Wiener, University of Colorado*			
	Oral Presentations			
	3:30PM	**3:50PM**	**4:10PM**	**4:30PM**
Hall of Ideas H Soil Health	Active and Labile Measures of Soil Carbon and Nitrogen in Wisconsin Grain and Dairy-Based Cropping Systems *Matt Ruark, University of Wisconsin-Madison*	Crop Residue Removal and Cover Crops Impacts on Soil Health, Water Storage, and Soybean Yield Ekrem Ozlu, *South Dakota State University*	Determining Acceptable Levels of Crop Residue Removal for Crop Yields and Erodibility *DeAnn Presley, Kansas State University*	The How and Why of Utilizing Street Trees for Stormwater Management *Jeremy Bailey, GreenBlue Urban*
Hall of Ideas I Social Sciences	Climate Change Beliefs, Risk Perceptions, and Use of Climate and Weather Tools: Reporting Evidence from a National FSA and NRCS Employee Survey *Rachel Schattman, USDA Northeast Climate Hub*	Role of Evaluation in Decision Making and Program Improvement: Case Study of a Volunteer Stream Monitoring Program *Amulya Rao Ponna Vishweshwer, University of Wisconsin-Extension*	Leveraging Crop Advisers to Deliver Agricultural Conservation Advice and Increase the Adoption of Conservation Practices *Linda Prokopy, Purdue University*	Public Perceptions and Attitudes about Water Resource Issues following Extended Drought *Diane Boellstorff, Texas A&M AgriLife Extension Service*
Hall of Ideas J Conservation Economics	Documenting and Communicating the Economic Benefits of Soil Health Management Practices *Marcy Lowe, Datu Research*	Estimating the Impact of Conservation Compliance on Soil Erosion Rates between 1982 and 2012 *Maria Bowman, USDA Economic Research Service*	Groundwater Pumping Policy to Limit Economic Damages from Land Subsidence *Kelly Cobourn, Virginia Tech*	Salinas Valley 2020 - A Perfect (Regulatory) Storm *Kay Mercer, KMI*
Meeting Room KL Conservation Models/Tools/Technology	A Multi-Agent-Based Model of Multifunctional Agricultural Landscapes Using Genetic Algorithms *Seth Soman, Northwest Missouri State University*	WEPP Model Enhancements for NRCS Use *Anurag Srivastava, Purdue University*	Developing a "Measurement and Evaluation Plan" (MEP) for an RCPP Water Quality Project *Michelle Perez, American Farmland Trust*	
Meeting Rooms MN Field to Watershed	The Effectiveness of Vegetative Buffers for Reducing Phosphorus Losses from Agricultural Runoff in Northern Climates *Jason Vanrobaeys, Agriculture and Agri-Food Canada*	The Role of Field and Stream Assessment in Evaluating Phosphorus and Fine Sediment Sources and Sinks in Agricultural Watersheds *Rebecca Carvin, USGS*	The Viability of Growing Shrub Willow as Bioenergy Buffer on Intensively Managed Agricultural Fields of US Midwest *Julian Cacho, Argonne National Laboratory*	The Franklin Research and Demonstration Farm: A Case Study for the Value of Demonstration Farms for Water Quality Science, Soil Health, and Outreach *Krista Kirkham, The Nature Conservancy*
5:00PM	**Evening on Your Own**			

TUESDAY, AUGUST 1
SYMPOSIA SESSIONS

Conservation in the Next Farm Bill: Overview and Opportunities for Change

10:30 AM – 12:00 PM, *Hall of Ideas E*

Presenters: *Alyssa Charney, National Sustainable Agriculture Coalition; Sanaz Arjomand, American Farmland Trust*

Since the first farm bills of the 1930s, conservation has been a major component of American federal agricultural policy. Every five years, the farm bill expires and is updated—proposed, debated, and passed by Congress, and then signed into law by the president; this presents both the opportunity to strengthen conservation programs and the challenge of protecting existing conservation gains. The current farm bill, The Agricultural Act of 2014, was signed into law in February of 2014 and is set to expire in September of 2018. There will be significant opportunities over the course of the next year to weigh in and influence the fate of the next farm bill, and thus now is the time to be informed and engaged regarding opportunities for sustainable agriculture policy.

This session will build on the preceding farm bill plenary session, beginning with a brief overview and focusing for the majority of the time on a more granular, programmatic level. In the overview, presenters from the National Sustainable Agriculture Coalition (NSAC) and American Farmland Trust (AFT) will give their reading of the political landscape and anticipated farm bill timeline, as well as an overview of the budget process and budget implications and debates presented by the farm bill.

Specific topics to be addressed by experts on the panel include the following: working lands conservation (including the Environmental Quality Incentives Program and the Conservation Stewardship Program), easement programs (including the Agricultural Conservation Easement Program), partnership programs (including the Regional Conservation Partnership Program), links between conservation and crop insurance, and organic agriculture. Program implementers will also be present to help with the question and answer portion of the session.

Measuring Nonpoint Source Nutrient Reductions to the Mississippi River

10:30 AM – 12:00 PM, *Hall of Ideas F*

Moderator: *Katie Flahive, US Environmental Protection Agency*

The Mississippi River/Gulf of Mexico Hypoxia Task Force (HTF) is a collaboration of 5 federal agencies, 12 state agricultural and environmental agencies, and the National Tribal Water Council. The HTF develops and implements workable solutions to reduce nutrient input into the Mississippi and Atchafalaya River Basin (MARB) and the hypoxic zone in the northern Gulf of Mexico. The HTF has a challenging goal of 20% nutrient reduction by 2025 and 45% nutrient reduction by 2035 to reduce the size of the hypoxic zone to less than 5,000 square kilometers. States implement unique nutrient reduction strategies while federal agencies provide support through financial, technical, and other measures. Collaboration with diverse stakeholders and partners in the MARB is key to achieving the HTF goals.

These partnerships drive progress on several fronts, including measuring point source nutrient reduction progress. Nonpoint source (NPS) metrics are complex because of the scale and scope of NPS pollution in the MARB and disparate data sources. Thus, in 2016, the HTF developed a private-public partnership consisting of the HTF, pilot states, SERA-46 (multistate research and extension committee of 12 land grant universities), and a private foundation to support the development of NPS measures. Each entity has a stake in the success of the collaboration and project outcomes, as they all have shared or similar goals for nutrients in the MARB. The HTF is distinctly interested in working with private entities, including agricultural industry and nongovernmental organizations to ensure that reductions across the HTF states are accounted for collectively in the MARB.

This symposium will explore the role of this public-private partnership in a large scale environmental challenge, as well as the potential of new partners to engage in current efforts. It will introduce the key players in the partnership, discuss roles in the group, identify the objectives of the collaboration, and identify opportunities to symposium participants for their involvement.

Presentation 1: Overview of Partnership, Mississippi River Basin Goals, and Tracking Progress – *Katie Flahive, US Environmental Protection Agency; Moira McDonald, Walton Family Foundation*

Presentation 2: State Perspective, Need for Nonpoint Source Reporting – *Matt Lechtenberg, Iowa Department of Agriculture and Land Stewardship; Julie Harrold, Indiana State Department of Agriculture*

Presentation 3: Development Team Perspective – *Laura Christianson, University of Illinois; Reid Christianson, University of Illinois*

Presentation 4: Future Involvement by Other Stakeholders – *Rebecca Power, University of Wisconsin; Amanda Gumbert, University of Kentucky*

Assessment in the Great Lakes: Informing More Effective Conservation and Management

10:30 AM – 12:00 PM, *Hall of Ideas G*

Moderator: *Lisa Duriancik, USDA-NRCS*

Nutrient and sediment loading from agricultural landscapes and other sources has been highlighted as one of the drivers of harmful or nuisance algal blooms and hypoxia affecting the Great Lakes. In the Great Lakes region and elsewhere, there is strong interest in assessing the agricultural sources of nutrients and sediments and documenting the effects of conservation practices and programs on water quality and soil health. Related

efforts focus on utilizing those insights to provide an adaptive management approach to conservation. Currently, there is a wide variety of on-going assessment in the Great Lakes region, including field work to collect data on both water quality and soil health as well as development of models that translate field results to the watershed or basin scale. Field work and sampling occur at several spatial and temporal scales: in-field soil health assessment to relate to water quality data; edge-of-field water quality monitoring; long-term, watershed-scale water quality monitoring and assessment; and longer-term, basin-wide modeling. Developing linkages across various scales in a more complementary and effective way remains a challenge, even in a region with extensive data, extensive coordination, and collaboration under efforts such as the Great Lakes Restoration Initiative, Great Lakes Water Quality Agreement and its Annexes, Collaborative Partnerships, etc. Presentations will highlight work being conducted in agricultural systems at multiple and increasing scales, the findings and conservation insights from the assessments, and how the work builds on related efforts.

