

# Final Program

PRESENTED BY THE



JULY 24 – 27, 2016 GALT HOUSE HOTEL LOUISVILLE, KY





Agriculture already uses 70% of the world's fresh water. And many countries are facing severe shortages. A rising global population and changing rainfall patterns mean we must make the most of this precious resource. As one of the world's leading agricultural companies, Syngenta is helping farmers to grow more while also conserving water. As part of The Good Growth Plan, we are committed to improving the average productivity of the world's major crops by 20% without using more water, land or inputs. 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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Awards Program

Save the Date

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### **SUNDAY**, JULY 24

11:00 <sub>AM</sub>	Registration Opens
	Registration Desk

House of Delegates, State of Society Address, 12:00PM and Regional Roundtable Meetings

Grand Ballroom B

1:00<sub>PM</sub> \*Strategies for Integrating Climate

Considerations into Conservation Decision-

Making in Agriculture Systems

Brown

1:00<sub>PM</sub> \*Evaluate How Conservation Practices Can

Impact the Carbon Footprint of Agriculture

and Forestry Clements

Leadership Development Training 2:30<sub>PM</sub>

Grand Ballroom B

4:00PM Student Networking Session

Willis

International Committee Meeting 4:30PM

Morrow

New Members/First Timers Orientation **5:00**PM

Taylor

6:00<sub>PM</sub> Fellows Forum

Grand Ballroom B

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

### MONDAY, JULY 25

7:30<sub>AM</sub> **Registration Opens** Registration Desk

Opening Plenary and Pritchard Lecture **8:30**AM

Grand Ballroom A

10:00<sub>AM</sub> Morning Break: Exhibit Hall and Poster

Presentations Open

Grand Hall

**10:30**AM **Concurrent Sessions** 

See Pages 23-25

12:00<sub>PM</sub> Lunch Break

On your own

ARCSE Lunch and Annual Business Meeting 12:00<sub>PM</sub>

Beckham

Science and Policy Committee Meeting 12:30PM

Brown

1:30<sub>PM</sub> **Concurrent Sessions** 

See Pages 23-25

3:00<sub>PM</sub> Afternoon Break

Grand Hall

3:30<sub>PM</sub> **Concurrent Sessions** 

See Pages 23-25

**5:00**РМ Poster and Exhibitor Reception in Exhibit Hall

Grand Hall

7:00<sub>PM</sub> Silent Auction Ends

Grand Hall

Professional Development Committee Meeting 7:00<sub>PM</sub>

Al J's at the Conservatory



### TUESDAY, JULY 26

<b>7:30</b> AM	Registration Opens Registration Desk
8:00 <sub>AM</sub>	Soil Health Partnership Farmer Panel Grand Ballroom A
<b>9:00</b> AM	Tuesday Plenary Grand Ballroom A
<b>10:00</b> AM	Morning Break in Exhibit Hall Grand Hall
<b>10:30</b> AM	Concurrent Sessions See Pages 31-33
<b>12:00</b> РМ	Awards Luncheon

 Grand Ballroom A
 1:30PM Concurrent Sessions See Pages 31-33
 3:30PM Concurrent Sessions See Pages 31-33

**5:15PM** Program Planning Committee Meeting *Clements* 

### **WEDNESDAY**, JULY 27

<b>7:30</b> AM	Registration Opens
	Registration Desk

**8:00**AM \*Tour #1 – Mammoth Cave National Park Entrance of Suite Tower

**8:30**AM Concurrent Sessions See Page 37

**10:00**AM Morning Break Grand Ballroom Foyer

**10:30**AM Concurrent Sessions See Page 37

**12:00**рм Conference Adjourns

**1:00**рм \*Tour #2 – Roundstone Native Seed Facility

Entrance of Suite Tower

1:30<sub>PM</sub> \*Tour #3 – The Falls of the Ohio State Park

Entrance of Suite Tower

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



The United States loses 50 acres of farmland every hour to development and 1.7 billion tons of topsoil each year from erosion.

### **American Farmland Trust**

works to save America's farmland-by the acre and by the inch.

www.farmland.org

# Program Committee Chair Message

Welcome to the 71<sup>st</sup> International Annual Conference of the Soil and Water Conservation Society. The focus of this year's meeting, "Managing Great River Landscapes," is an appropriate theme as the conference is in Louisville, Kentucky. Four river systems traverse the state—Mississippi, Ohio, Cumberland, and Tennessee—influencing agricultural production, flooding of bottomlands, wetlands, and soil and water resources. The streams that feed these rivers are affected by management and conservation practices as they deliver sediment and nutrient loads downstream.

I have the honor of being program planning committee chair and have been impressed by the quality, breadth, and multidisciplinarity of the 2016 submissions. There are close to 200 symposia, papers, and posters to choose from this year; these presentations represent a range of important topics for conservationists from protecting water quality to protecting our soil resources. The Soil and Water Conservation Society continues to represent the best of conservation practice and inquiry.

The planning committee is introducing a new structure to the 2016 annual meeting, based on feedback from previous year's attendees. Importantly, this year's evening kickoff event on Sunday, July 24, will be the Fellows Forum, "Changing River Landscapes: The Past is the Key to the Future," hosted by the Kentucky Chapter of the Soil and Water Conservation Society. Also, presentations will occur Monday, July 25, through Wednesday, July 27, at noon, adding an additional half-day to the conference. We hope this will allow fewer competing sessions so that participants can attend more presentations and have more time for networking. As always, the conference strives to provide its diverse membership a range of technical and practical sessions. The changes to this year's conference were made with our membership in mind; we hope this will give you more access to the many great talks and discussions that will take place at this year's SWCS annual meeting.

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

We are happy you have joined us and hope you enjoy your time at the conference!



**Deanna Osmond** 2016 Program Planning Chair North Carolina State University

# Welcome to Kentucky

The Kentucky-Bluegrass Chapter of SWCS welcomes each of you to join us in this year's international conference. It is an honor for Kentucky to host this conference, and we are excited to learn from each other from states and countries near and far. Welcome to Kentucky, the Bluegrass State, the state of excellent bourbon, fast horses, and of course, the best college basketball teams in the country!

Kentucky has very diverse landscapes in its physiographic regions, from the nearly level floodplains of the Jackson Purchase, to the karst topography of central Kentucky, and eastward to the Appalachian Mountains. Kentucky has 39,728 square miles of land and is the state with the most surface and groundwater. We have 120 counties, with a population of 4,425,092. Kentucky hosts 5 beautiful state forests and 52 state parks. The state was originally a part of Virginia until becoming the 15<sup>th</sup> state in 1792 and was called *Ken-tah-ten*, an Iroquoian name meaning "Land of Tomorrow."

Kentucky prides itself on producing some of the nation's best tobacco, horses, and bourbon whiskey. Corn, soybeans, wheat, fruit, hogs, cattle, and dairy products are among the agricultural commodities produced. The state soil is Crider. The Crider series was established in Caldwell County in 1957, and it is named after a community in the county. Crider soils are extensive throughout the state. They cover about 500,000 acres and occur in 35 counties in the state. Crider soils are highly productive, and most areas are used for row crops or pasture. Many acres of these soils are prime farmland. The Crider series consists of very deep, well drained, moderately permeable soils on uplands. They formed in a mantle of loess and the underlying limestone residuum.

Among the many manufactured items produced in the state are motor vehicles, aluminum ware, brooms, lumber products, machinery, textiles, and iron and steel products. Kentucky also produces significant amounts of petroleum, natural gas, fluorspar, clay, and stone. However, coal accounts for 85% of the total mineral income.

Not to drop names, but you may have heard of a few of our kin who grew up in Kentucky: Abraham Lincoln, president; John Adair, pioneer and political leader; Jefferson Davis, president of the Confederacy; Casey Jones, locomotive engineer; Kit Carson, scout; Diane Sawyer broadcast journalist; Allen Tate, poet and critic; Elizabeth Hardwick, writer; Irvin S. Cobb, humorist; George Clooney, Johnny Depp, and George Reeves, actors; Rosemary Clooney and Crystal Gayle, singers/actresses; Ashley Judd, Irene Dunne, and Patricia Neal, actresses; Naomi and Wynona Judd and Loretta Lynn, singers; Bill Monroe, bluegrass musician; and Muhammad Ali, boxer.

Louisville is famous for the Kentucky Derby at Churchill Downs, and the bluegrass landscapes around Lexington are the home of the world's finest racehorses. Kentucky's state capital is Frankfort, and it is located conveniently between these two cities. Other attractions are Mammoth Cave; the George S. Patton, Jr., Military Museum at Fort Knox; and Old Fort Harrod State Park.

We hope that you enjoy and learn during this year's conference, and that you take the opportunity to explore our state's many attractions from the trails and parks to shopping the many specialty stores. Or maybe, just taking a relaxing ride on the historic paddle boats that cruse the Ohio River and the Kentucky River Palisades.



**Steve Blanford**President
Kentucky-Bluegrass Chapter



# 2016 SWCS Conference Volunteers

### ANNUAL CONFERENCE PLANNING COMMITTEE

### LEADERSHIP AND LIAISONS

**Deanna Osmond**, North Carolina State University Chair

**DeAnn Presley**, Kansas State University Co-Chair

**Kim Johnson-Smith**, SWCS *SWCS Operations and Programs* 

Jamie Nieman, SWCS SWCS Exhibits and Sponsors

### SWCS Kentucky Chapter Liaisons:

- Steve Blanford, USDA-NRCS
- **Steve Coleman**, Kentucky Division of Conservation (retired)
- Reed Cripps, USDA-NRCS
- **Danny Hughs**, Kentucky Department of Fish and Wildlife Resources
- Cindy King, Scott County Conservation District
- **Johnna McHugh**, Kentucky Division of Conservation
- Kimberly Richardson, Kentucky Division of Conservation

**Colby Morrberg**, USDA-NRCS *Professional Development Liaison* 

**Rebecca Fletcher**, USDA-NRCS Chapter Development Liaison

**Jeffrey Strock**, University of Minnesota *SSSA S06 Liaison* 

**Jorge Delgado**, USDA-ARS JSWC Editorial Board Liaison

**Cheryl Simmons**, USDA-NRCS *International Activities Liaison* 

**Andrew Sharpley**, University of Arkansas *Science and Policy Liaison* 

### **TECHNICAL TEAM LEADERS**

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

Janet Perry, USDA-NRCS Conservation Economics and Policy

**Deborah Cavanagh-Grant**, University of Illinois-Extension Conservation in Nontraditional Agriculture

### OPEN

Conservation Models, Tools, and Technologies

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

**Linda Prokopy**, Purdue University *Social Sciences Informing Conservation* 

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

Katie Flahive, EPA

Water Resource Assessment and Management

Thank you to all who assisted in planning the 71st SWCS International Annual Conference!



# Conference Registration and Facility Information



The Soil and Water Conservation Society registration desk is located on the  $2^{nd}$  floor of the Suite Tour. SWCS staff members will be on site to assist you.

### **Registration Hours**

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

### **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 hotel registration desk or at the SWCS registration desk.

### **CEUs**

SWCS has worked to secure continuing education credits (CEUs) from various certifying organizations. Participants have the opportunity to earn up to 20.5 CEUs. 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.