Presentation 1: Insights on Conservation and Management from Edge-of-Field Research and Assessment in Ohio – *Kevin King, USDA-ARS*

Presentation 2: Lake Erie, Phosphorus, and Microcystin: Is it Really the Farmer's Fault? – *Douglas R. Smith, USDA-ARS*

Presentation 3: Dominant Mechanisms for Nutrient Delivery across Nested Headwater Watersheds in the Western Lake Erie Basin – *Mark Williams, USDA-ARS*

Presentation 4: Assessing Vulnerability of Lake Erie Landscapes to Soil Erosion: Modelled and Measured Approaches – *Natalie Feisthaurer, Agriculture and Agri-Food Canada*

Presentation 5: Thinking Outside the Lake: How Might Lake Erie Nutrient Management Efforts Benefit Streams? – *Scott Sowa, The Nature Conservancy*

Presentation 6: Linking Field and Watershed Processes in the SWAT Model for the Next Conservation Effects Assessment Project (CEAP) National Cropland Assessment – *Jeff Arnold, USDA-ARS*

Meta-Review of Barriers and Motivations for Farmers to Adopt Conservation Practices

1:30 PM – 3:00 PM, *Hall of Ideas E*

Moderator: *Linda Prokopy, Purdue University*

This symposium will present results from an ongoing review and meta-analysis of 35 years (1982 to 2017) of quantitative and qualitative social science research papers that have examined motivations of and barriers to adoption of soil and water conservation best management practices (BMPs) in US agriculture. The proposed study will update and greatly expand on previous work that has reviewed BMP adoption. This meta-analysis (1) reviews all appropriate studies published during the timeframe, (2) accommodates a number of advances in this field of study such as the growth of qualitative research with farmers, and (3) focuses on both barriers to and motivations for adoption. All US studies found in the peer-reviewed literature, theses/dissertations, and grey literature since the early 1980s were reviewed for potential inclusion in this meta-analysis and review. Papers were identified through database literature searches and snowball sampling from the reference sections of each reviewed paper. The project investigators employed vote-count meta-analysis methods to identify patterns and trends in the literature.

The speakers will very briefly discuss the study's methodology and then spend the rest of the panel discussion presenting study findings and discussing implications for conservation outreach and education. In addition to the study authors, experts in the conservation field will participate in the panel to help discuss implications of this landmark study.

Presentation 1: Thirty-Five Years of Conservation Adoption Studies: What Have We Learned? – *Linda Prokopy, Purdue University*

Presentation 2: Generating 10,000+ Rows of Data! – *Kristin Floress, US Forest Service*

Presentation 3: Making Sense of 10,000+ Rows of Data – *J. Arbuckle, Iowa State University*

Presentation 4: Barriers to Conservation Adoption: Evidence from Qualitative Research – *Sarah Church, Purdue University; Pranay Ranjan, Purdue University*

Presentation 5: What Does this Mean for Technology Transfer? – *Linda Prokopy, Purdue University*

Presentation 6: Agency and NGO Perspectives – *Jimmy Bramblett, USDA-NRCS; Katie Flahive, US Environmental Protection Agency; Moira McDonald, Walton Family Foundation*

Presentation 7: Next Steps – *Kristin Floress, US Forest Service*

Soil Health Management Systems: Examples from across the United States

1:30 PM – 3:00 PM, *Hall of Ideas F*

Moderator: *Jennifer Kucera, USDA-NRCS*

Soil health management systems (SHMS) are developed and implemented to improve soil function and thereby increase the agronomic, economic, and environmental sustainability of working lands. The USDA Natural Resources Conservation Service is promoting four soil health improving principles. The principles, which should be adjusted to meet regional variability and cropping system needs, are to (1) minimize disturbance, (2) maximize soil cover, (3) maximize diversity, and (4) maximize the presence of living roots throughout the year. Soil health management systems seek to achieve the principles through a combination of practices that optimize the diversity and functioning of soil organisms. Healthy soil ecosystems improve overall soil function because of the influence the diversity of organisms have on the creation of soil organic matter and stable aggregates, improved water infiltration, increased water-holding capacity and internal nutrient cycling, and by promoting plant community resilience. Although implementing a single management practice may slow soil degradation, optimization

of soil function and its benefits is best achieved through the synergistic impacts of multiple practices that target the four principles. This symposium will provide examples of successful SHMS across the United States under a variety of soil and climate conditions. Topics will include soil health management systems for row crops, adaptive nutrient management, grazing management, and specialty crops.

Presentation 1: Building a Soil Health Management System for Row Crops – *Barry Fisher, USDA-NRCS*

Presentation 2: Utilizing Cover Crops to Improve Nutrient Management and Soil Health – *Jim Hoorman, USDA-NRCS*

Presentation 3: Regenerating Soil Health with High Density, Short Duration Grazing – *Justin Morris, USDA-NRCS*

Presentation 4: Implementation of Soil Health Principles for Organic Farming Systems – *Z. Kabir, USDA-NRCS*

Partner-Ships Can Sail

1:30 PM – 3:00 PM, *Hall of Ideas G*

Moderator: *Carrie Vollmer-Sanders, The Nature Conservancy*

Presenters: *Leslie Fisher, Benton County Indiana SWCD; Sally Flis, The Fertilizer Institute; Peyton Harper, The Fertilizer Institute; Kris Johnson, The Nature Conservancy*

It has been said that "Partner-ships are the only ships that don't sail." There are many partnerships in agriculture and conservation that can disprove this myth.

During this session, learn how nature's soil and water connection brings partners together to advance science, test solutions, and move solutions to a scale that can impact the Great Lakes or Gulf of Mexico. Not all partnerships are built on a strong foundation. When growing food, soil and water are the foundation. It is the connection with soil, water, and nutrients that has brought The Fertilizer Institute, The Nature Conservancy, government agencies, and agribusinesses together to ensure we are producing food responsibly.

During this session you will learn about the soil and water connection and how we can influence nutrients staying in the soil to grow crops. This information has informed the models and outreach materials about how we can reach our water quality goals. Reducing fertilizer rate is not the only way to decrease offsite loss of nutrients, even though this might be the easiest way to model an improvement to water quality.

Expanding partnerships to include government agencies to increase the adoption of conservation and agronomic practices is happening in Indiana. You'll learn how this public-private partnership is beginning to work together to transform a watershed. This type of partnership can be replicated all over. Learn how this and other partnerships began and are prospering.

The National Water Quality Initiative: Partnerships, Monitoring, and Measuring Success

3:30 PM – 5:00 PM, *Hall of Ideas E*

Moderator: *James Kilgo, US Environmental Protection Agency*

In 2012, the USDA Natural Resources Conservation Service (NRCS) launched the National Water Quality Initiative (NWQI), in collaboration with the US Environmental Protection Agency and state water quality agencies, to increase voluntary conservation practices in small, high-priority watersheds. Watersheds are selected by NRCS state conservationists in consultation with state water quality agencies and NRCS state technical committees. Currently, 197 NWQI watersheds receive NRCS-dedicated financial assistance from the Environmental Quality Incentives Program (EQIP).

NWQI accelerates voluntary, private lands conservation investments to improve water quality through a targeted approach, focusing on conservation systems with the greatest benefit. Analyses show a four-fold increase of acres treated with core water quality practices with NWQI compared to EQIP alone. Average annual funding for conservation practices increased more than 200% in watersheds with NWQI, and twice as many producers were provided assistance in NWQI watersheds.

NWQI promotes greater coordination between states, NRCS, and others managing nonpoint sources. Feedback indicates roughly 60% of states reported improving partnerships as a result of the NWQI; 45% reported that work done will lead to collaboration beyond NWQI watersheds.

States also assess progress through in-stream monitoring in a subset of NWQI watersheds using Clean Water Act Section 319 or other funds to determine if conditions related to

nutrients, sediments, or livestock-related pathogens changed in the watershed, and whether changes can be attributed to conservation systems.

The session will open with an overview of the program and transition into a local case study, utilizing reporting metrics to highlight the overall success. The audience can interact with panelists to gain a better understanding of NWQI and learn how important partnership building and monitoring are to overall success of current and future projects.

Presentation 1: An Overview of the NWQI – *Erica Larsen, US Environmental Protection Agency*

Presentation 2: The NWQI from the State's Perspective – *Matt Otto, USDA-NRCS; Corinne Johnson, Wisconsin Department of Natural Resources*

Presentation 3: Highlighting the Successes, Challenges, and Lessons Learned through Collaborative Work in a 12-Digit HUC, NWQI Watershed – Big Green Lake (040302010902) – *Charlie Marks, Green Lake Sanitary District; Stephanie Prellwitz, Green Lake Association; Paul Gunderson, Green Lake County Land Conservation Department; Caleb Zahn, USDA-NRCS*

Public–Privative Conservation Partnerships Promote Conservation in Arkansas that Empowers Environmental Stewardship among the Agricultural Community: Fostering Success and Overcoming Challenges

3:30 PM – 5:00 PM, *Hall of Ideas F*

Moderator: *Teri Nehls, USDA-NRCS*

The strengths and benefits of establishing strong partnerships for conservation in Arkansas is recognized by federal, state, and local agencies; university and research institutions; and nonprofit organizations within the state. The diversity of these conservation partnerships complements the mission of each organization while strengthening the group as a whole. Emphasizing the importance of conservation and reducing impacts on natural resources is uniquely supported by each partner through financial assistance, technical expertise, and labor. Arkansas's uniquely diverse agricultural landscape is comprised of row crops (soybeans, corn, cotton, rice, and specialty crops) and extensive poultry and livestock production; it is critical to the state's economic well-being, while its role in ecosystem resilience has gained attention in the recent decade. Arkansas has an extensive surface water system that drains into the Mississippi River about 700 miles north of the Gulf of Mexico. Thus, a goal of Arkansas's conservation partnerships includes protection of the state's natural resources and agricultural viability, concurrent with reduction of the gulf's hypoxic zone. Arkansas is a leader in conservation and partnership programs with the greatest amount of Mississippi River Basin Initiative acreage and edge-of-field monitoring. The state is also one of the main areas for the Wetland Reserve Program and is highly competitive for Conservation Innovation Grants. Although Arkansas has unique characteristics, including underserved agricultural producers, the state's successes and experiences in conservation partnerships are an example for others to increase the extent of successful conservation. This symposium will describe the breadth and depth of conservation partnerships that were established over the last decade, present case studies of conservation implementation, detail how innovative outreach programs were used to promote science-based solutions, and discuss how challenges were addressed.

Presentation 1: Overview of Edge-of-Field Water Quality Monitoring Partnerships in Arkansas – *Brittany Singleton, University of Arkansas*

Presentation 2: Is It About the Credit or the Success? – *Debbie Moreland, Arkansas Association of Conservation Districts*

Presentation 3: No One Can Do It Alone: The Role of NRCS in Working with Partners to Increase the Awareness and Benefits of Implementing Conservation on Agricultural Operations – *Teri Nehls, USDA-NRCS*

Presentation 4: Partnerships Empower the Arkansas Discovery Farm Program – *Mike Daniels, University of Arkansas*

Presentation 5: Translating Discovery Farm Discoveries to Stakeholders – *Andrew Sharpley, University of Arkansas*

Presentation 6: Partnering with Producers as Research Collaborators – *Michele Reba, USDA-ARS*

Presentation 7: From the Field to the Spreadsheet: Laboratory Analyses and Quality Control – *Jennifer Bouldin, Arkansas State University Ecotoxicology Research Facility*

Transitioning to a Landscape Perspective in Agriculture: Implications for Policy, Farmers, Soil Health, and Water Quality

3:30 PM – 5:00 PM, *Hall of Ideas G*

Moderator: *John Wiener, University of Colorado*

Presenters: *Gary Bentrup, USDA/US Forest Service Agroforestry Center; Gretchen Sassenrath, Kansas State University; Richard Cruse, Iowa State University; Dennis Todey, USDA Midwest Climate Hub; Jerry Hatfield, USDA-ARS*

Neighbors and collaborators across multiple farms and interlocking sets of agricultural enterprises (e.g., sequenced production, ranching, and irrigated farming; dairy and feed and waste management) may have greater opportunity than ever to cooperate. The economic risks shown in 2012 and in 2016 were averted by cost coverage. But farmer and landowner goals of family succession and stewardship have too often been frustrated.

Literally from the ground up, soil conservation and restoration are the starting point for safely moving away from the increasing risks of commodity monocultures in the industrial style. The risks to soil from weather extremes and changes are sharply increasing. Fortunately, increasingly solid knowledge demonstrates the potential for improved long-term economic and agricultural resilience, with diversified and strategic farming systems, incorporating risk management in transition. As market and political volatility increase along with weather extremes and variability, now is the time for considering the role of landscape scales and interlocking collaborative enterprises. The panel will set

the stage and then discuss the social and policy responses available, with each other and the audience.

This panel brings extraordinary expertise to bear, in soils and agronomy, weather and climate impacts and information, farming systems and plant physiology, and agricultural innovation and adoption, in short talking points and then discussion and interaction with the SWCS audience on questions including (1) stimulating progress toward conserving soils and farmers (and the practices in between); (2) averting further destruction of the productive capacity; (3) recapturing the stability of diversified farming systems; (4) safely organizing more efficient use of landscapes and functional farming areas; and (5) making economic transition away from high-input and high-leakage systems.

WEDNESDAY, AUGUST 2
SCHEDULE AND EVENTS

SCHEDULE

7:30 AM Registration Opens
Registration Desk 3 and 4

7:30 AM *Tour #1 – Sustainable Dairy Tour
Meet at Main Entrance of Terrace by 7:15AM

8:30 AM Concurrent Sessions
See Pages 40-41

10:00 AM Refreshment Break
Grand Promenade

10:30 AM Concurrent Sessions
See Pages 40-41

12:00 PM Conference Adjourns

1:00 PM *Tour #2 – Aldo Leopold Shack Tour
Meet at Main Entrance of Terrace by 12:45PM

1:00 PM *Tour #3 – Sustainable Agriculture in Wisconsin's Driftless Landscape Tour
Meet at Main Entrance of Terrace by 12:45PM

1:00 PM ARS CEAP Watershed Assessment Study Annual Meeting
Meeting Rooms KLOP

**Additional fees apply.*

EVENTS

Conservation Tours

All participants of tours should meet at the **main entrance of Monona Terrace** at least 15 minutes prior to the departure times listed.

Buses will leave on time. Please be ready board the bus 15 minutes before your tour departs. Roll call will be taken prior to departure, and SWCS staff will make every effort to ensure all participants are on the bus. However, due to transportation scheduling, buses will not be held for those arriving late, and refunds will not be issued for missing the bus.

Tour #1: Sustainable Dairy Tour

7:30 AM – 5:00 PM

This tour, supported by Dairy Management Incorporated, will visit the Goeser Dairy Farm near Plymouth, Wisconsin, and the Sartori Cheese plant. In addition to visiting a state-of-the-art dairy operation, the Goeser farm tour will highlight several sustainable production practices, including manure fiber recycling used for cow bedding and use of feed/nutrient management planning to reduce nutrient inputs and effectively utilize manure as a fertilizer source. The Dairy Management Incorporated FARM Smart tool, which farms can utilize to assess the sustainability of their farm operation, will also be discussed. A working lunch is planned to share information on a local soil health and watershed protection project that the Goeser farm is participating in. The tour will conclude with a visit to the Sartori Cheese production facility to learn more about the cheese making process and the increasing demands by consumers for sustainably produced food. Lunch will be provided during this tour.

Save taxi fare and bring your luggage along! This shuttle will make a stop at the Dane County Regional Airport before returning to Monona Terrace. If you would like to be dropped off at the airport, please bring your luggage with you on the tour. Secure storage will be available on the shuttle. We highly recommend you do not book a return flight prior to 5:30 p.m.

Tour #2: Aldo Leopold Shack

1:00 PM – 5:30 PM

This tour will visit the shack and the landscape made famous by Aldo Leopold in his *A Sand County Almanac*. Tour highlights include a guided tour of the shack where Leopold and his family spent time and an infield visit to view the landscape restoration activities being carried out by the Aldo Leopold Foundation.

Tour #3: Sustainable Agriculture in Wisconsin's Driftless Landscape

1:00 PM – 5:45 PM

Participants of this tour will visit three farms utilizing sustainable production methods in Wisconsin's Driftless (unglaciated) landscape. The first stop, Vermont Valley Community Farm LLC, is a family owned and operated vegetable farm that utilizes sustainable production methods and the active participation of its community supported agriculture (CSA) members in the production of the crops they purchase. The second stop, Seven Seeds Farm, is a silvo-pasture based operation that produces grass-fed beef, pork, and poultry (meat and eggs) while utilizing restorative and regenerative agricultural production methods. The final stop, Bickford Organics (John and Halee Wepking), uses organic production methods to grow cash grain crops, including corn and wheat. The Wepkings are currently in the process of establishing a partnership with a milling operation to produce flour for direct marketing to consumers.

Conservation Effects Assessment Project (CEAP) Watershed Assessment Studies Annual Meeting

1:00 PM – 6:00 PM

Please join USDA Natural Resources Conservation Service and USDA Agricultural Research Service CEAP scientists to learn about and discuss the CEAP Watershed Assessments, the small watershed studies within CEAP. Presentations will feature each on-going ARS CEAP Watershed Assessment, reviewing the effects of conservation practices that have been measured and at what scale(s) effects have been observed, as well as sharing major take-home messages of projects. Group discussions will follow on how best to approach synthesizing effects of conservation and make recommendations. Consideration will be given to effective approaches and designs for documenting watershed conservation effects and topics to be evaluated.