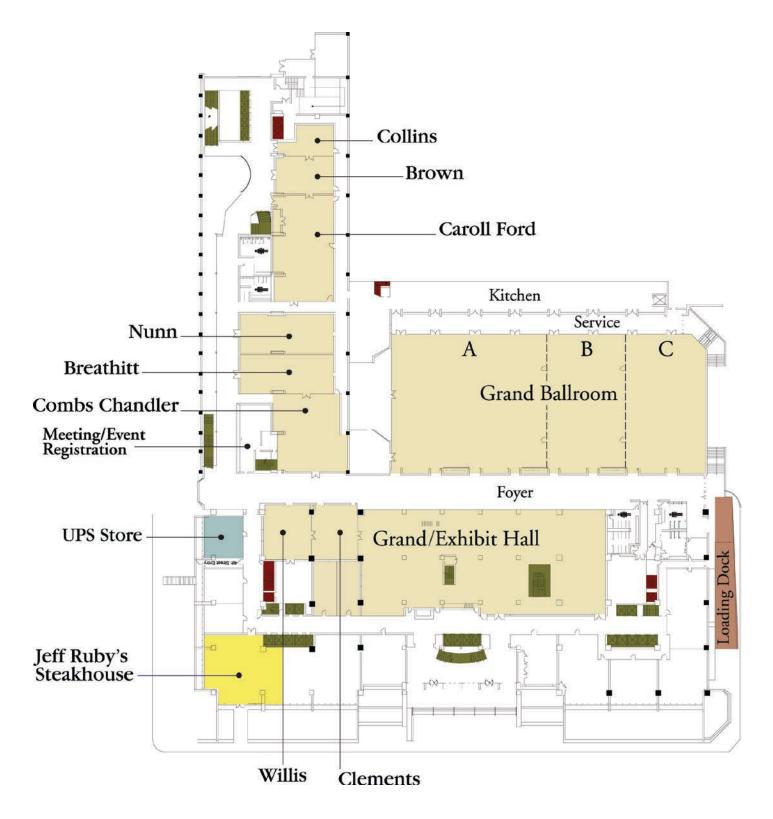
Please pick up a CEU tracking/sign-in sheet at the registration desk and have each room moderator sign the sheet as appropriate. Return the form to registration at the end of the conference, and we will submit on your behalf.

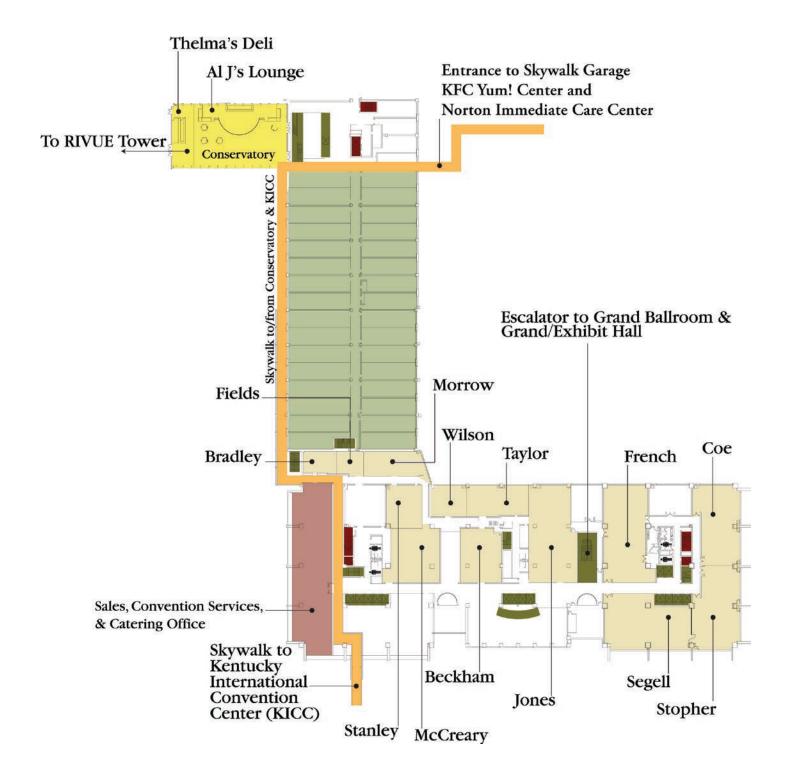




# Galt House Meeting Space Map









# SWCS Board of Directors, Officers, and Staff



### **Officers**

President: Mark Berkland

Incoming President: Jon Scholl

Vice President: Jon Scholl

Incoming Vice President: Rex Martin

Secretary: John Rissler

Incoming Secretary: Wendi Goldsmith

Treasurer: Susan Meadows

Incoming Treasurer: Don Wysocki

### **Northeast Region**

Wendi Goldsmith 2014 – 2017

### **North Central Region**

Susan Meadows 2013 – 2016

2016 - 2019

### **Northwest Region**

Don Wysocki 2014 – 2017

### **Southeast Region**

Mark Berkland 2010 – 2013

2013 - 2016

Dale Threatt-Taylor (incoming) 2016 – 2019

### **Southwest Region**

Steve Kadas 2016 – 2017

### At-Large

John Disslor	2012 2016
John Rissler	2013 – 2016
Jon Scholl	2014 – 2017
Bruce Knight	2014 – 2017
Rex Martin	2015 – 2018
Bill Kuckuck (incoming)	2016 – 2019

### **SWCS Headquarters Staff**

Jim Gulliford, Executive Director

Annie Binder, Director of Publications/Journal Editor

Erika Crady, Member Service Coordinator

Kim Johnson-Smith, Professional Development Director

Jamie Nieman, Program Coordinator

Jody Ogg, Comptroller

Jody Thompson, Editorial Assistant

James VeVerka, Special Projects Director





# Conference Sponsors

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Natural Resources Conservation Service

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..... WATER WARRIOR .....







# Corporate Members

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

······ GOLD MEMBERS ······ SILVER MEMBERS ······











### ····· BRONZE MEMBERS ······















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.



Many farmers across the country are implementing innovative management practices that result in economic and environmental benefits. We are building upon the work of these farmers to **provide** connections between on-farm practices and improving soil health.

We believe the results of this farmer-led project will provide a platform for sharing information from farmers to farmers, with the support and resources to benefit farmers' bottom lines and agricultural sustainability. We are helping provide the spark for greater understanding and more broadly implementing agricultural practices that work best.





**Support From** 

Monsanto

Natural Resources Conservation Service
United Soybean Board
The Walton Family Foundation

With Technical Support From
The Environmental Defense Fund
The Nature Conservancy



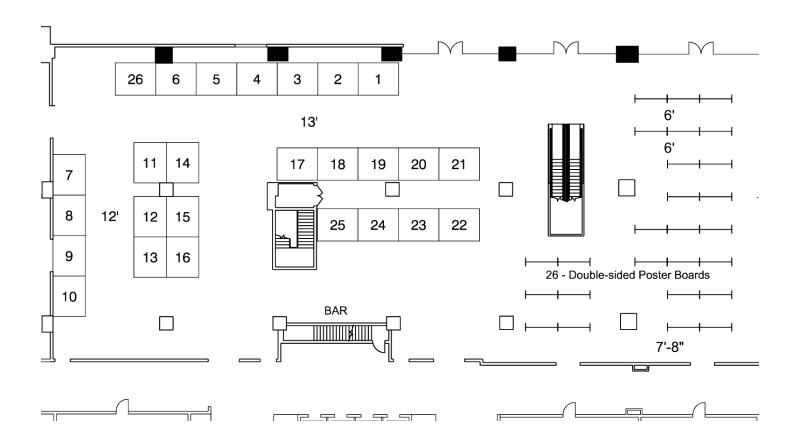
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Learn more www.soilhealthpartnership.org

# Exhibit Hall Layout



Booth #	Exhibitor	Booth #	Exhibitor
1 & 2	Soil Health Partnership	14	COMET-Farm
3 & 4	USDA-NRCS	15	Agri-Drain
5	Verdesian	16	Technical Service Provider Network (TSPN)
6	US Environmental Protection Agency	17	American Farmland Trust
7	USDA-NASS	18	Southern SARE
8	La Crosse Seed	19	EnviroCert International
9	US Fish and Wildlife Service	20 & 21	Syngenta
10	AMS	22	USDA-NRCS-CNTC
11	Watershed Materials	23	Roundstone Native Seed
12	Soil Health Institute	24	National Association of Conservation Districts (NACD)
13	National Center for Appropriate Technology (NCAT)	25	Truax Company
		26	SWCS

# Conference Exhibitors

Booth #	Exhibitor	Contacts/Representative
1 & 2	Soil Health Partnership soilhealthpartnership.org	Nick Goeser goeser@ncga.com
3 & 4	USDA-NRCS nrcs.usda.gov	Steve Blanford steve.blanford@ky.usda.gov
5	Verdesian vlcsi.com	Larry Shivers larry.shivers@vlsci.com
6	US Environmental Protection Agency water.epa.gov	Katie Flahive and Erika Larsen larsen.erika@epa.gov; flahive.katie@epa.gov
7	USDA-NASS nass.usda.gov	Virginia Harris and David Knopf virginia.harris@nass.usda.gov
8	La Crosse Seed laxseed.com	Chris McCracken and Joe Kelich cmccracken@laxseed.com; jkelich@laxseed.com
9	US Fish and Wildlife Service fws.gov	Kristin Shaw kristin_shaw@fws.gov
10	AMS ams-samplers.com	Hari Anestos hari@ams-samplers.com
11	Watershed Materials watershedm.com	Garrett Rhyne and Nancy Hamman grhyne@watershedm.com; nhamman352@aol.com
12	Soil Health Institute soilhealthinstitute.org	Wanye Honeycutt and Bill Buckner whoneycutt@soilhealthinstitute.org; wbuckner@noble.org
13	National Center for Appropriate Technology (NCAT) attra.ncat.org	Rex Dufour rexd@ncat.org
14	COMET-Farm comet-farm.com	Matthew Stermer and Mark Easter matthew.stermer@colostate.edu; mark.easter@colostate.edu
15	Agri-Drain agridrain.com	Charlie Schafer and Jeff Harris charlie@agridrain.com; jeff@agridrain.com
16	Technical Service Provider Network (TSPN) tsp-network.org	Joe Schultz and Dennis Godar joe.schultz@gdsassociates.com; godar@manplan.net
17	American Farmland Trust farmland.org	Michael Baise and Jennifer Filipiak mbaise@farmland.org; jfilipiak@farmland.org
18	Southern SARE southernsare.org	Candace Pollock cpollock@uga.edu
19	EnviroCert International envirocertintl.org	Rob Anderson, Melissa Parry, and Charles Wilson robert.anderson@envirocertintl.org; melissa@envirocertintl.org; charles@envirocertintl.org
20 & 21	Syngenta syngenta.com	Mark White mark.white@syngenta.com
22	USDA-NRCS-CNTC nrcs.usda.gov	Cheryl Simmons and Johanna Pate cheryl.simmons@ftw.usda.gov; johanna.pate@ftw.usda.gov
23	Roundstone Native Seed roundstoneseed.com	Kristi Highbaugh and Robert Hoffman sales@roundstoneseed.com
24	National Association of Conservation Districts (NACD) nacdnet.org	Beth Mason and Bill Berry beth-mason@nacdnet.org; billnick@charter.net
25	Truax Company truaxcomp.com	Maurice Davis davis274@sbcglobal.net
26	Soil and Water Conservation Society (SWCS) swcs.org	Jamie Nieman corporate.info@swcs.org



# Poster Presentations



- 1. Nitrogen Recommendations in North Carolina: Evaluation of Adapt-N
- 2. Winter-Hardy Legume Cover Crops Contribute a Significant Amount of Nitrogen to Organic Managed Corn in Southern Ontario, Canada

# CONSERVATION IN NONTRADITIONAL AGRICULTURE

- 3. An Interseeding System for Soybean to Reduce Pest Occurrence and Energy Consumption
- 4. Effect of Three Cover Crop Treatments on Biomass Production and Soil Water Conservation
- 5. Effects of Deep-Rooted Cover Crop on Soil Compaction and Crop Productivity

# CONSERVATION MODELS, TOOLS, AND TECHNOLOGIES

- 6. APEX Model Application for Southern P Index Evaluation
- 7. Assessing Forestry Greenhouse Gas Emissions and Sequestration with COMET-Farm
- 8. CNMP Development in West Virginia Using University Interns
- 9. Environmental-Friendly Methodology for the Detection of Subsurface Pollution
- Evaluating Greenhouse Gas Emissions and Carbon Sequestration from Rice Production in Eastern Arkansas Using COMET-Farm
- 11. Evaluating Greenhouse Gas Emissions from Swine Production in Central Iowa Using COMET-Farm
- 12. Phosphorus Reclamation from Aqueous Solution Using Modified Waste Eggshell: Equilibrium, Kinetics, and Sorption Mechanism
- 13. Quantifying the Benefits and Risks of Winter Bale Grazing to Develop an Improved BMP
- 14. The Multiyear Crop Water Allocator
- 15. Update on the Agricultural Conservation Planning Framework, Database, and Toolbox
- 16. Using Soils Data and Information in Soil and Water Conservation: What Information is Right for You?
- 17. Wetland Restoration and Protection in Western Kentucky