	Wednesday, August 2, 2017			
7:30AM - 12:00PM	**Registration Desk Open**			**Registration Desk 3 and 4**
7:30AM - 5:00PM	**Tour #1: Sustainable Dairy Tour** (meet at 7:15 a.m.)			**Meet at Main Terrace Doors**
8:30AM - 10:00AM	**Symposia Sessions**			
Hall of Ideas E Public/Private Conservation Partnerships	Leadership for Midwestern Watersheds: Applying Lessons Learned to Effect Landscape-Scale Change - *Craig Ficenec, Sand County Foundation*			
Hall of Ideas F Outreach/Education/Engagement	Opening Acres to Conservation: Women Landowners and Producers - *Jean Eells, Women Food and Agriculture Network*			
	Oral Presentations			
	8:30AM	**8:50AM**	**9:10AM**	**9:30AM**
Hall of Ideas G Water Resources	What Are the Most Pressing Water Issues Facing the US? Perceptions of Federal Government Staff *Sarah Church, Purdue University*	Historical Analysis of Agroenvironmental Conditions and Management Strategies in the Lower Mississippi River Basin *Lindsey Yasarer, USDA-ARS*	Instream Legacy Phosphorus within an Agricultural Dominated Watershed, Wisconsin *Kyle Minks, Dane County Land and Water Resources Department*	
Hall of Ideas H Field to Watershed	Linking Plot, Field, and Watershed Runoff and Water Quality in Goodwater Creek Experimental Watershed *Fessehaie Ghidey, USDA-ARS*	Minnesota Clean Water and Land Legacy: Is the Water Getting Cleaner? *Joe Magner, University of Minnesota*	Nutrient Loss Reduction Potential of Drainage Water Recycling Systems in the Midwest Based on Pond Size *Benjamin Reinhart, Purdue University*	NWQI Pilot Project: Connecting On-Farm Conservation Efforts to Watershed Scale Assessments to Benefit Water Quality *Dee Carlson, USDA-NRCS*
Hall of Ideas I Conservation Models/Tools/Technology	NutrientStar: Elevating New Research Standards and Transparency on Performance of Fertilizer Management Tools and Models *Jim Schepers, University of Nebraska*	Predicting Nitrogen Retention in Managed Forest Agroecosystems *Brian Strahm, Virginia Tech*	Preparing for Long-Term Stewardship: A Dual Approach *Benjamin Shorofsky, Delta Institute*	Status of Water Harvesting Structures for Fish Farming: A Focus from Shiwaliks, India *Muruganandam Muthiah, Indian Council of Agricultural Research*
Hall of Ideas J Soil Health	Interpretive Applications of Soil Survey Data and Properties for Soil Health: Process Modelling Options *Maxine Levin, USDA-NRCS*	Interseeding Cover Crops and Corn Stover Harvest: Soil and Crop Response *Humberto Blanco, University of Nebraska-Lincoln*	National Commodity Crop Productivity Index and Soil Health *Maxine Levin, USDA-NRCS*	Soil Organic Carbon Changes and Other Soil Properties Impacted by Crop Rotational Diversity Under No-Till Farming in Northern Great Plains, USA *Ekrem Ozlu, South Dakota State University*
10:00AM - 10:30AM	**Refreshment Break**			

10:30AM - 12:00PM	Wednesday, August 2, 2017 - Symposia Sessions			
Hall of Ideas E Public/Private Conservation Partnerships	Increasing the Implementation of Conservation Practices through Farmer-Led Watershed Organizations - *Rachel Rushmann, Wisconsin Department of Agriculture, Trade and Consumer Protection*			
Hall of Ideas F Field to Watershed	Evaluating the Soil Vulnerability Index (SVI): An Index to Characterize Inherent Vulnerability of Croplands to Runoff and Leaching - *Sapana Lohani, University of Missouri*			
	Oral Presentations			
	10:30AM	**10:50AM**	**11:10AM**	**11:30AM**
Hall of Ideas G Adaptive Management	An Assessment of Agroforestry's Role in Adapting Agriculture to Climate Change *Gary Bentrup, USDA National Agroforestry Center*	Conservation Tillage, a South African Perspective to Optimize Water Harvesting for Crop Production *Josias Hoffman, Stellenbosch University*	Evaluating the Benefits of Biochar on Soil Quality While Determining Its Effect on Soil Carbon Sequestration: A Pathway to Sustainability *Mohammad Golabi, University of Guam*	Key Innovators for 2017 Farm Bill: Precision Conservation and Innovative Finance to Broaden Ag Conservation *Alex Echols, Sand County Foundation*
Hall of Ideas H Conservation Economics	Estimating Farm-Level Change in Farm-Level Conservation Compliance Incentives *Roger Claassen, USDA Economic Research Service*	Challenges to Adopt BMPs to Reduce Nitrate Leaching and Soil Erosion while Improving Farm Economics *Mohammad Khakbazan, Agriculture and Agri-Food Canada*	Cost-Benefit Analysis of a Water Project in Arkansas with the Kaldor-Hicks Criterion *Kuatbay Bektemirov, University of Arkansas*	Costs and Benefits of Cover Crops: An Econometric Analysis on Cash Crop Yield in Central and Northeastern Indiana Farms *Stephen Lira, Purdue University Department of Agricultural Economics*
Hall of Ideas I Conservation Models/Tools/Technology	Evaluating Edge-of-Field Water-Quality Monitoring Techniques: Relating Data Quality to Long-Term Monitoring Costs *David Owens, USGS*	Improving Information and Data to Manage and Protect US Agricultural Resources *Alice Sorensen, American Farmland Trust*	Improving Soil Health through Conservation Management of Claypan Soils in Southeast Kansas *Gretchen Sassenrath, Kansas State University*	Web-Based Preventative Blowing and Drifting Snow Control Decision Tools *Dean Current, University of Minnesota*
Hall of Ideas J Soil Health	Using Soil Survey Data to Inform Soil Health Inventory and Assessment *Maxine Levin, USDA-NRCS*	Developing Criteria for Soil Health Interpretations–Science of Interpretations *Maggie Payne, USDA-NRCS*	Update on an NRCS Project to Strengthen the Science of Soil Health *Michael Robotham, USDA-NRCS*	Using a Soil Geomorphic (Soil-Systems) Approach to Inform Soil Health Assessment *Michael Robotham, USDA-NRCS*
1:00PM - 5:30PM	**Tour #2: Aldo Leopold Shack Tour** (meet at 12:45 p.m.)			**Meet at Main Terrace Doors**
1:00PM - 5:45PM	**Tour #3: Sustainable Agriculture in Wisconsin's Driftless Landscape Tour** (meet at 12:45 p.m.)			**Meet at Main Terrace Doors**

WEDNESDAY, AUGUST 2
SYMPOSIA SESSIONS

Leadership for Midwestern Watersheds: Applying Lessons Learned to Effect Landscape-Scale Change

8:30 AM – 10:00 AM, *Hall of Ideas E*

Moderator: *Craig Ficenec, Sand County Foundation*

Since 2011, Leadership for Midwestern Watersheds (LMW) has hosted seven events bringing together watershed project directors and other stakeholders to compare notes and share lessons learned about watershed projects. The range of projects is diverse, but all are in agriculturally dominated watersheds where nutrient and sediment loading is a primary concern. LMW strives to develop a "community of practice"—a group of conservation practitioners who know how to improve water quality through projects applied at a watershed scale. LMW meetings focus on specific subjects essential to successful watershed projects, such as engaging farmers, focusing resources for greatest impact, measuring results, and scaling up lessons learned.

In this symposium, we will profile three case studies of collaboration in specific watersheds of the Corn Belt. Each will describe how local practitioners are reaching across jurisdictions to leverage technical and financial resources that amplify their impact. Presentations will emphasize both successes and challenges in their attempts to build these alliances.

We will structure this symposium as a condensed version of a typical LMW event. In the interactive spirit of LMW meetings, concise presentations will be followed by actively facilitated discussions among all in attendance, with presenters joining separate breakout groups. Participants who are involved with watershed projects are expected to actively share their experiences, and all are encouraged to join the conversation.

The LMW program and this SWCS symposium are sponsored by Sand County Foundation, American Farmland Trust, Iowa Soybean Association, and the North Central Region Water Network.

Presentation 1: The Upper Macoupin Creek Watershed Partnership – *Kris Reynolds, American Farmland Trust*

Presentation 2: Yahara WINS: All Hands on Deck for Water Quality – *Dave Taylor, Madison Metropolitan Sewerage District (MMSD)*

Presentation 3: Urban-Ag Partnerships: Middle Cedar Partnership Project (MCPP) – *Todd Sutphin, Iowa Soybean Association*

Opening Acres to Conservation: Women Landowners and Producers

8:30 AM – 10:00 AM, *Hall of Ideas F*

Moderator: *Jean Eells, Women Food and Agriculture Network*

Presenters: *Jennifer Filipiak, American Farmland Trust; Rebecca Fletcher, USDA-NRCS*

Evaluation results from a seven-state national Conservation Innovation Grant project show women to be excellent conservation partners when we adopt outreach methods they find interesting and appealing. The Women Caring for the Land℠ methodology effectively helped women understand soil health concepts and motivated them to take an action to improve conservation on their land. Three state panelists will share what worked, what didn't, and how they're keeping the focus on conservation with women landowners whether the topic is soil health or wetlands or watersheds. Participants will interact with the methodology in this symposium.

New work emerging addresses women landowners living and working in large urban centers, who own rural land but are unlikely to attend a conservation meeting in a rural area. The next generation of women landowners is inheriting land they haven't been on in decades or is managing from a distance on behalf of elderly relatives, and it is extremely difficult to reach this audience with conservation assistance. They face great challenges of understanding conservation options and accessing the services that match their needs. We will share our early experiences with this new project.

Women own or co-own a significant amount of land across the United States but have been left out of conservation outreach unintentionally. Because women tend to rent their land at higher rates, it's essential they understand how their decisions as a landowner can influence and support conservation efforts by their tenants. Many women's agriculture programs omit conservation topics, but we've honed a methodology that breaks through that barrier and gets positive results.

Increasing the Implementation of Conservation Practices through Farmer-Led Watershed Organizations

10:30 AM – 12:00 PM, *Hall of Ideas E*

Moderator: *Rachel Rushmann, Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)*

The challenge of getting farmers to implement soil and water conservation practices is taking a new direction in Wisconsin with the development of a new state-supported Producer-Led Watershed Protection Grant Program. The focus of the program is to provide state funding to producer-led organizations willing to lead conservation efforts in their watersheds. Producer-led groups have increased the use of conservation in the state by offering incentive programs to farmers to try new practices

and by participating in research that provides site-specific information on the environmental and economic benefits of the various practices. These groups also provide farmer-to-farmer outreach and education by hosting field days, conferences, workshops and trainings.

Fourteen producer-led groups received funding from the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) in 2016, and eleven producer-led groups were awarded 2017 funding. Producer-led groups vary by number and size of member farms, organizing structures, conservation goals and activities, and kinds of collaborations within their communities. The DATCP program manager and farmer group leaders will share experiences of four watershed groups, including each's goals and objectives, strategies, challenges and successes, and conservation impacts so far. The variety of these four groups will illustrate how the program's flexible design has generated widely differing approaches to conservation innovation, uses of technology, and community relationships, and how they can change over time.

Overall goals of the program include the development of a statewide farmer network where farmers can share innovative and effective conservation practices with other farmers throughout the state. Producer-led groups have proven thus far to be an effective approach at increasing the adoption of conservation practices in the state, in turn improving Wisconsin's soil and water quality.

Presentation 1: The Wisconsin Producer-Led Watershed Protection Grant Program – *Rachel Rushmann, DATCP*

Presentation 2: Achieving Success with Farmers in an Adaptive Management Watershed Program – *Jeff Endres, Yahara Pride Farms*

Presentation 3: Improving Surface and Groundwater Quality in a High Density Livestock Watershed – *Don Niles, Peninsula Pride Farms*

Presentation 4: Making Connections with Watershed End-Users and On-Farm Research – *Michael Dolan, Farmer-Led Watershed Group in Iowa County; Ken Schroeder, Farmers of the Mill Creek Watershed Council and University of Wisconsin-Extension*

Evaluating the Soil Vulnerability Index (SVI): An Index to Characterize Inherent Vulnerability of Croplands to Runoff and Leaching

10:30 AM – 12:00 PM, *Hall of Ideas F*

Moderator: *Sapana Lohani, University of Missouri*

Soil erosion and nutrient loss from surface runoff and subsurface flows are critical problems for croplands in the United States. Assessing cropland vulnerability to runoff and leaching is needed for watershed or regional land use and land management planning and conservation resources allocation. The USDA Natural Resources Conservation Service proposed the Soil Vulnerability Index (SVI) to identify cropland that is inherently vulnerable to runoff and leaching. The SVI for runoff is derived using a combination of soil hydrologic group, slope, and K-factor (soil erodibility factor), while SVI for leaching uses all of these and whether the soil is classified as organic. The goal of this symposium is to share and discuss the results of SVI evaluation across different physiographic and hydrogeomorphic regions within the United States. Eleven Conservation Effects Assessment Project (CEAP) watersheds ranging from 6 to 1,048 km^2 were selected for the project. Results from SVI evaluation on each of these watersheds will be presented and follow-up discussion will be moderated. The symposium will be a 90-minute session. Thirteen 5-minute-long, flash-talk presentations are planned, one for each watershed, overall presentations of SVI, and statistical analysis of SVI spatial distribution and nutrient load data. The symposium is expected to discuss the potential use and limitations of SVI for categorizing soils based on inherent vulnerability to runoff and leaching. The audience can expect to learn about this simple index that can assist in identifying the most vulnerable areas, which may be in need of improved conservation and management efforts.

Presentation 1: General Introduction on Soil Vulnerability Index – *Lisa Duriancik, USDA-NRCS*

Presentation 2: Soil Vulnerability Index: How Does It Work? – *Claire Baffaut, USDA-ARS; Allen Thompson, University of Missouri-Columbia*

Presentation 3: Soil Vulnerability Index Assessment in Delta Water Management Research Center Watershed, Arkansas – *Niroj Aryal, USDA-ARS; Michele Reba, USDA-ARS*

Presentation 4: Soil Vulnerability Index Assessment in South Fork of the Iowa River Watershed and the Walnut Creek Watershed, Iowa – *Mark Tomer, USDA-ARS*

Presentation 5: Soil Vulnerability Index Assessment in Little River Experimental Watershed, Georgia – *David Bosch, USDA-ARS*

Presentation 6: Soil Vulnerability Index in Mark Twain Lake Watershed, Missouri: The Restrictive Layer Effect – *Claire Baffaut, USDA-ARS*

Presentation 7: Soil Vulnerability Index Assessment in Upper Big Walnut Creek Watershed, Ohio – *Kevin King, USDA-ARS*

Presentation 8: Application of SVI to a Historically Eroded Landscape – Goodwin Creek Watershed in Mississippi – *Ron Bingner, USDA-ARS*

Presentation 9: Soil Vulnerability Index Assessment in WE-38, Pennsylvania – *Peter Kleinman, USDA-ARS*

Presentation 10: Application of Soil Vulnerability Index to the Choptank River Watershed in Maryland – *Gregory McCarty, USDA-ARS*

Presentation 11: Soil Vulnerability Index Assessment in Beasley Lake Watershed, Mississippi – *Martin Locke, USDA-ARS; Lindsey Yasarer, USDA-ARS; Ron Bingner, USDA-ARS*

Presentation 12: Soil Vulnerability Index Assessment in Cedar Creek, Indiana – *Mark Williams, USDA-ARS*

Presentation 13: Comparing SVI Spatial Distribution with Nutrient Load Data in the Mark Twain Watershed in Missouri – *Sapana Lohani, University of Missouri-Columbia*

The Soil Health Partnership is a farmer-led initiative fostering transformation in agriculture through improved soil health, benefiting both farmer profitability and the environment.

Established in 2014, we've built a network of more than 100 working farms where we test, measure and share results of advanced farm management practices that will enhance sustainability and farm economics for generations to come.

What makes our project unique?

We collect long-term data on working farms in real growing conditions, and mentor farmers. We believe the results of this project will provide a platform for farmer-to-farmer information sharing while growing agricultural sustainability.

An NCGA Initiative

NCGA

Support From

Monsanto
Natural Resources Conservation Service
The Walton Family Foundation
Midwest Row Crop Collaborative
The General Mills Foundation

With Technical Support From

The Environmental Defense Fund
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2017 SWCS AWARDS AND SCHOLARSHIPS

INDIVIDUAL AWARDS

Hugh Hammond Bennett Award

The Hugh Hammond Bennett Award recognizes extraordinary national and international accomplishments in the conservation of soil, water, and related natural resources.

Charles Rice

Charles Rice is this year's Hugh Hammond Bennett Award recipient. Rice, a university distinguished professor of agronomy at Kansas State University, is recognized as one of the world's leading soil microbial ecologists. He has made significant contributions to the fields of agronomy and soil science through teaching, research, and service. He is a highly recognized leader in sustainable agriculture, no-tillage, soil organic matter, carbon sequestration and greenhouse gas emissions, and climate change, among others. Rice has published over 100 peer-reviewed journal articles, many with international collaborators. Most notable is his work on the Inter-Governmental Panel on Climate Change (2007, 2014), for which the authors received the 2007 Nobel Prize. In addition to an excellent research record, Rice has had an impact as an educator through formal classroom teaching and informal student tours. He developed the first soil microbiology course at Kansas State University, and recently developed a new course, International Agronomy Experience for Graduate Students, allowing students to apply knowledge from graduate research focused on international crops, soils, and agronomic systems. Rice has been the recipient of many notable awards including the 2015 Kansas State University Educator of the Year, the Youngberg Award, the Higuchi Research Award, the Environmental Quality Award, and the Soil Science Research Award, and he was elected one of Kansas' Top 150 Scientists. Rice also continues to make significant contributions to conservation through service. He serves on the Board of Trustees for the International Center for Tropical Agriculture (CIAT). He has been elected to chair one of the International Union of Soil Sciences (IUSS) commissions and serves as the Soil Science Society of America (SSSA) liaison to the Global Soil Partnership. Through his influence and active participation in conservation efforts, Rice has touched many lives from around the world and across all levels from undergraduate students to fellow scientists to policy makers. Charles Rice is well deserving of this year's Hugh Hammond Bennett Award.

Fellow Award

The designation of Fellow is conferred on Society members who have performed exceptional service in advocating the conservation of soil, water, and related natural resources. This award is given first and foremost for professional excellence. Professional achievement may be in practicing, investigating, administering, or teaching soil and water conservation or closely related fields. Only Society members with at least 10 years of membership are eligible.