# OUTREACH, EDUCATION, AND COMMUNITY ENGAGEMENT

- 18. Common Ground: Connecting Absentee Landowners to Soil, Water Quality Issues
- Implementing Novel Irrigation Solutions for Limited Resource Farms in the Alabama Black Belt

### SOCIAL SCIENCES INFORMING CONSERVATION

- 20. A Synthesis of the NIFA Water Portfolio: Explaining Project Success
- 21. Farmer Response to Introduced Eucalyptus in Kenya: Responding to the Environmental Concern and Economic Importance to the Small Plot Farmer
- 22. Human Perceptions and Optical Water Quality in Rivers
- 23. Rangeland Ecosystem Services Provided by Western Ranchers

# SOIL RESOURCE ASSESSMENT AND MANAGEMENT

- 24. Effect of Tillage, Cover Crop, and Corn-Soybean Rotation on Earthworms Biodiversity in Central Missouri
- 25. Effect of Topsoil Thickness on Soil Water Infiltration in Corn-Soybean Rotation and Switchgrass Production Systems

# WATER RESOURCE ASSESSMENT AND MANAGEMENT

- 26. Comparison of Infiltration Capacity as Measured by the Cornell Sprinkle Infiltrometer and a Double-Ring Infiltrometer
- 27. Differences in Nitrogen and Phosphorus in Groundwater between Claypan and Loess Watersheds in Missouri
- 28. Empirical Examination of the Relationship between Volumetric Runoff Coefficient and Imperviousness in New Jersey
- 29. Evidence of Urea Release from Intermittently Flooded Agricultural Sediments and Assessment of Microbial Activity
- 30. Historical, Empirical Analysis of the Relationship between of Urbanization and Baseflow in Connecticut, USA
- 31. Modeling and Assessing Nitrogen Delivery in the Calapooia River Watershed, and the Impact of Small Streams Delivery on Downstream Watershed
- 32. National Wetland Condition Assessment 2011: Exploring Relationships between Soil Properties and Ecological Condition of Wetlands
- 33. Processes Affecting the Transport of Nitrogen in Groundwater and Factors Related to Slope Position
- 34. Using Science to Inform Conservation Strategies in the Great Lakes
- 35. Water Quality Sampling and Assessment for Bayou Chene in Louisiana, USA
- 36. Water Quality Variability from Production Sized Cotton Fields in the Mid-South

### PROTECTING WATER QUALITY AT A MULTI-STATE SCALE

37. Best Management Practices and Soil Water Quality: Adams County, Indiana

### WATER QUALITY TRADING

38. Macroinvertebrates as Bio-indicators of Pollution in Rivers

### **CIG SHOWCASE**

- 39. Estimating the Costs and Returns for Cover Crops on a Missouri Corn and Soybean Rotation
- 40. Soil Quality and Cover Crops on Corn-Soybean Watersheds during Drought Years
- 41. Species Dynamics and Forage Productivity of Multispecies Cool-Season Annual Forage Crops Overseeded on Warm-Season Grass Pastures
- 42. Utilizing Outreach and Grazing to Improve Conservation and Soil Health
- 43. Water and Nutrient Conservation Technology for Best Management of Great River Buffer Zones in Arid and Humid Climates
- 44. Water Quality Benefits of Cover Crops on Corn/ Soybean Watersheds in the Claypan Soils





# Sunday, July 24 Schedule and Events



### SCHEDULE .....

### **EVENTS**

**11:00**<sub>AM</sub> Registration Opens Registration Desk

**12:00**PM House of Delegates, State of Society Address,

and Regional Roundtable Meetings

Grand Ballroom B

**1:00**PM \*Strategies for Integrating Climate

Considerations into Conservation Decision-

Making in Agriculture Systems

Brown

**1:00**PM \*Evaluate How Conservation Practices Can

Impact the Carbon Footprint of Agriculture

and Forestry Clements

2:30<sub>PM</sub> Leadership Development Training

Grand Ballroom B

**4:00**PM Student Networking Session

Willis

**4:30**PM International Committee Meeting

Morrow

**5:00**PM New Members/First-Timers Orientation

Taylor

**6:00**PM Fellows Forum

Grand Ballroom B

\*Additional fees apply.

# State of the Society, House of Delegates, and Regional Roundtable Meetings

12:00рм – 2:00рм, Grand Ballroom В

The annual SWCS meeting will include President Mark Berkland'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, regions will have the opportunity to discuss information within a small group, roundtable setting.

### Strategies for Integrating Climate Considerations into Conservation Decision-Making in Agriculture Systems

1:00pm - 5:00pm, *Brown* 

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

Climate change 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.

One core resource for making climate change adaptation decisions 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 that provides a structured process for considering climate change impacts and developing adaptation actions has been developed.

This hands-on workshop will highlight information resources for considering climate change as part of conservation decision-making on agricultural lands including associated forest units. Presentations will highlight key impacts and ways to enhance the ability of systems to cope with changing conditions. Case studies will provide examples for developing and implementing adaptation responses.



### **Evaluate How Conservation Practices Can Impact** the Carbon Footprint of Agriculture and Forestry

1:00рм – 5:00рм, *Clements* 

Instructors: Matthew Stermer, Colorado State University; Mark Easter, Colorado State University; Adam Chambers, USDA-NRCS

The COMET-Farm tool is the practical, web-based application of the USDA entity-level methods for greenhouse gas inventories. This workshop will provide hands-on instruction on greenhouse accounting at field, parcel, stand, farm, and ranch scales. Over the past year there have been many enhancements and improvements to the COMET-Farm tool. These added features will be covered during this workshop. Some of the enhancements include a new forest land module; the additions of specialty crops to the cropland module; and the ability to evaluate livestock grazing on croplands, pasture, and range. The workshop will address how the tool was developed, and the implantation of the USDA document "Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory." Anyone interested in evaluating the potential for carbon sequestration and greenhouse gas mitigation is encouraged to attend the workshop.

### **Leadership Development Training**

2:30pm - 4:30pm, Grand Ballroom B

Interested in learning ways to improve communications and outreach? Curious about increasing chapter member engagement and being recognized as a conservation leader? The leadership development workshop is designed for leaders and members who want to see their chapter succeed. Participants will hear from some of the Society's most successful chapters on how to build enthusiasm and momentum, and how to creatively engage members. Participants will also learn best practices with social media to leverage communications efforts and how partnering with others on key projects can bring recognition to chapters.

### **Student Networking Session**

4:00PM - 6:00PM, Willis

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**

5:00рм – 6:00рм, *Taylor* 

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.

### **Fellows Forum**

The Fellow's Forum is this year's official conference kickoff event. It is an opportunity for you to network with colleagues and hear the opening conference presentation. Light snacks and refreshments will be provided.

### Changing River Landscapes: The Past is the Key to the Future

6:00рм – 7:30рм, Grand Ballroom В

Presenters: Charles Camillo, US Army Corps of Engineers; W. Brian Bingham, Louisville and Jefferson County Metropolitan Sewer District; Duane Bolin, Murray State University, Loretta Battaglia, Southern Illinois University

Moderators: Kenneth Olson, University of Illinois; Lois Wright-Morton, Iowa State University

To control the Mississippi River is a mighty task, and the 2011 flooding of its alluvial valley is a reminder of just how difficult this task can be. The Fellows Forum will kick off this year's "Managing Great Rivers" conference theme with Charles Camillo, US Army Corps of Engineers, Mississippi River Commission executive director, and author of the book Divine Providence: The 2011 Flood in the Mississippi River and Tributaries Project. Camillo will talk about the tough decisions needed to manage the Ohio and Mississippi rivers during the 2011 Great Flood and the post-flood efforts to repair and strengthen the vast system of levees and wetlands along these rivers. The Mississippi and Ohio Inland Waterway, representing 40% of the United States, is an ecological, social, political, and economic force that affects farmland, rural places, and urban centers. Following the keynote, a panel will address local and river-wide challenges associated with managing these great rivers and their tributaries for navigation, flood control, ecological health, and recreational activities.



# Monday, July 25 Schedule and Events

## EVENTS

### **7:30**AM Registration Opens

Registration Desk

8:30<sub>AM</sub> Opening Plenary and Pritchard Lecture

SCHEDULE ....

Grand Ballroom A

**10:00**AM Morning Break: Exhibit Hall and Poster

Presentations Open

Grand Hall

**10:30**AM Concurrent Sessions

See pages 23-25

**10:30**AM CIG Showcase

Stopher

12:00рм Lunch Break

On your own

**12:00**PM ARCSE Lunch and Annual Business Meeting

Beckham

**12:30**PM Science and Policy Committee Meeting

Brown

**1:30**PM Concurrent Sessions

See pages 23-25

**1:30**PM CIG Showcase

Stopher

3:00pm ARCSE Board Meeting

Grandover West

3:00pm Afternoon Break with Exhibitors

Grand Hall

**3:30**PM Concurrent Sessions

See pages 23-25

3:30<sub>PM</sub> CIG Showcase

Stopher

**5:00**PM Poster and Exhibitor Reception in Exhibit Hall

Grand Hall

**7:00**PM Silent Auction Ends

Grand Hall

**7:30**PM Professional Development Committee Meeting

Al J's at the Conservatory

### 2016 Pritchard Lecture

From the Bottom Up

8:30AM – 10:00AM, Grand Ballroom A

Presenter: Chad Pregracke, Living Lands & Waters



Chad Pregracke, 2013 CNN Hero of the Year, is living proof that one person can make a difference. As the founder of America's only "industrial strength" river clean-up organization, Chad tells a compelling and inspiring story about growing up on the river and how his experiences led to a unique vision to clean up the Mississippi River and start an internationally recognized not-for-profit organization, Living Lands & Waters. During his keynote, Chad will

take participants on a journey to one of the world's greatest rivers—a journey filled with endless challenges and gripping adventures. Chad had an idea that evolved into a movement that has helped to restore one of America's greatest icons, the Mississippi River.

Chad Pragrake, best known for starting out as a young man in East Moline, Illinois, wanting a cleaner waterway, has become the champion for the Mississippi River. Growing up on its banks, he worked as a commercial shell diver during his early years, experiencing the river from the bottom up. Sometimes spending 10 hours a day in the depths and current of the pitch black waters, he crawled nearly 150 miles of the river bottom over six years. Chad saw its beauty and was frustrated by the neglect. At the age of 17, he decided to clean it up. Twenty-two years later, Chad and his Living Lands & Waters crew have organized and led over 800 cleanups on 23 rivers in 20 states and removed an estimated eight million pounds of garbage. Chad has been recognized by former President George W. Bush as a national "Point of Light." He received a standing ovation at the Kennedy Center from all four living former US Presidents for his inspirational message on dreaming big, taking action, persevering, leading, and collaborating. Named "America's Hardest Working Person" by Mitchum, Chad's enthusiasm, sense of humor, and passion amplifies his story and entertains audiences. Ultimately, his message inspires people to believe they can make a difference.

# Conservation Innovation Grants (CIG) Showcase and Poster Session

10:30ам – 5:00рм, Stopher

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. The showcase presents the opportunity to learn about cutting-edge conservation projects from across the United States. It will also provide an opportunity to learn about ways to accelerate conservation practice adoption, improve natural resources management, share innovative conservation projects, and learn about the CIG program. USDA-NRCS and CIG participants will present grand examples and results during the symposium.

The final 90-minute CIG Showcase session will be held in the poster display area of the Exhibit Hall. All participants are invited to participate in this showcase, as it will run concurrently with breakout sessions.