Clark Gantzer

A member of SWCS since 1975, Clark Gantzer has made significant contributions to the scientific community through his work in soil and water conservation and applied soil physics. Gantzer's service to SWCS includes both chapter and international work. He initiated the Missouri Chapter's scholarship program, which continues and has expanded, and in 2009 he provided the support needed to revive the student chapter at the University of Missouri. Gantzer served on the SWCS Board of Directors from 2007 to 2013 and as secretary in 2012. He continues to serve on the SWCS Science and Policy Committee and as an associate editor for the *Journal of Soil and Water Conservation*. Gantzer has published 86 journal articles and 83 conference proceedings and publications, and has been invited to give presentations for a large number of institutions throughout the United States and in Austria, Italy, England, Korea, and France. Gantzer has been internationally recognized for his research on the measurement and prediction of soil erosion, evaluation of soil structure as related to soil quality and productivity, and development of soil conservation and management practices. He has received the Gamma Sigma Delta Honor Society in Agriculture Award, the Senior Researcher Award, the SWCS Missouri Chapter Award of Merit, and is noted in the Who's Who in Science and Engineering. Gantzer also played a role on the citizens' committee that successfully initiated and continues the Missouri Soils and Parks sales tax that funds personnel for soil and water conservation districts and currently provides over $30 million of funding for farmers and ranchers to implement soil and water conservation practices. For these and many more reasons, Clark Gantzer is highly deserving of the designation of SWCS Fellow.

Francisco Arriaga

Francisco Arriaga has provided and continues to provide exceptional service toward soil and water conservation through his research, teaching, and outreach. His research includes topics such as management practices to reduce phosphorus losses and protect water quality as well as soil management systems to improve soil health and water use efficiency. Arriaga is not only a talented and well-published scientist, but he is also a highly effective educator. He has advised and mentored several graduate students, was selected by the graduating class of 2016 to speak at their

commencement ceremony, and received the 2017 John S. Donald Excellence in Teaching Award. In addition, he is regarded as a reliable source of unbiased information for farmers, private agricultural consultants, county-based Extension agents, agency personnel, and private industry. An active member of SWCS for at least 20 years, Arriaga has served as area vice-president and president of the Alabama Chapter and is currently serving as the president of the Wisconsin Chapter. He joined the editorial board of the *Journal of Soil and Water Conservation* in 2005 and is the state liaison to SWCS for organizing the 2017 International Annual Conference in Madison, Wisconsin. He has also been highly involved in the American Society of Agronomy (ASA) as an associate editor for *Agronomy Journal* (2010 to 2013) and a leader of the ASA community on by-product gypsum uses in agriculture. In addition to his contributions to scientific societies, Arriaga has served as an advisor on the State Technical Committee of the Wisconsin Natural Resources Conservation Service since 2014 and as an advisor on the Land and Water Conservation Board of the Wisconsin Department of Agriculture, Trade, and Consumer Protection since 2013. Francisco's contributions as a scientist, educator, advisor, and volunteer make him a worthy recipient of the SWCS Fellow Award.

Barbara McWhorter

Barbara McWhorter is West Virginia state forester with the USDA Natural Resources Conservation Service (NRCS). A valuable member of SWCS for 24 years and a previous West Virginia Chapter president-elect and president, McWhorter has devoted her career to advocating for the conservation of natural resources, and specifically for forests as a renewable resource. With a focus on conservation education, technology development and training, and industry compatible conservation programs, she has trained thousands of youth, teachers, landowners, private consulting foresters, state conservation and forestry agency employees, conservation district supervisors, and USDA NRCS employees. Her background and experience with commercial forestry and her knowledge of state and federal forest conservation programs make McWhorter uniquely qualified and skilled in crafting programs, policy, and practices that are compatible and implementable in private and commercial forest lands and by professional foresters. From local community groups to national agencies and organizations, no good cause is too small or too large for McWhorter to lend her time, talents, and expertise. In recognition of her achievements, she was recently named to the West Virginia Agriculture and Forestry Hall of Fame and presented with the West Virginia Women of Agriculture Award. It is with great pleasure that we award Barbara McWhorter with the honor of SWCS Fellow.

Jeffrey Strock

Jeffrey Strock is internationally recognized for his efforts to advance the science and management of agricultural drainage to enhance crop production and water quality. His contributions to drainage water and nutrient management are evidenced through nearly 40 peer-reviewed publications, a Scopus H-index of 15, nearly $7 million in grants (not including a $20 million USDA National Institute of Food and Agriculture Coordinated Agricultural Project grant), and leadership in the Soil and Water Conservation Society, Soil Science Society of America, and NCERA-217 (Drainage Design and Management Practices to Improve Water Quality). Strock's work has informed management strategies adopted by farmers and action agencies across the United States as well as agricultural drainage and nutrient management and research programs in Scandinavia. Although Strock possesses a research appointment, he has made broad contributions toward educating farmers, agricultural professionals, public agency staff, nongovernmental organizations, and policy makers in the science of agricultural drainage, nitrogen and phosphorus behavior in the environment, and on conservation practices to enhance water quality. In addition, his passion for preparing and educating the next generation is seen in his outreach work with K-12 science educators—training and equipping more than 150 primary and secondary school teachers with knowledge and skills to use agriculture and natural resource topics in their classrooms. Strock is a recognized leader at the cutting edge of applied research founded on sound, scientific principles with international implications who transfers knowledge and principles to the next generation of researchers and those working the lands. These are only a few of the accomplishments that make Jeffrey Strock a worthy addition to the ranks of SWCS Fellows.

President's Leadership Award

The SWCS President's Leadership Award is given at the discretion of the SWCS President in recognition of exemplary assistance to the President in helping to carry out the goals and objectives of SWCS.

Lois Wright Morton

Lois Wright Morton, professor emeritus of sociology at Iowa State University, proposed, organized, and provided guidance for the publication of two special issues of the *Journal of Soil and Water Conservation*: "Climate Change and Agriculture" in 2014 and "Sustainable Corn Production Systems" in 2017. These well-received issues brought together the findings from work completed by 11 institutions as part of the USDA National Institute of Food and Agriculture Climate and Corn-based Cropping System Coordinated Agricultural Project. In addition to coordinating submission of research manuscripts for peer review, Morton recruited a diverse group of feature authors to provide valuable insight on the research impacts and future direction. Publication of the special issues helped to maintain SWCS's reputation as a publisher

of the latest research on major conservation topics and also contributed to increases in journal citations and readership.

Deanna Osmond

Deanna Osmond, North Carolina State University, in Raleigh, North Carolina, is receiving the President's Leadership Award for her work in advancing professional development efforts for the Society. Deanna co-chaired the Program Planning Committee in 2015 and stepped into the chair role in 2016. She has also remained with the committee in both a consulting capacity and as a technical reviewer for the 2017 conference. Her leadership and passion helped guide positive changes to the SWCS Annual Conference program, allowing the Society to quickly implement committee ideas and focus on achieving new goals. Deanna has been an invaluable asset to the Program Planning Committee, and we are grateful she has been willing to share her expertise.

Kentucky Bluegrass Chapter

The Kentucky Bluegrass Chapter was instrumental in hosting the 2016 Annual Conference in Louisville, Kentucky. They quickly pulled together a planning committee, and their excitement about hosting became contagious. Their team brought positive energy and fun to the planning process, and their contributions helped to enhance participant experience. From the Fellows Forum to the silent auction and conservation tours, the chapter provided opportunities to showcase the state of Kentucky and the wonderful conservation programs and resources available. Their contribution to the Society and the success of the 2016 Annual Conference is sincerely appreciated.

Commendation Award

The Commendation Award gives international recognition to society members for service to their chapter or council of chapters.

Amanda Brandt

Amanda Brandt has been a member of the North Dakota Chapter since 2009. She has served as the chapter council representative and on the Nominations, Publicity and Outreach, and Newsletter committees for the past few years. Recently she has held the position of president-elect and is currently holding the president position. Brandt promotes new membership in the chapter through her professional contacts and through the North Dakota SWCS Facebook page that she created and continues to update. In 2015, during her term as president, the North Dakota Chapter received two national awards, the Outstanding Chapter Award and the Chapter Achievement Award. North Dakota also received the Outstanding Chapter Award in 2016 for their yearly annual/technical workshops and their bi-yearly Soil Summit Workshop. Brandt's promotion of and dedication to the chapter has kept membership consistent and has made the public more aware of SWCS and its importance.

Claudia Stevenson

Claudia Stevenson currently serves as the membership chair for the Nebraska Chapter, where she is working with Nebraska USDA Natural Resources Conservation Service (NRCS) leadership to help promote the idea that employees should be involved in a professional society to improve learning opportunities. Stevenson created a combined effort between Nebraska, Colorado NRCS, and SWCS to form FARMING EVOLUTION. She has served as co-chair for the past four years on this two-day producer workshop focusing on soil and water conservation with a special emphasis on emerging soil health techniques and topics. Over the past 30 years, Stevenson has delivered soil health and education hand-in-hand during discussions with landowners, with the overriding goal of giving landowners the information necessary to make informed decisions about their land. She serves on the Board of Directors for the University of Nebraska Stumpf International Wheat Center as well as the Membership Chair for the Nebraska Chapter of SWCS.

Kimberly Worth

In 2009 and 2010 Kim Worth served as president of the SWCS University of Missouri Student Chapter, which at the time was not operating as an active chapter. She came on board and revitalized the student membership with monthly soil and water conservation educational meetings, which introduced students to soil and water conservation professionals, and recruited members. Worth served four terms as Missouri Chapter president and in this role also served on the Quad-Society Council for the Missouri Natural Resources Conference. She chaired the SWCS Awards Committee in 2010 and continues to serve on the committee. Worth also chairs the Missouri Chapter Scholarships Committee, coordinating reviews of essay entries and selection by SWCS professionals. Kim Worth is dedicated to soil and water conservation education for professionals and students.