### **Exhibitor and Poster Presenter Reception**

5:00рм – 7:00рм, Grand Hall

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.

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**United States Department of Agriculture** 

# NRCS: Helping People Help the Land

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NRCS proudly supports the Soil and Water Conservation Society Conference

Visit www.nrcs.usda.gov to learn more about how NRCS programs and services can help you.



# 71st SWCS International Annual Conference At-A-Glance

		Monday, July 25, 2016		
7:30AM - 5:00PM	Conference Registration Desk Open			Registration Desk A&B - 2nd Floor
8:00AM - 8:30AM	Morning Coffee			Grand Ballroom Foyer
8:30AM - 9:00AM	Opening Remarks: Jim Gulliford, Soil and Weller, USDA-NRCS	Opening Remarks: Jim Gulliford, Soil and Water Conservation Society; Karen Woodrich, USDA-NRCS; and Chief Jason Weller, USDA-NRCS	ich, USDA-NRCS; and Chief Jason	Grand Ballroom A
9:00AM - 10:00AM	Pritchard Lecture: Leading America's Mo	Movement for Clean Water - Chad Pregrake, Living Lands and Water	e, Living Lands and Water	Grand Ballroom A
10:00AM - 10:30AM	Refreshment Break with Exhibitors			Grand Hall
10:30AM - 12:00PM		Symposia Sessions		
<b>Stanley</b> Adaptive Management	Precision Conservation: Landscape Design	n for Wildlife, Water Quality, and Agricultural	Precision Conservation: Landscape Design for Wildlife, Water Quality, and Agricultural Productivity - Gwen White, Tallgrass Prairie LCC	9 TCC
<b>French</b> Water Resources	Mississippi River Basin Goals and Partners	Mississippi River Basin Goals and Partnerships: Working Towards Common Goals - Katie Flahive, EPA	(atie Flahive, EPA	
<b>Stopher</b> Conservation Innovation Grants	Conservation Innovation Grants Showcase - Mike Bennett, USDA-NRCS	Mike Bennett, USDA-NRCS		
		Oral Presentations		
	10:30AM	10:50AM	11:10AM	11:30AM
McGreary Conservation Economics and Policy	Aligning Economic Returns and Ecosystem Services for a Spatially Delineated Farm Landscape Reliant on Groundwater for Irrigation Kuatbay Bektemirov, University of Arkansas	Assessing the Economic and Environmental Benefits and Costs of Cover Crops in Cotton Production Systems in Red River Basin, Northwest Louisiana Naveen Adusumilli, Louisiana State University	Barriers and Opportunities to Diversified Agriculture in the Mississippi River Basin Lara Bryant, Natural Resources Defense Council	Costs of Reducing Nitrogen Loadings through Wetland Restoration LeRoy Hansen, USDA-ERS
Jones Conservation Models, Tools, and Technologies	A Verification Protocol for Resource Stewardship Bill Berry, NACD	Assessing the Greenhouse Gas Balance of California Specialty Crops with COMET-Farm Adam Chambers, USDA-NRCS	Calculating the Economic Value to Producers of Improved Sustainability Performance in Crop Production Josiah McClellan, United Soybean Board	
Coe Outreach/Education/Community	Assessing Water Quality and Engaging Public through Illinois RiverWatch Citizen Science Program Allison Rhanor, The National Great Rivers Research and Education Center	Construction Stormwater Activities by a State Chapter: Benefits and Lessons Learned Earl Norton, Alabama Soil and Water Conservation Committee	Saving Lake Mauvaise Terre: Farmers, Golfers and Mayors Michael Baise, American Farmland Trust	Unifying Watershed Management through an Off-Site BMP Implementation Program in the Little Arkansas River Watershed Ron Graber, Kansas State University
12:00PM - 1:30PM	Lunch on Your Own			

1:30РМ - 3:00РМ	Мол	Monday, July 25, 2016 - Symposia Sessions	sions	
<b>Stanley</b> Water Resources	The Grand Challenge – Water: Food, Ener	The Grand Challenge – Water: Food, Energy, and Environmental Security - Jeffrey Strock, University of Minnesota	rock, University of Minnesota	
French Outreach/Education/Community	Farmer Leadership for Improved Water Qu	Farmer Leadership for Improved Water Quality - Julia Olmstead, University of Wisconsin Extension	sin Extension	
<b>Stopher</b> Conservation Innovation Grants	Conservation Innovation Grants Showcase	: - Mike Bennett, USDA-NRCS		
		Oral Presentations		
	1:30PM	1:50PM	2:10PM	2:30PM
McCreary Conservation Models, Tools, and Technologies	Delivering Conservation in Great River Landscapes: The USDA-Natural Resources Conservation Service Mississippi River Basin Healthy Watersheds Initiative (MRBI) Martin Lowenfish, USDA-NRCS	Determining Sources of Suspended Sediment in an Agricultural Watershed in Atlantic Canada Li Sheng, Agriculture and Agri-Food Canada	Evaluation of Improved Poultry Litter Storage Sites in Kansas as a BMP to Protect Water Quality Peter Tomlinson, Kansas State University	Evaluation of Conservation Practice Impacts on the USDA-ARS CEAP Beasley Lake Watershed, Mississippi Using AnnAGNPS Lindsey Yasarer, USDA-ARS
<b>Jones</b> Soil Health Resources	Improving Soil Health with Cover Crops and Cropping Diversity Alan Sundermeier, Ohio State University Extension	Incorporation of a New A Horizon "Soil Fingerprinting" Framework into Soil Health Assessments Natalie Feisthauer, Agriculture and Agri-Food Canada	Measuring the Effect Soil Conservation Treatments Have on Soil Health Indicators Alan Sundermeier, Ohio State University Extension	In-Field Variability of Terrain and Soils in Southeast Kansas: Challenges for Effective Conservation Gretchen Sassenrath, Kansas State University
<b>Coe</b> Adaptive Management	Adaptive Management Methods to Protect the California Sacramento-San Joaquin Delta Water Resource David Bubenheim, NASA Ames Research Center	Adapt-N: A Cloud-Based Computational Tool for Crop Nitrogen Management that Improves Production and Environmental Outcomes Aaron Ristow, Comell University	Analyzing Future Threats to Farm and Ranchland at the National Level Alice Sorensen, American Farmland Trust	
3:00PM - 3:30PM	Refreshment Break with Exhibitors			Grand Hall

3:30PM - 5:00PM	Mond	Monday, July 25, 2016 - Symposia Sessions	sions	
<b>Stanley</b> Water Resources	The Grand Challenge – Water: Food, Ener	The Grand Challenge – Water: Food, Energy and Environmental Security - Jeffrey Strock, University of Minnesota	ock, University of Minnesota	
French Conservation and Nontraditional Ag	From Farm to Table: A Continuum of Agric	cultural Evolution and Community Supported	From Farm to Table: A Continuum of Agricultural Evolution and Community Supported Agriculture - Dana York, Green Earth Connection	nection
Stopher Conservation Innovation Grants	Conservation Innovation Grants Showcase - Mike Bennett, USDA-NRCS	e - Mike Bennett, USDA-NRCS		
		Oral Presentations		See Below
	3:30PM	3:50PM	4:10PM	4:30PM
McCreary Conservation Models, Tools, and Technologies	Evaluation of the TBET Model for Improving P-Indices in Southern States David Radcliffe, University of Georgia	Lessons Learned from Applying APEX to Field-Sized Agricultural Watersheds Underlain by a Restrictive Layer Claire Baffaut, USDA-ARS	Estimating the Magnitude of Prediction Uncertainties for Field-Scale P Loss Models Carl Bolster, USDA-ARS	
<b>Jones</b> Water Resources/Water Quality Trading	Long Term Variations of Land Management Practices and Their Impacts Jones On Runoff and Water Quality in a Small Mater Resources/Water Quality Trading Agricultural Watershed in Atlantic Canada Sheng Li, Agriculture and Agri-Food Canada	Water Quality Performance of Wetlands Receiving Nonpoint Source Nitrogen Loads and Potential of Targeted Wetland Restoration to Reduce Nitrogen Loads in Iowa William Crumpton, Iowa State University	A Brief History of Water Quality Trading (from a CIG Perspective) <i>Kari Cohen, USDA NRCS</i>	Maryland's Nutrient Trading Infrastructure Jason Keppler, Maryland Department of Agriculture
Coe Outreach/Education/ Community Engagement	From Boot Camp to Jamboree: Successful Partnerships in Kentucky Paulette Akers, Kentucky Division of Compliance Assistance	Strategies in Program Outreach, Advertisement, and Community Engagement: Lessons Learned by the Texas Watershed Steward Program Michael Kuitu, Texas A&M AgriLife Extension Service	The Chippewa 10% Project: Ramping Up Farmer and Community Engagement in Watersheds on Ecologically Sensitive and Economically Marginal Areas Terry VanDerPol, Land Stewardship Project	Watershed Planning in Texas: Lessons Learned Ward Ling, Texas A&M AgriLife Extension Service
5:00PM - 7:00 PM	Exhibitor and Poster Reception			Grand Hall





# Planning today to meet Kentucky's future water needs.

Kentucky Farm Bureau took the proactive step to ensure Kentucky citizens and farmers have a secure supply of fresh water for the future by creating the 20 member Water Management Working Group. Adequate water resources are critical to agricultural production and Kentucky's overall economy. Planning and developing plentiful water resources now will prevent one segment of the economy being pitted against the other during times of extreme drought. Learn more about Kentucky Farm Bureau and how we support the Kentucky Water Resource Board at kyfb.com/federation/water.





# Monday, July 25 Symposia Sessions



### **Precision Conservation: Landscape Design for** Wildlife, Water Quality, and Agricultural Productivity

10:30ам – 12:00рм, *Stanley* 

Presenters: Michael Schwartz, The Conservation Fund; Gwen White, Tallgrass Prairie, LCC; Jorgen Rose, Indiana University

According to water quality assessments, Midwest states within the Mississippi River Basin (MRB) contribute the greatest nutrient load to the Gulf of Mexico. The Gulf Hypoxia Initiative, spearheaded by seven Landscape Conservation Cooperatives (LCCs), is an objective-driven process to target delivery of wildlife conservation practices across the MRB. Work teams of researchers and managers drafted design and policy considerations for 13 high-impact conservation practices that benefit wildlife, water quality, and agricultural productivity ("what to do"). The Conservation Fund has developed data sets and spatial decision support tools to be utilized as part of the Precision Conservation Blueprint v1.0 to map, evaluate, and select the most strategic places to implement these actions ("where to do it"). State, federal, tribal, and NGO partners in the LCCs have developed this framework to avoid duplication of effort and align their conservation work across multiple scales. This process is intended to be complementary to related efforts—such as the Hypoxia Task Force, Mississippi River Basin Initiative, and state nutrient reduction strategies—but with an emphasis on the ecological, economic, and social values of wildlife habitat. Participants in this working session will examine the set of high-impact conservation practices, web-based spatial analysis tools, and research products to (1) identify immediate opportunities to target investments in conservation delivery across the MRB, and (2) recommend next steps for research and model integration. Outcomes will be a well-defined set of actions including overcoming program/policy barriers, guiding user-designed tool interfaces, proposing demonstration sites for emerging practices, and developing basin-level, cross-sector monitoring strategies. View the spatial analysis and download data layers on Data Basin at http://databasin. org/groups/d52de40d017e4ce98c3914dba1bc4ee7.

### Mississippi River Basin Partnerships: Working **Towards Common Goals**

10:30aм – 12:00pм, French

Presenters: Katie Flahive, Environmental Protection Agency; Gwen White, USFWS; Paulette Akers, Kentucky Department for Environmental Protection; Rebecca Power, University of Wisconsin; David DeGeus, The Nature Conservancy

The Mississippi River Basin drains 41% of the contiguous United States, encompassing a variety of land uses. Managing this great river watershed to meet societal needs while

protecting the water resource is a challenge requiring science-based policies, tools, cooperative stakeholder engagement, and robust plans and goals. The Hypoxia Task Force (HTF) was established in 1997 to understand the causes and effects of eutrophication in the Gulf of Mexico; coordinate activities to reduce the size, severity, and duration; and ameliorate the effects of hypoxia. The HTF supports implementation of state nutrient reduction strategies and management activities from all sources in the Mississippi River/Gulf of Mexico watershed. Although the HTF is a partnership of federal, state, and tribal agencies, managing nutrients across the basin to reduce Gulf impacts requires collaborative engagement across stakeholders. This symposium will showcase the partnerships and the diverse scope of work that is undertaken. Following an overview of the HTF history and goals by the co-chair, representatives from the state and federal members will share perspectives on managing this landscape. The SERA-46 multistate committee of researchers and extension specialists will describe HTF collaborations. Nongovernment organizations, industry, and foundations will describe work that the HTF leverages. The audience will be able to interact with and gain an understanding from these panelists of the goals in the Mississippi River Basin, the various players at work, and the ways extensive participation and communication are instrumental to reducing the size of the hypoxic zone in the northern Gulf of Mexico.

### **Conservation Innovation Grants (CIG) Showcase**

10:30 AM – 5:00 PM, Stopher/Grand Hall

Moderator: Mike Bennett, USDA-NRCS

The showcase presents the opportunity to learn about cutting-edge conservation projects from across the United States. It will provide an opportunity to learn about ways to accelerate conservation practice adoption, improve natural resources management, share innovative conservation projects, and learn about the Conservation Innovation Grants (CIG) program. USDA-NRCS and CIG participants will present examples and results during the symposium.

The final 90-minutes of this showcase will take place in the Grand Hall poster display area.

### 17th Annual SWCS-SSSA Joint Symposium: The Grand Challenge - Water: Food, Energy and **Environmental Security**

1:30pm - 5:00pm, Stanley

Moderator: Jeffrey Strock, University of Minnesota

Food, energy, and environment are inextricably linked by water, and actions in one area more often than not have

impacts in one or both of the others. Improved food, energy, and environmental security can be achieved through approaches that integrate management and policy sectors and scales. This symposium will explore how challenges and opportunities related to water supply and water quality intersect with meeting future food, energy, and environment goals. This symposium will explore how systems science can provide sound solutions and multiple options for decision-making by producers, manufacturers, consumers, and those involved in conservation professions. Invited presentations will include contemporary and visionary addresses on the connectivity between water and future food, energy, and environmental security. A series of six, 30-minute presentations will include various perspectives on water for food, energy, and environmental security. This joint symposium will continue the tradition of cooperation between the two societies and will help create opportunities to disseminate information regarding solutions to new opportunities in soil and water management and conservation.

**Presentation 1:** Water Availability and Management for Food Security – *Jerry Hatfield, UDSA-ARS* 

**Presentation 2:** Water and Energy Security: Can We Satisfy the Need for Both? – *Alan Hoffman, USDA-NRCS* 

**Presentation 3:** Multisector Landscape Planning Can Meet Large-Scale Conservation Challenges Supporting Water Quality, Agricultural Productivity, and Wildlife Habitat from Midwest Grassland Birds to Gulf Coast Shrimp – *Gwen White, US Fish and Wildlife Service* 

### **Farmer Leadership for Improved Water Quality**

1:30рм – 3:00рм, French

Moderator: Julia Olmstead, University of Wisconsin Extension

Nutrients and associated contaminants running off of agricultural lands degrade and threaten water quality and aquatic ecosystems across much of the United States as well as internationally. Yet policies and plans supporting conservation practices to reduce agricultural runoff rely primarily on incentivized voluntary actions by farmers. While the importance of engaging farmers to accomplish water quality goals is widely recognized, implementing plans on working landscapes remains very challenging. Some watersheds in the Midwest are gaining experience with a collaborative watershed council model that relies on farmer leadership in identifying and addressing these water quality issues. This farmer-led model is also driven by farmer-selected or defined performance measures and low-cost, locally determined incentives. This symposium will explore the challenges, limitations, and opportunities of a collaborative approach to natural resources management that relies on planners and agencies to initiate a process and then step back to allow farmers (with local and applied knowledge) to define the problem on their terms and outline performance measures and incentives for addressing the problem. Analysis of this approach is based on data from

farmer-led watershed council projects in Iowa and Wisconsin. Chad Ingels, from Iowa State University Extension, will present on northeast Iowa watersheds that have substantially reduced nutrient and sediment loading to surface waters using an adaptive, performance-based incentives approach. Julia Olmstead and Ken Genskow, from University of Wisconsin Extension, will present on four farmer-led watershed councils established in that state in 2013, based on the Iowa model. Analysis of these councils is based on biological data, participation rates, conservation practice adoption, and interviews with key participants and with conservation and agency stakeholders observing from a distance with varying degrees of skeptical optimism.

# From Farm to Table: A Continuum of Agricultural Evolution and Community Supported Agriculture

3:30рм – 5:00рм, *French* 

Presenters: Dana York, Green Earth Connection; Bob Ensor, Howard Soil Conservation District, Maryland

This symposium will track methodologies and successes in engaging communities in agricultural activities starting with increasing on-farm awareness through training of new nontraditional and beginning farmers, to marketing efforts that have proven successful. This presentation will start with an effort to increase community awareness (Farm Academy, Maryland); travel through training of budding agricultural entrepreneurs (East Tennessee Beginning Farmer Field School, Tennessee); include marketing through community farmers' markets and a nonprofit farm store (Boone Street Market, Tennessee); and end with a program of novel product packaging and delivery to disadvantaged neighborhoods (Roving Radish, Maryland). In this presentation, you will find out how concerned citizens and the local food movement in vastly different areas of the United States gave birth to these efforts and how they are now supporting a new generation of nontraditional farmers who want not only to protect and enhance our agricultural resources, but also provide healthy, locally produced vegetables and meats for themselves and profit. It will discuss the shift from a Saturday farmers' market to a six-day-a-week, yearround farm store as well as to delivery of farm products to neighborhoods, including disadvantaged areas. With the increased interest for locally produced food, the continued loss of more traditional farms, and more individuals wanting to "start" a small-scale farm enterprise, these efforts can be duplicated in virtually every area of the United States if properly initiated and implemented with community support. The positive outcomes from these efforts are increased agricultural literacy among the general public; beginning farmers who are well versed in agricultural production and conservation; creation of markets for locally grown foods, and improved access in disadvantaged communities to fresh farm products.



# Tuesday, July 26 Schedule and Events

### SCHEDULE .....

**7:30**AM Registration Opens

Registration Desk

**8:00**AM Tuesday Plenary

Grand Ballroom A

10:00am Morning Break in Exhibit Hall

Grand Hall

**10:30**AM Concurrent Sessions

See pages 31-33

**12:00**рм Awards Luncheon

Grand Ballroom A

**1:30**PM Concurrent Sessions

See pages 31-33

3:30<sub>PM</sub> Concurrent Sessions

See pages 31-33

**5:15**PM SWCS Annual Conference Program Committee

Clements

### **EVENTS**

### **Soil Health Partnership Farmer Panel**

8:00AM - 8:45AM, Grand Ballroom A/B

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

The Soil Health Partnership will present a short summary of the latest updates on the program along with a featured paired farmer and agronomist panel. Paired farmers and agronomists on the panel will provide insights into the agronomic, business, marketing, and environmental aspects of improving soil health. In addition, the panelists will provide perspectives on how members of the research community can aid in providing the most useful information to inform better management decisions to farmers and agronomists more broadly.

# Plenary Panel: Creating Watershed Programs That Actually Work—For Farmers and the Environment

8:45AM - 10:00AM, Grand Ballroom A

Presenters: Shanon Phillips, Oklahoma Conservation Commis-

sion; Vicky Drew, USDA-NRCS

Moderator: Deanna Osmond, North Carolina State University

Reponder: Larry Elworth, RESOLVE

This plenary will offer insights into the key factors that lead to successful watershed projects, drawing on recent studies and the experiences of practitioners who run effective watershed quality programs. The discussion will explore how effective watershed projects are organized and what we can do to substantially improve public and private sector programs intended to help farmers adopt conservation practices on a scale commensurate with the water quality challenges and the level of investments being made to address them.



Shanon Phillips is the water quality division director for the Oklahoma Conservation Commission (OCC). She earned her bachelor's degree in biology from Kansas State University and her master's in zoology from Oklahoma State University, studying nutrient impacts in lakes. She's been working on water quality protection programs in Oklahoma state

government for over twenty years. Her agency is the lead agency for nonpoint source pollution. Much of the OCC's work focuses on collaboration with landowners, conservation districts, and USDA-NRCS to help agricultural producers protect water quality and reduce soil erosion. The OCC's water quality programs have been recognized nationally for efficiency, innovation, leadership, and success.



Vicky Drew has served as Vermont NRCS state conservationist since June of 2010. She leads a staff of 70 employees around the state located in 11 offices and manages an annual operating budget of \$20 million per year. She is also responsible for directing technical and financial assistance to protect and improve soil and water quality in the impaired Lake Champlain Basin. A native of southeastern California, she

graduated Summa Cum Laude with a BS in agronomy from the University of Georgia in 1985. She started her career with SCS/NRCS as a student intern in 1983 and worked in six field offices in both Georgia and Rhode Island. She began her tenure in Vermont in 2006 as assistant state conservationist for programs.



Deanna Osmond works at the interface of nutrient management, conservation practices, and water quality in the Crop and Soil Science Department at North Carolina University. She received her BS degree in agronomy and anthropology from Kansas State University, her MS in soil science from North Carolina State University, and her PhD in agronomy from Cornell University. For the past 25 years she has conducted

field- and watershed-scale experiments to find conservation practices that reduce nutrient loading, especially in impaired watersheds; as an extension specialist she has then used these research results for farmers and agency personnel.



Larry Elworth is agriculture program director at Resolve, a nonprofit public policy group. Resolve's Ag Program is focused on supporting sustainability efforts in the agricultural supply chain and increasing the effectiveness of watershed-scale projects to improve water quality in the Delaware River Basin, Chesapeake, Bay, and Iowa. In more than 35 years in public

service and agriculture, Larry has served as a senior advisor at the Environmental Protection Agency, the Department of

Agriculture, and the White House Domestic Policy Council, combining extensive senior executive branch policy experience with agricultural management and production knowledge. As founder and executive director of the nonprofit Center for Agricultural Partnerships, he worked with farmers and organizations in 15 states to implement environmentally and economically sound practices on more than 500,000 acres.

### **SWCS Awards Luncheon**

12:00рм – 1:30рм, Grand Ballroom A

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 \$55/person at the registration desk.