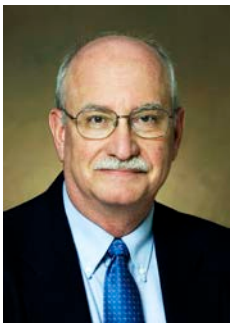
Outstanding Service Award

The Outstanding Service Award is given to Society members in recognition of distinguished service in helping the society to develop and carry out its program over a long and sustained period of time.

Becky Royal

Becky Royal has been a member of the West Virginia Chapter of SWCS for 14 years, with a high level of involvement and success in the chapter's executive committee and leadership roles for over a decade. She has served in office appointments such membership chair, secretary, president

elect, and president, and has continued to serve the chapter as one of its longest serving secretaries and mentors of new chapter leaders. During her membership, Royal has helped to maintain a consistent presence of the chapter in conservation programming and training, and has personally contributed to the success of its programs. She has gone above and beyond the call of duty through her continued service to SWCS members. Becky Royal is well deserving of the Outstanding Service Award.



Larry Cihacek

Larry Cihacek has been a member of SWCS since 1989. He currently serves as the secretary/treasurer of the North Dakota Chapter (since 2016). He has also served on the Membership Committee as both member and chair, as well as on the Student Chapter Committee and Scholarship Committee in the past. Cihacek has been a frequent presenter at the North Dakota Chapter annual meetings, workshops, and soil summits. He has been a regular volunteer reviewer for the *Journal of Soil and Water Conservation* and during the past decade has reviewed multiple manuscripts each year. He also publishes appropriate manuscripts in the journal. For his many contributions on the chapter and national levels, we award Larry Cihacek with the Society's Outstanding Service Award.

Colby Moorberg

Colby Moorberg has focused his engagement with SWCS on advancing soil and water conservation through recruitment to and development of student chapters of the Society, community outreach, and educating the next generation of conservationists. For the last 10 years Moorberg has served in various leadership roles within the Society both at the student level and at the national level, which includes his present role of chair of the Professional Development Committee, a role he's held since 2015. In addition to SWCS leadership roles, Moorberg has been actively involved in community outreach throughout the last 12 years by communicating the concepts of soil and water conservation to various community groups. We thank him for his commitment to SWCS in engaging the next generation of conservationists by awarding him the Society's Outstanding Service Award.

Harold and Kay Scholl Excellence in Conservation Award

The Harold and Kay Scholl Excellence in Conservation Award recognizes individuals who provide technical assistance and demonstrate effectiveness and creativity in conservation planning and plan application.

Josh Dukart

Josh Dukart, consultant at Seek First Holistic Solutions and executive director of the North Dakota Grazing Lands Coalition, has made a significant impact around the Hazen, North Dakota, community and beyond by teaching whole farm planning and land management courses; facilitating brainstorming activities and analyses of enterprises; and consulting on financial, biological, and land planning. Through his on-site workshops and pasture, crop, and soil health educational tours around the state, Dukart has made various communities aware of the holistic management process. He also provides unbiased, third party perspectives to resolve conflict and develop consensus as well as develop landscape-scale biological plans for farms, ranches, refuges, parks, and local communities. He doesn't push his way of management on participants, but simply explains the techniques and changes his family has made and makes people aware of his availability to answer questions or provide advice. All of the above examples show Dukart's creativity in conservation planning and technical assistance because it is a holistic way, instead of the "normal way."

Honor Award

The Honor Award recognizes outstanding accomplishments compatible to the mission of the Society.

Justin Zahradka

Justin Zahradka is worthy of the SWCS Honor Award due to his multiyear commitment to sustainable soil and animal resources. While still in high school (2011), Zahradka participated in the Northeastern North Dakota Cover Crops Demonstration Project through a Sustainable Agriculture and Research Education grant. He developed a sustainable conservation plan to return Conservation Reserve Program grassland to cropland and grazing land by planting multiple species of cover crops, then hosted a conservation cover crop tour of his field. He extended the project with a study of cattle weight gain from cover crop grazing, and continued his work while enrolled at North Dakota State University obtaining his degree in crop and weed science with a minor in soil science. Zahradka was recognized as the top graduate in the NDSU College of Agriculture in 2016 for his achievements. Since graduation, he has returned to farming and ranching and continues with his cover crop/grazing research and public speaking engagements. He also works off the farm

as a crop consultant. Zahradka's leadership, success, research data, and knowledge are having a positive effect on cover crop adoption and cover crop grazing in the conventionally farmed region of eastern North Dakota and western Minnesota.

Merit Award

The Merit Award is given in recognition of an outstanding activity, product, or service by a group, business firm, corporation, or organization that promotes the conservation of soil, water, and related natural resources.

Missouri Department of Natural Resources, Soil and Water Conservation Program

The Missouri Department of Natural Resources (DNR) Soil and Water Conservation Program (SWCP) has a history of continued and consistent support of SWCS and all public conservation efforts within the state. However, this Merit Award nomination is based specifically on the remarkable interagency coordination and extraordinary effort of SWCP staff during the 2012 drought relief initiative. During the disaster, SWCP coordinated promotional and financial assistance programs with the USDA Farm Service Agency and Natural Resources Conservation Service as well as other state agencies to leverage funding and staffing. In addition, staff guided and supported Soil and Water Conservation Districts (SWCDs), kept officials informed of progress and challenges, worked with SWCD offices to help handle the large workload, and fielded hundreds of calls from landowners unfamiliar with their districts. The drought relief initiative connected SWCDs with farmers and ranchers who had never set foot in an SWCD office, and this exposure and positive engagement resulted in significant and continued increases in soil and water conservation implementation, from 4,970 practices in 2014 to 8,500 contracts developed for 2017. For the efforts during and following the 2012 drought, the SWCP is highly deserving of the SWCS Merit Award.

USDA Natural Resources Conservation Service Bismarck Plant Materials Center

The Bismarck Plant Materials Center (PMC) serves the states of North Dakota, South Dakota, and Minnesota, and is dedicated to helping to promote soil and water conservation as well as natural habitats by the products they develop and release. Although the Bismarck PMC has a small staff size, the hardworking team has had a tremendous impact in developing, promoting, and getting plant materials on the ground. The center offers technical assistance for native landscapes, windbreaks, saline soil issues, productivity improvement on range and pasture, wildlife habitat and wetland areas, foundation seed sources, and native prairie ecosystems. They are also actively involved in multiple cover crop demonstrations and studies that help to build soil health and conserve soil and water. In addition, they have a strong tribal outreach program where they work with 10 tribal communities to identify native and cultural plants and planting technologies that contribute to the health and well-being of the communities. The work of the Bismarck PMC is vital as we face future natural resource challenges. They are most deserving of the SWCS Merit Award.

Humboldt-Tiyabe National Forest Watershed Management Team

The Humboldt-Tiyabe National Forest Watershed Management Team manages watersheds within the largest national forest in the contiguous United States, which covers about 6.3 million acres of land within the states of Nevada and California. Their work promotes healthy and functioning wetlands and riparian areas to ensure the conservation of water quality as well as the conservation of soil resources. The team ensures that permitted activities on the working national forest lands do not lead to erosion, oversees conservation efforts during and after wildland fires, and creates and completes restoration projects as required. In addition, they work with all age groups and communities to share their knowledge and skills for the benefit of forest visitors and users. The team also educates fellow professionals and soon to be professionals through participation in the Nevada Creeks and Communities Cadre as well as through tours of project sites for cooperating agencies and land managers. The Watershed Management Team's efforts to protect the natural resources within the national forest for the use of present and future generations have earned them the SWCS Merit Award.

SCHOLARSHIP RECIPIENT

Donald A. Williams Soil Conservation Scholarship

The Donald A. Williams Soil Conservation Scholarship provides financial assistance to members of SWCS who are currently employed, but who wish to improve their technical or administrative competence in a conservation-related field through course work at an accredited college or through a program of special study.

Cory J. Cole

Cole is a state soil scientist for the Natural Resources Conservation Service (NRCS) in Alaska and has been working with the agency for over 13 years. An active member of SWCS in college, he served three terms as president and area director for the Wyoming Chapter. He currently oversees all NRCS Alaska soil health activities and is tasked with educating NRCS staff, NRCS cooperators, and producers on the subject of soil conservation. Since arriving in Alaska two years ago, Cole has established five new soil health trials and conducted numerous trainings and workshops on the subject. Cole is currently enrolled at the University of Alaska–Fairbanks to pursue a master's degree in natural resource management and will continue in his studies with the pursuit of a PhD in natural resources and sustainability.

JOURNAL OF SOIL AND WATER CONSERVATION AWARDS

Best Research Paper for Impact and Quality

The Best Research Paper for Impact and Quality recognizes the impact and quality of a research paper published in the Journal of Soil and Water Conservation *in the previous five years, as well as an Honorable Mention.*

2017 Best Research Paper for Impact and Quality Award

Basche, A.D., F.E. Miguez, T.C. Kaspar, and M.J. Castellano. 2014. Do cover crops increase or decrease nitrous oxide emissions? A meta-analysis. Journal of Soil and Water Conservation 69(6):471-482.