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	Soil	Tuesday IIIly 26, 2016 - Symposia Sessions	oucia	
	sanı	sday, July zo, zo lo - Bylliposia Bess	SIOIIS	
7:30AM - 5:00PM	Registration Desk Open			Registration Desk A&B - 2nd Floor
7:30AM - 9:00AM	Morning Coffee			Grand Ballroom Foyer
8:00 AM - 8:45 AM	Soil Health Partnership Farmer Panel Moderator: Nick Goeser, National Corn G	Soil Health Partnership Farmer Panel Moderator: Nick Goeser, National Corn Growers Association - Soil Health Partnership		Grand Ballroom A
9:00AM - 10:00AM	Plenary Session: Creating Watershed Programs That Actually Work- Philips, Oklahoma Conservation Commission; Vicky Drew, USDA-NRCS Moderator: Deanna Osmond, North Carolina State University; Respond	Plenary Session: Creating Watershed Programs That Actually Work—For Farmers and the Environment - Shanon Phillips, Oklahoma Conservation Commission; Vicky Drew, USDA-NRCS Moderator: Deanna Osmond, North Carolina State University; Responder: Larry Elworth, RESOLVE	s and the Environment - Shanon orth, RESOLVE	Grand Ballroom A
10:00AM - 10:30AM	Refreshment Break with Exhibitors			Grand Hall
10:30AM - 12:00PM		Symposia Sessions		
Stanley Water Resources	Water Quality Targeting Success Stories: /	Achieving Cleaner Water through Farm Conservation Watershed Projects - Michelle Perez, American Farmland Trust	servation Watershed Projects - <i>Michelle Per</i>	rez, American Farmland Trust
		Oral Presentations		
	10:30AM	10:50AM	11:10AM	11:30AM
<b>French</b> Water Resources	A Midwest Regional Network for Continuous Nutrient Monitoring Kelly Warner, US Geological Survey	Adding Water Supply to NRCS Watershed Rehabilitation Projects to Boost Resiliency to Climate Change Jan Marie Surface, USDA-NRCS	An Approach to Optimize Water Quality Monitoring within Indiana and on a Regional Level Jeffrey Frey, US Geological Survey	Hydrological Assessments of Tidal Creeks to Inform Presumptive Total Maximum Daily Load (TMDL) Recommendations Kathryn Ellis, College of Charleston
<b>McCreary</b> Adaptive Management	Effects of Cover Crops, Residue Removal and Tillage on Soil Organic Carbon Jennifer Tumer, USDA-NRCS	Overview of 15 Years of Best Management Practice Research in the Mackinaw River Watershed, Illinois Krista Kirkham, The Nature Conservancy		
<b>Jones</b> Conservation Economics and Policy	Economic Differences in Soybean Production Systems of Budget Estimated Irrigation Water Use Versus Actual Use C. Robert Stark, University of Arkansas at Monticello	Evaluation of Economic Barriers to Incentivizing Ecosystem Services in Minnesota Jessica Nelson, Water Resources Center	Watershed Scale Precision Farming and Soil Conservation to Enhance Nutrient Use Efficiency and Profitability Mohammad Khakbazan, Agriculture and Agri-Food Canada	Quantifying the Benefits of the USDA Climate Change Mitigation Building Blocks: Conservation Legacy Effects, Conservation Ripple Effects, and the Atmospheric Benefits of Working Lands Conservation Adam Chambers, USDA-NRCS
Conservation Models, Tools, and Technologies	Stream Flow Monitoring for Watershed Studies Following "Re-vegetation" Efforts for Reducing the Sediment Loading on the Shorelines of Micronesian Island of Rota, CNMI Mohammad Golabi, University of Guam	Targeting for Diverse Ecosystem Service Outcomes in an Agricultural Matrix Emily Zimmerman, Iowa State University	The Chippewa 10% Project: Ecosystem Services Resulting from Continuous Living Cover in an Agricultural Watershed George Boody, Land Stewardship Project	The Conservation Effects Assessment Project – Cropland: Analyses of Conservation Practices in the Western Lake Erie Basin in 2003-06 and 2012 Mari-Vaughn V. Johnson, USDA-NRCS
<b>Stopher</b> Soil Health Resources	No-Till Pumpkin Production Using Cover Crops in the Great Plains: Soil Health and Fruit Yield DeAnn Presley, Kansas State University	Introducting the Soil Health Institute Wayne Honeycutt, Soil Health Institute	Effects of Conservation Tillage on Soil Strength in Arkansas Cotton Production Systems Daniel Pote, USDA-ARS	Consistency and Replicability of Active Carbon Measurements: A Preliminary Analysis Michael Robotham, USDA-NRCS
12:00PM - 1:30PM	Awards Luncheon (ticket included with	full conference and Tuesday-only registrations)	ations)	Grand Ballroom A

1:30PM - 3:00PM	Tues	Tuesday, July 26, 2016 - Symposia Sessions	sions	
<b>Stanley</b> Outreach/Education/Community	Effectively Engaging Private Water Well Or Extension Service	wners in Best Practices for Protecting Grour.	Effectively Engaging Private Water Well Owners in Best Practices for Protecting Groundwater and Human Health - Diane Boellstorff, Texas A&M Agrilife Extension Service	rff, Texas A&M Agrilife
<b>French</b> Water Quality Trading	Water Quality Trading: Lessons from the Field - Bill Berry, NACD	ield - <i>Bill Berry, NACD</i>		
		Oral Presentations		
	1:30PM	1:50PM	2:10PM	2:30PM
McCreary Conservation Models, Tools, and Technologies	Improving the Spatial Representation of Hydrological Soil Properties Using Topography in Watershed Models Zach Easton, <i>Virginia Tech</i>	Long-Term Effect of Grain Cropping Systems on Crop Yield, Runoff, and Water Quality on Claypan Soil Fessehale Ghidey, USDA-Agricultural Research Services	Modeling the Dynamics of Conservation Tillage Adoption: Effects of Crop Rotation and Erodibility of the Soil on Continuous Conservation Tillage Adoption in Iowa Dat Tran, North Carolina A&T State University	Multispectral Imagery and LiDAR Services from the KYAPED: Surveying Erosion Patterns to Help Save Soil and Dollars Demetrio Zourarakis, Kentucky Division of Geographic Information
<b>Jones</b> Water Resources	Implementing the PR&G at USDA Noel Gollehon, USDA-NRCS	Investigation of Fecal Contamination in the Little River Basin, Kentucky, Using Microbial Source Tracking and Fecal Indicator Bacteria, 2013-2014 Mac Cherry, US Geological Survey	Is It Working? A look at the Changing Nutrient Practices in the Southern Willamette Valley's Groundwater Management Area Susanna Pearistein, ORISE-EPA	Landscape Effects on the Physical Features of a Watershed Jamil Alexandre Ayach Anache, Purdue University
<b>Coe</b> Social Sciences	Perception of Ecological Services of Riparian Agroforestry Systems by Farmers of the Tlapaneco River in the State of Guerrero, Mexico Angel Bustamante-Gonzalez, Colegio de Postgraduados	The Influence of University Extension Field Days and Demonstration Events on Farmer's Adoption of Conservation Practices Linda Prokopy, Purdue University	Using Face-to-Face Interviews to Design Outreach and Communication in Two New Mississippi River Basin Initiative (MRBI) Watersheds in Illinois Jennifer Filipiak, American Farmland Trust	US Corn Belt Advisors' Perspectives on Their Role in Farmer Adoption of Conservation Practices Linda Prokopy, Purdue University
<b>Stopher</b> Conservation and Nontraditional Ag	Effect of Skip-Row Planting on Cotton Yield, Biomass, and Soil Moisture in South Carolina Jose Payero, Clemson University	Sensor-Based Nitrogen Management for Cotton in Coastal Plain Soils Phillip Williams, Clemson University	Utilizing Cover Crops for Management of Glyphosate-Resistant Palmer Amaranth in Cotton Michael Marshall, Clemson University	

3:30PM - 5:00PM	Tues	Tuesday, July 26, 2016 - Symposia Sessions	sions	
Stanley Outreach/Education/Community	Effectively Engaging Private Water Well O Extension Service	Effectively Engaging Private Water Well Owners in Best Practices for Protecting Groundwater and Human Health - Diane Boellstorff, Texas A&M Agrilife Extension Service	ndwater and Human Health - <i>Diane Boellsto</i>	orff, Texas A&M Agrilife
<b>French</b> Water Quality Trading	Build It and Will They Come? Engaging Fa	Build It and Will They Come? Engaging Farmers in Water Quality Trading - Kari Cohen, USDA-NRCS	դ USDA-NRCS	
		Oral Presentations		
	3:30PM	3:50PM	4:10PM	4:30PM
McCreary Adaptive Management	New Life for Conservation Planning Bill Berry, NACD	Nitrogen Fertilizer and Rotation Effects of Sorghum-Sudangrass on No-Till and Strip-Till Corn Yields and Physiological Responses Jorge Delgado, USDA	Carp Wall: Enforcing the Continental Divide Gerald Roach, USDA-NRCS	Nutrient Tracking Tool: A User-Friendly Tool for Evaluation of Water Quality and Quality as Affected by Various Agricultural Management Practices Ali Saleh, Tarleton State University
<b>Jones</b> Water Resources	Phosphorus Index Project Overview: Refining and Harmonizing Phosphorus Indices in the Chesapeake Bay Region to Improve Critical Source Area Identification and to Address Nutrient Management Priorities Amy Collick, USDA-ARS	Southern P Indices, Water Quality Data, and Modeling Results: A Comparison Deanna Osmond, North Carolina State University	Phosphorus Loss Estimation and P-Index Evaluation with the APEX Model Nathan Nelson, Kansas State University	Phosphorus Loss Estimation and P-Index Was Learnt from the Multi-Regional Evaluation with the APEX Model Nathan Nelson, Kansas State University Andrew Sharpley, University of Arkansas
Coe Conservation Models, Tools, and Technologies	The Daily Erosion Project Timothy Sklenar, Iowa State University	Vegetated Treatment Area Effectiveness for Treating Runoff from Small Swine Operations Kevin Wagner, Texas Water Resources Institute	Woodchip Bioreactors: Multi-Contaminant Removal from Agricultural Drainage Natasha Hoover, Iowa State University	National Commodity Crop Productivity Index (NCCPI): A Tool for Land Use Robert Dobos, USDA-NRCS



# Managing Mississippi and Ohio River Landscapes By Kenneth R. Olson and Lois Wright Morton

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# Tuesday, July 26 Symposia Sessions



### Water Quality Targeting Success Stories: Achieving Cleaner Water through Farm Conservation Watershed Projects

10:30ам — 12:00рм, *Stanley* 

Presenters: Michelle Perez, American Farmland Trust; Chad Ingels, Formerly Iowa State Extension; Shanon Phillips, Oklahoma Conservation Commission; Kandi Manhart, Glenn County Resource Conservation District; Lester Messina, Colusa Glenn Subwatershed Program

How do you clean up agriculturally impaired waterbodies with farm conservation practices? One targeted watershed project at a time. This symposium will share lessons learned from six "Water Quality Targeting Success Stories" featured in an upcoming report by World Resources Institute and the American Farmland Trust. The projects used in-stream monitoring to detect water quality improvements attributable to farm conservation practices adopted in the watershed. Successful projects were found in California, Oklahoma, Iowa, Wisconsin, and Indiana. Leaders of three projects will participate in the symposium.

Given that hundreds of similar projects exist under several USDA programmatic frameworks (e.g., Landscape Conservation Initiatives or LCIs) and hundreds more are getting started (Regional Conservation Partnerships Program), the report highlights best practices to increase the likelihood of similar levels of success.

Methods included literature reviews and interviews with USDA staff, farm conservation and water quality experts, and leaders of the six projects. Project leaders attribute their success to 16 key factors. Comparing the case studies resulted in 11 lessons about designing, implementing, and evaluating successful targeted watershed projects. Recommendations are provided for USDA, EPA, and others to help other projects achieve and measure landscape-scale environmental outcomes.

Findings include the following: three projects (California, Oklahoma, and Iowa) relied on farmer leadership to design their projects and encourage farmer participation; three projects (Oklahoma, Iowa, and Wisconsin) used their state Phosphorus Indices (PI) to geographically target project resources to fields with the highest phosphorus losses; two projects (Iowa and Wisconsin) used the PI to also estimate field-scale and project-level outcomes; one project (Indiana) detected a third less in-stream nitrate and phosphorus just nine months after practice implementation; and two projects proposed their streams be delisted for *E. coli* (Oklahoma) and sediment (Wisconsin).

# Effectively Engaging Private Water Well Owners in Best Practices for Protecting Groundwater and Human Health

1:30рм – 5:00рм, *Stanley* 

Presenters: Diane E. Boellstorff, Texas A&M AgriLife Extension Service; Jason Barrett, Mississippi State University; Drew M. Gholson, Texas A&M AgriLife Extension Service; Erin Ling, Virginia Tech; Steve Wilson, Illinois State Water Survey

More than 13 million households nationwide depend on private water wells for their water supply. Public drinking water supplies are generally of good quality and are monitored through requirements of the federal Safe Drinking Water Act; however, private well owners are independently responsible for monitoring the quality of their wells and frequently at greater risk for compromised water quality. Well owners also may be simultaneously introducing contaminants to groundwater resources stored in aquifers. Management and protection of private water wells are under the landowner's control, and therefore, depend primarily on education rather than regulation. The primary goals of the symposium are to share recent approaches for and challenges to effectively delivering educational information to private well owners, and to discuss further regional or national collaboration or planning. Additional topics such as using microbial tracking techniques to identify E. coli sources; environmental justice issues including strategies for assisting low and fixed income well owners; and best practices for communicating how to test for and treat emerging contaminants in well water may be included. Representatives from eight states (Illinois, Virginia, Kentucky, Georgia, Mississippi, Rhode Island, North Carolina, and Texas), EPA, and the National Ground Water Association are included on the panel and will participate in the discussion.

**Presentation 1:** Addressing Clientele Needs: Recent Increased Installation of Irrigation Wells in Western Kentucky – *Brad Lee, University of Kentucky; E. Glynn Beck, University of Kentucky* 

**Presentation 2:** Texas Well Owner Network: Protecting Groundwater Resources and Human Health – *Drew M. Gholson and Diane E. Boellstorff, Texas A&M AgriLife Extension Service* 

**Presentation 3:** Bacterial Source Tracking: Potential Application to Drinking Water Wells – *Terry Gentry, Texas A&M University; Diane Boellstorff, Texas A&M AgriLife Extension* 

**Presentation 4:** Lead in Well Water: Concentrations, Remediation, and Regulations – *Kelsey Pieper, University of North Carolina* 

**Presentation 5:** Rhode Island Private Well Owners Take Action to Protect Their Drinking Water – *Alyson McCann, University of Rhode Island Cooperative Extension* 

**Presentation 6:** A Study of Private Well Owner Outreach Programs: Discovering Factors Critical to Effectively Motivating Well Owners to Act to Protect Drinking Water Quality – *Cliff Treyens, National Ground Water Association* 

#### Water Quality Trading: Lessons from the Field

1:30рм – 3:00рм, *French* 

Presenters: Bill Berry and Beth Mason, National Association of Conservation Districts; Brian Brandt, American Farmland Trust; James Klang, Kieser and Associates, LLC; Ann Sorensen, American Farmland Trust

Water Quality Trading continues to emerge as one strategy to achieve water quality goals in certain settings. The National Association of Conservation Districts (NACD) and American Farmland Trust (AFT) are cooperating in a Conservation Innovation Grant designed to accelerate and expand participation of farmers and private land managers in environmental markets by fully engaging Soil and Water Conservation Districts (SWCDs) across the nation as key market intermediaries. To engage and empower SWCDs, NACD and AFT have undertaken an effort to analyze and summarize the experiences of 10 SWCDs involved in three different environmental markets and prepare a business case for SWCD involvement in environmental markets. The business case will include development of model criteria, funding needs, and recommendations for districts interested in engaging in ecosystem markets. The project includes developing and distributing a handbook that outlines an educational/engagement approach and includes materials (PowerPoint presentations, fact sheets, and supporting materials) for use by SWCDs, their state associations, NACD, and partners. Participants will learn about key findings from case studies. Their input will be sought on lessons learned from their own experiences, appropriate messaging, and other needs to encourage development of secure and robust trading programs.

### Build It and Will They Come? Engaging Farmers in Water Quality Trading

3:30рм – 5:00рм, *French* 

Presenters: Kari Cohen, USDA-NRCS; Jessica Fox, Electric Power Research Institute; Peter Hughes, Red Barn Consulting; Brian Brandt, American Farmland Trust

Water quality trading markets depend on both a demand for and a sufficient supply of water quality credits. While it appears that a lack of demand is currently afflicting a number of water quality trading programs, it is often assumed that farmers are willing and able to generate sufficient supplies of credits through implementation of conservation practices on their operations.

This symposium will explore the validity of this assumption and address a number of questions--What factors are critical to gaining participation by farmers in trading programs? To a farmer, is participating in a trading program different from participating in federal, state, or local conservation programs? How concerned are farmers about transparency requirements that are often included in trading programs? What are the ramifications for farmers of having their nutrient reductions quantified and shared?

This symposium will feature three speakers/panelists who will address these critical questions and more. They will dig into details about how to successfully engage farmers in water quality trading programs, share experiences (both good and bad), and make recommendations for other water quality trading practitioners.





### Wednesday, July 27 Schedule and Tours





#### SCHEDULE ·····

Registration Opens 7:30<sub>AM</sub>

Registration Desk

**8:00**AM \*Mammoth Cave National Park Tour Departs

Entrance of Suite Tower

8:30<sub>AM</sub> **Concurrent Sessions** 

See page 37

Refreshment Break **10:00**AM

Grand Ballroom A Foyer

**Concurrent Sessions** 10:30<sub>AM</sub>

See page 37

ARS CEAP Watershed Assessment Study 1:00<sub>PM</sub>

> **Annual Meeting** Beckham

\*Roundstone Native Seed Facility Tour Departs 1:00<sub>PM</sub>

Entrance of Suite Tower

1:30<sub>PM</sub> \*The Falls of the Ohio State Park Tour Departs

Entrance of Suite Tower

\*Additional fees apply.

#### **CONSERVATION TOURS**

All participants of tours should meet at the front entrance of the Suite Tower 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: Mammoth Cave National Park**

8:00AM -4:00PM

Participants will enjoy a trip to the world's largest known cave system, Mammoth Cave National Park. This tour will highlight the unique karst terrain in south central Kentucky and emphasize the interrelationship of surface activities, including agriculture, to the vulnerable groundwater in this part of the commonwealth. Participants will observe and briefly discuss the karst terrain, which includes sinkholes,

springs, and caves, and then enter the cave to see the processes first hand. The goal of this tour is to give a better understanding of how this type of groundwater system works and why it is so important to protect such a unique natural resource.

Tour fee includes facilitated tour, admission to the park, a box lunch, and transportation to and from the Galt House Hotel.

#### **Tour 2: Roundstone Native Seed Facility**

1:00PM - 6:00PM

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

Tour fee includes a facilitated tour and transportation to and from the Galt House Hotel.

#### Tour 3: The Falls of the Ohio State Park

1:30PM - 4:30PM

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

Tour fee includes admission to the Falls of the Ohio State Park, a facilitated tour, and transportation to and from the Galt House Hotel.

		Wednesday, July 27, 2016		
7:30AM - 12:00PM	Registration Desk Open			Registration Desk A&B - 2nd Floor
8:00AM	Mammoth Cave National Park Tour			Meet in Suite Tower Lobby
8:30AM - 10:00AM		Symposia Sessions		
Stanley Conservation Models/Tools/Technology	NRCS Resource Stewardship Evaluation: USDA-NRCS	New Framework for Achieving Conservati	A New Framework for Achieving Conservation Stewardship Goals, Landscape Resiliency, and Sustainability - Aaron Lauster,	cy, and Sustainability - Aaron Lauster,
French Water Resources	The Watershed Approach: Finding a Way to	to Achieve a 45% Nitrogen Reduction - Joe Magner, University of Minnesota	Magner, University of Minnesota	
		Oral Presentations		
	8:30AM	8:50AM	9:10AM	MA05:9
McCreary Soil Health Resources	An Overview of Brazilian Experience on Measuring Runoff and Soil Loss Rates Jamil Alexandre Ayach Anache, Purdue University	Arbuscular Mycorrhizal Fungi in Soil Health Paradigm Zahangir Kabir, USDA-NRCS	Effects of Flue Gas Desulfurization Gypsum on Crop Yields and Soil Health in Kansas DeAnn Presley, Kansas State University	Evaluating Ephemeral Gully Erosion and Conservation Practices on Cultivated Fields: A Paired Watershed Study in Central Kansas Aleksey Sheshukov, Kansas State University
<b>Jones</b> Social Sciences	Examining Factors that Facilitate or Serve as Barriers to use of Diverse Nutrient Loss Reducing Conservation Practices: Evidence from Iowa J. Arbuckle, Iowa State University	Oil Seeds to Jet Fuels: Networks and Hydrology Joseph Jakubek, Kansas State University	Pathways for Effective Information Transfer between Nutrient Management Professionals Nichole Embertson, Whatcom Conservation District	
<b>Coe</b> Water Resources	Managing Tennessee and Cumberland River Landscapes Kenneth Olson, University of Illinois	The Pulse and Presses of the Ohio River Lois Wright Morton, Iowa State University	Missouri Ozark Plateau Headwaters Diversion and the Draining of the Big Swamp David Speidel, SWCS Member Missouri	Little River Drainage District: Conversion of the Big Swamp to Fertile Agricultural Land David Speidel, SWCS Member Missouri
10:00AM - 10:30AM	Refreshment Break			
10:30AM - 12:00PM		Symposia Sessions		
Stanley Conservation Economics and Policy	Innovation in Conservation Policy: Updates Agriculture Coalition	on the Conservation Stewardship Program	ss on the Conservation Stewardship Program and Reports from the Field - Alyssa Chamey, National Sustainabile	ey, National Sustainabile
<b>French</b> Water Resources	The Watershed Approach: Finding a Way to	to Achieve a 45% Nitrogen Reduction - Joe Magner, University of Minnesota	Magner, University of Minnesota	
		Oral Presentations		
	10:30AM	10:50AM	11:10AM	11:30AM
McCreary Conservation Models, Tools, and Technologies	New Tools for Assessing the Effectiveness of Agricultural Water and Sediment Control Basins Ross Wilson, Ausable Bayfield Conservation Authority	Nitrogen and Phosphorus Consumption and Balance in the Mississippi River Basin: 1987 to 2012 Clifford Snyder, International Plant Nutrition Institute	Phosphorus Index and TopoSWAT Comparisons for Pennsylvania Watersheds Jennifer Weld, Penn State University	
<b>Jones</b> Water Resources	Surface Ditch Vegetation in the Paulding Plains of the Lake Erie Watershed Kayla Miller, Ohio State University	The Great Lakes to Gulf Observatory - An Interactive Geospatial Application Focused on Nutrients in the Mississippi River and its Tributaries Edward Kratschmer, Lewis and Clark Community College	The Great Rivers Ecological Observatory Network (GREON) for Monitoring Water Quality in the Upper Mississippi River Basin John Sloan, National Great Rivers R&E Center	
1:00PM	Roundstone Native Seed Facility Tour			Meet in Suite Tower Lobby
1:30PM	Falls of the Ohio State Park Tour			Meet in Suite Tower Lobby



### Wednesday, July 27 Symposia Sessions



# NRCS Resource Stewardship Evaluation: A New Framework for Achieving Conservation Stewardship Goals, Landscape Resiliency, and Sustainability

8:30AM - 10:00AM, Stanley

Moderator: Aaron Lauster, USDA-NRCS

The USDA Natural Resources Conservation Service (NRCS) is piloting the new Resource Stewardship Evaluation (RSE) tool and service, which provides farmers and ranchers with a roadmap to achieve their natural resources stewardship goals, landscape resiliency, and sustainability. The RSE tool is designed to improve planning efficiency and measure environmental benefits. It is being developed with the expectation of receiving additional incentives for achieving a stewardship threshold. This symposium will feature a discussion of the tool and pilots and results achieved during the past two years. Speakers include RSE developers, pilot partner organizations, and client farmers.

### The Watershed Approach: Finding a Way to Achieve a 45% Nitrogen Reduction

8:30AM - 12:00PM, French

Moderator: Joe Magner, Univeristy of Minnesota

Reduced nutrient export from watersheds in the upper Midwest to the Gulf of Mexico is moving forward through the development of state nutrient management strategies and field-based research. This symposium will focus on the lessons learned from a minor (12-hydrologic unit code) watershed in north-central Indiana. In 2011, the Environmental Defense Fund pulled together a team of conservation experts in Washington, DC, to brainstorm how focused research efforts could be integrated into an overall approach to reduce nitrogen export from the upper Midwest to the Gulf of Mexico. Concepts were presented to NRCS management to suggest an alternative approach to getting best management practices (BMPs) on the landscape in a more comprehensive and dynamic way. The team, led by Eileen McLellan, explored how technical tools (e.g., GIS/ LiDAR) could be coupled with social savvy to augment landowner adoption. A "Watershed Approach" protocol has been unfolding over the last four years, initially with small watershed projects in Iowa, Minnesota, and Indiana, followed by a three-year Conservation Innovation Grant (CIG) in the Beargrass Watershed near Manchester, Indiana. We are in the final year of the Beargrass CIG and desire to share lessons learned and obtain feedback from symposium participants.