2017 Best Research Paper for Impact and Quality Honorable Mention

Poudel, D.D., T. Lee, R. Srinivasan, K. Abbaspour, and C.Y. Jeong. 2013. Assessment of seasonal and spatial variation of surface water quality, identification of factors associated with water quality variability, and the modeling of critical nonpoint source pollution areas in an agricultural watershed. Journal of Soil and Water Conservation 68(3):155-171.

Editor's Choice Award

The Editor's Choice Award recognizes an article of excellence appearing in the A Section of the Journal of Soil and Water Conservation *in the previous year.*

2017 Editor's Choice Award

Chambers, A., R. Lal, and K. Paustian. 2016. Soil carbon sequestration potential of US croplands and grasslands: Implementing the 4 per Thousand Initiative. Journal of Soil and Water Conservation 71(3):68A-74A.

2017 Editor's Choice Honorable Mention

Olson, K.R., L.W. Morton, and D. Speidel. 2016. Missouri Ozark Plateau Headwaters Diversion engineering feat. Journal of Soil and Water Conservation 71(1):13A-19A.

CHAPTER AWARDS

Chapter Achievement Award

The SWCS Chapter Achievement Award recognizes up to five chapters for significant achievement through a single activity conducted during the year.

Michigan Chapter

The Michigan Chapter is presented a Chapter Achievement Award for their seminar "A Matter of Balance: Systems Approaches to Managing Great Lakes Landscapes." This seminar brought together researchers, agribusiness professionals, livestock farmers, and urban hydrologists to discuss holistic approaches to managing agricultural and urban landscapes while protecting water resources. The successful event, which was widely promoted through chapter and partner organization communications, included the chapter's first international speaker, achieved the chapter's highest level of sponsorship, and brought together the greatest number of participants in the last three decades. Congratulations, Michigan Chapter.

Hoosier Indiana Chapter

The Hoosier Indiana Chapter is recognized with the Chapter Achievement Award for its event "Connecting Conservation to Healthy Wildlife Habitat." Indiana is part of the Mississippi River Basin and has been identified as one of the states contributing the most excess nitrogen (11%) to the Gulf of Mexico, creating oxygen-free dead zones. This event highlighted the work of The Nature Conservancy in Indiana, USDA Natural Resources Conservation Service (NRCS), soil and water conservation districts, US Fish and Wildlife, and the Indiana Departments of Agriculture, Environmental Management, and Natural Resources to restore soil health and floodplain forests along the Wabash River and make a difference the gulf. Congratulations to the Hoosier Chapter.

Chapter Professional Development Award

The Professional Development Award recognizes two chapters for their efforts in conducting and/or sponsoring professional development programs during the past year. The awards are based on quality of the program/event rather than on quantity.

Hoosier Indiana Chapter

In June of 2016 the Hoosier Indiana Chapter organized the event "Permaculture, Organic Farming, and Urban Agriculture." The purpose was to introduce SWCS members and interested parties in the industry to the concept of permaculture. Over 120 people attended the event, which included both an indoor classroom portion and site visits to two permaculture farms: Sobremesa and Bread and Roses. Principles of organic agriculture and urban agriculture were discussed. Congratulations, Hoosiers.

Wyoming Chapter

The Wyoming Chapter is awarded the Chapter Professional Development Award for the professional development event "Soil Salinity in Irrigated Agriculture." The chapter holds a Technical Workshop annually, rotating to different areas within the state, and this past year the northwestern Area 3 hosted the workshop on the Central Wyoming College campus to address issues of saline soils in irrigated agriculture, as commercial agriculture is a major aspect of that geographic region. The event, designed to provide technical training to Natural Resources Conservation Service professionals and practitioners in the field, was well attended. The Wyoming Chapter is congratulated on the successful workshop.

Chapter Sustained Performance Award

The Sustained Performance Award recognizes one chapter for continuing excellence and overall programming over a period of more than two years.

Wyoming Chapter

The Wyoming Chapter is recognized with the Sustained Performance Award for their consistency in offering educational and professional opportunities to both members and nonmembers. They provide professional development resources and use state-of-the-art creative approaches to conservation issues. Over the past two years they have produced multiple workshops, meetings, and educational events. They collaborate with and mentor the Wyoming Student Chapter, and have also expanded their reach via their chapter website, social media, and contributions to national communications. The Wyoming Chapter is commended for their high level of sustained performance.

Outstanding Chapter Award

The Outstanding Chapter Award recognizes one chapter from each region for its success in carrying out its overall program during the past year.

Nebraska Chapter

The Nebraska Chapter is recognized with the Outstanding Chapter Award for carrying out a successful year. Chapter events included an annual summer meeting and field tour, a legislative breakfast that involved five legislators/aids and representation from five agencies, and a golf tournament that raised significant funds for student scholarships. In addition, "Farming Evolution 2017," a new two-day event organized in collaboration with the Colorado Chapter, featured soil health and cover crop experts and benefited 180 participants. Congratulations to all members of the Nebraska Chapter.

Hoosier Indiana Chapter

The Hoosier Chapter is recognized as an Outstanding Chapter for consistent and creative programming to carry out the SWCS mission throughout the year. The chapter engaged in partnerships and collaborations with local, state, and regional organizations; provided scholarships; and promoted their chapter via traditional media channels as well as social media channels. In addition, the chapter offered several events and meetings that improved the professionalism of those working in the conservation field. Thank you to the leadership and members of the Hoosier Chapter.

SPECIAL THANKS

SWCS would like to thank Datu Research for sponsoring Bryn Aston to attend the 2017 Annual Conference. Bryn was selected from applicants for the the student moderator submissions and received a full scholarship to attend.

Datu
data for the big picture

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SOIL AND WATER CONSERVATION SOCIETY

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1948 Cincinnati, OH, T.S. Buie
1949 St. Louis, MO, Lloyd E. Partain
1950 Detroit, MI, Firman E. Bear
1951 Memphis, TN, Morris E. Fonda
1952 Buffalo, NY, Morris E. Fonda
1953 Colorado Springs, CO, H.H. Bennett
1954 Jacksonville, FL, R.Y. Bailey
1955 Green Lake, WI, Austin L. Patrick
1956 Tulsa, OK, Edward H. Graham
1957 Pacific Grove, CA, J.S. Russell
1958 Asheville, NC, Russell G. Hill
1959 Rapid City, SD, Alvin C. Watson
1960 Guelph, ON, Elmer L. Sauer
1961 Lafayette, IN, Walter C. Gumbel
1962 Washington, DC, Roy D. Hockensmith
1963 Logan, UT, George M. Browning
1964 Jackson, MS, Herbert A. Hopper
1965 Philadelphia, PA, Minott Silliman, Jr.
1966 Albuquerque, NM, John R. J. Bradshaw
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1968 Athens, GA, Frank H. Mendell
1969 Fort Collins, CO, Ray Hunter
1970 Toronto, ON, Robert W. Eikleberry
1971 Columbus, OH, Einer L. Roget
1972 Portland, OR, J.R. Johnston
1973 Hot Springs, AR, A.B. Linford
1974 Syracuse, NY, William L. Vaught
1975 San Antonio, TX, Frank W. Schaller
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1977 Richmond, VA, J. Vernon Martin
1978 Denver, CO, Arthur D. Latornell
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1981 Spokane, WA, Jesse L. Hicks
1982 New Orleans, LA, Robert C. Baum
1983 Hartford, CT, Chris J. Johannsen
1984 Oklahoma City, OK, Floyd E. Heft
1985 St. Louis, MO, Roland R. Willis
1986 Winston-Salem, NC, Joe D. Nichols
1987 Billings, MT, Maurice G. Cook
1988 Columbus, OH, Donald Van Meter
1989 Edmonton, AB, David R. Cressman
1990 Salt Lake City, UT, Richard Duesterhaus
1991 Lexington, KY, Richard Duesterhaus
1992 Baltimore, MD, Ronald J. Hicks
1993 Fort Worth, TX, Ronald J. Hicks
1994 Norfolk, VA, Calvin J. Perkins
1995 Des Moines, IA, Gary Steinhardt
1996 Keystone Resort, CO, John A. Knapp
1997 Toronto, ON, Aniko Szojka-Parnell
1998 San Diego, CA, Aniko Szojka-Parnell
1999 Biloxi, MS, Dennis Pate
2000 St. Louis, MO, Dennis Pate
2001 Myrtle Beach, SC, Dana Chapman
2002 Indianapolis, IN, Bob Eddleman
2003 Spokane, WA, Myron Senechal
2004 St. Paul, MN, Deborah Cavanaugh-Grant
2005 Rochester, NY, Jean Steiner
2006 Keystone, CO, Jean Steiner
2007 Tampa, FL, Theo Dillaha
2008 Tucson, AZ, Peggie James
2009 Dearborn, MI, Peggie James
2010 St. Louis, MO, Gary Steinhardt
2011 Washington, DC, Bill Boyer
2012 Fort Worth, TX, Bill Boyer
2013 Reno, NV, Dan Towery
2014 Chicago, IL, Dan Towery
2015 Greensboro, NC, Mark Berkland
2016 Louisville, KY, Mark Berkland
2017 Madison, WI, Jon Scholl
2018 Albuquerque, NM, Rex Martin

CONFERENCE CONNECTIONS

Remember to take down the information of your new conservation contacts before leaving the conference!

Name	Email	Phone #