**Presentation 1:** Introduction to the Watershed Approach – *Eileen McLellan, Environmental Defense Fund* 

**Presentation 2:** Physical, Chemical, and Biological Monitoring of Beargrass Creek – *Jerry Sweeten, Manchester University* 

**Presentation 3:** Building a Comprehensive Nutrient Budget – Herb Manifold, University of Minnesota

**Presentation 4:** Building a Comprehensive Menu of BMPs Using the Agricultural Conservation Precision Framework (ACPF) – *Mark Tomer, USDA-ARS* 

**Presentation 5:** Engaging Beargrass Creek Landowners Using ACPF Maps – *Susi Stephan, Wabash County Soil and Water Conservation District* 

**Presentation 6:** Field Validation of ACPF Options and Landscape Tailoring of BMP Design – *Joe Magner, University of Minnesota* 

**Presentation 7:** Assessing Landowner Interest and Responsiveness – *Linda Prokopy, Purdue University* 

**Presentation 8:** SWAT Modeling of Nutrient Response to BMPs in the Beargrass Creek Watershed – *Kartin Bieger, Texas A&M AgriLife Blackland Research Center* 

**Presentation 9:** Resources to Implement the Plan – *Jill Reinhart, USDA-NRCS* 

# Innovation in Conservation Policy: Updates on the Conservation Stewardship Program and Reports from the Field

10:30 AM — 12:00 PM, Stanley

Presenters: Alyssa Charney, National Sustainable Agriculture Coalition; Rex Dufour, National Center for Appropriate Technology; George Reistad, Michael Fields Agricultural Institute

The Conservation Stewardship Program (CSP) is a comprehensive working lands program that provides technical and financial assistance to farmers and ranchers to protect critical natural resources, including major river landscapes. CSP enhancements allow producers to address water quality through activities related to nutrient and pest management, grazing, tillage, crop rotation, and cover cropping. This symposium will examine the significant changes planned for CSP in 2017, as well as the National Sustainable Agriculture Coalition's (NSAC) analysis of more than 70 million acres enrolled in CSP since 2009. CSP contract holders selected over 75,000 water-related enhancements, representing more than 30 percent of all enhancements chosen between 2009 and 2015. This analysis also sheds light on a disconnect between the most frequently selected and highest ranked conservation enhancements. This disconnect presents a clear need for 2017 updates to ensure that CSP participants are appropriately rewarded for their conservation benefits. In addition to an analysis of program

results and the upcoming major changes, the symposium will bring forward farmer perspectives through organizations that have worked closely with CSP participants over the past 10 years. Combined analyses have identified significant barriers to accessing the program for small acreage, specialty crop, and organic producers. The NSAC will provide a detailed analysis of what the upcoming changes mean for conservation outcomes, activities available to participants, and how the new system will reward environmental benefits. NSAC's analysis will include the upcoming rollout of the revised program and also consider future options for additional changes via another round of administrative changes and the next farm bill. Organizations from Wisconsin and California will present findings from their CSP surveys, speaking to how the upcoming changes will address barriers that participants have encountered in the past.



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# 2016 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.

#### **Jerry Hatfield**



Jerry Hatfield is a plant physiologist and the laboratory director at the USDA Agricultural Research Service National Lab for Agriculture and the Environment. Hatfield's career has been devoted to soil and water conservation issues, and he travels and speaks tirelessly to raise awareness of the links between climate, agricultural management, production,

and soil and water quality. While he did not create a new institution, he has managed a large research laboratory for a quarter of a century and has provided significant leadership to the Agricultural Research Service, academic societies, organizations focused on conservation, as well as to multi-institutional and multinational research efforts. He has been responsible for providing the technical management for multiagency, multilocation, and multidisciplinary programs such as the Management Systems Evaluation Areas (MSEA) and Agricultural Systems for Environmental Quality (AWEQ) across the Midwest. Hatfield has also led efforts in livestock and cropping systems research, as well as the impacts of climate change on agriculture. His character and demeanor are outstanding. He is honest, persistent, and has great integrity. Like Hugh Hammond Bennett, he has tirelessly spent his career raising awareness in conservation and supporting and defending soil and water conservation issues. To this end, Jerry Hatfield 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.

#### Kenneth R. Olson



Kenneth Olson has been a member of SWCS for more than 45 years; is widely recognized outside of the Society for his expertise as a soil scientist and conservationist; and has actively championed the Society with goals to make its work more visible and more widely recognized. Olson's body of research encompasses themes of soil

erosion in crop and forested lands, impacts of conservation tillage, soil organic carbon retention and sequestration, cover crops, sediment distribution, soil and crop damages from levee breaching, fly ash as a marker for sediment transport, soil formation, and methodologies for measuring changes in soil organic carbon. In recent years, some of his most prominent work has centered on soil organic carbon sequestration in cultivated landscapes. This has been of great interest to policy makers as they explore carbon trading and seek strategies to cope with climate change and greenhouse gases in agricultural systems. Olson has embodied the goals of the Society through his teaching and training of the next generation scientists and conservationists and his Extension and outreach work that reaches farmers, landowners, policy makers, and leaders using a variety of strategies. For these and many more reasons, Kenneth Olson is highly deserving of the designation of SWCS Fellow.

### 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.

#### **Hal Weiser**



In his 36-year career, Hal Weiser has directly and indirectly positively impacted the quality of soil and water resources. His efforts have helped encourage producers across the state of North Dakota to continue or begin no-tilling and integrate the use of cover crops, which has helped to significantly

decrease wind and water erosion. Weiser has established

#### IN MEMORIAM

#### **Mike Collins**



One of the true blessings of working in the soil and water conservation field is knowing that every time you help a landowner with a conservation decision you can see the results of your work on the landscape. That was the case for Mike Collins as he worked with farmers and ranchers across the Great Plains as an advocate for healthy soils and soil conservation. Mike died in a snowmobile accident February 27, 2016.

Mike Collins was an area conservationist for the USDA Natural Resources Conservation Service (NRCS) in Colorado, and a longtime member of the Soil and Water Conservation Society. At the time of his passing, he was completing his third year of service on the Board of Directors of the Society. His enthusiasm for his work and the Society were evident in his service to SWCS, and he will be missed by all of us who worked with him.



Mike Collins (left) and SWCS Executive Director Jim Gulliford (right) together at the SWCS 70th International Annual Conference in Greensboro, North Carolina.

a network of landowners who call upon him directly for technical assistance. He makes a point to provide continuous support to those individuals that are innovators and leaders in the application of soil health management systems. The thousands of acres Weiser initially mapped in his career are now used by soil conservationists as inventories to conduct everyday conservation planning in multiple counties. As a wetland specialist, he conducted numerous wetland certifications that are used by field offices to apply wetland conservation provisions of the Farm Bill. He developed some of the initial mitigation plans under the Farm Bill. He has an impressive record of outreach and training throughout his career and has served as a mentor to high school students. His willingness to serve agriculture and his excellence in such a technical role make Hal Weiser qualified to receive the Harold and Kay Scholl Excellence in Conservation Award.

#### **CONSERVATION RESEARCH AWARD**

The Conservation Research Award is conferred on SWCS members whose research has led to exceptional improvements in soil conservation, water conservation, and/or related natural resources research. This award is given for research excellence or results of the research that has led to significant conservation improvements.

#### **Larry Cihacek**



Larry Cihacek began working in 1986 on soil erosion and productivity of eroded soils. He expanded his work to include efficient nutrient management for specialty crops, such as crambe and carrots, and taught a course on saline and sodic soils at North Dakota State University (NDSU). He provided and continues to provide soil-water compatibility determinations for irrigation water samples that are submitted to

the NDSU lab by farmers. Cihacek's work with soil testing has resulted in collaborations with researchers developing precision farming techniques that have resulted in several publications and presentations. His collaboration with USDA-NRCS in developing nutrient management guidelines for North Dakota was a big achievement, and those guidelines are still used by North Dakota environmental regulators in developing and approving land application permits for bio-solid wastes and manure. Most recently his work has been focused on the biogeochemistry of wetlands and relating landscape effects and processes to find the dif-

ferences between good quality and poor quality wetlands. All in all, Cihacek's research and educational efforts have been focused on users (farmers, landowners, consultants, and agency field personnel) to provide practical, simple, and relevant knowledge and techniques that can be readily implemented. For these reasons, Larry Cihacek is well deserving of the SWCS Conservation Research Award.

#### **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.

#### **Nevada Creeks and Communities Team**

The Nevada Creeks and Communities Team (NVC&C) is being recognized for its outstanding service of providing educational outreach while working one-on-one with producers throughout Nevada. The team's approach to wetland and riparian area management as well as the use of the Proper Functioning Condition assessment have been essential in providing a framework for wetland and riparian area management discussions and ensuring that a common language and shared understanding of habitat function are used. In Nevada, there is a long history of poor relationships between federal agencies and local interests. NVC&C has bridged that gap by fostering collaboration, bringing focus to innovative partnerships and projects that have been effective, and demonstrating to both sides that communication is the strongest tool to prevent "one size fits all" solutions that leave both sides wanting more and don't always create the most benefit for natural resources. By taking many steps to improve the functionality of wetlands and riparian areas today, NVC&C has been working to promote a landscape where these habitats will have a greater ability to retain water during both wet and dry periods, resist damage from floods, resist damage from wildfire, provide important hab-



itat islands for wildlife, retain natural biodiversity, and provide forage for both wildlife and cattle. The NVC&C Team, for their ongoing service and promotion of soil and water conservation, is deserving of the SWCS Merit Award.

#### **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.

#### **Craig Romary**



Craig Romary has been a member of SWCS since 1983, with 23 of those years in the Nebraska Chapter, the Nebraska Chapter Foundation, and the Student Chapter at the University of Nebraska in Lincoln. Early in his career, he worked with farmers and ranchers in Idaho to implement conservation practices for reducing erosion and increasing water quality in several

targeted watersheds. It was during his time in Idaho that he joined the SWCS. In late 1998 he began working as an environmental specialist for the Nebraska Department of Agriculture's pesticide program. Although this is a regulatory program for pesticide use and distribution, the emphasis in Romary's area is on maintaining and improving water quality and protecting endangered species from pesticides. Romary also administers the Nebraska Buffer Strip Program, intended for filter strips and riparian forest buffer strips adjacent to streams, rivers, wetlands, and other waterbodies. His work at the state level in Nebraska, and federally through his participation in committees and councils, makes Romary well deserving of the SWCS Outstanding Service Award.

#### **COMMENDATION AWARD**

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

#### **Penny Galinat**



Penny Galinat has been very active in the South Dakota Chapter for approximately 30 years. During her time with SWCS, she has served in several capacities including chapter secretary, president, and central director. In 1996 she assisted in putting together a video for the 50th anniversary of SWCS. Galinat's support of SWCS has not only been in leadership,

but also in service. She has spent countless hours working on organizing conservation events, has bagged soil for the soil kits that were sold to teachers, and has set up and staffed a chapter booth at Ag Fest for state legislators for several years. Many other activities have been started and are ongoing within the state because of her dedication and tireless effort.

#### Sarah Gray



Sarah Gray has been very instrumental in the organization and running of the Nebraska Chapter. She served as president in 2013 and 2014 and during that time was an exemplary leader. She served as the point of contact for chapter activities, conducted teleconference meetings, and served on the Chapter scholarship review and selection committee. Currently Gray serves as

the Nebraska Chapter newsletter editor, a position she has held for nearly eight years. Through this communication, she ensures that members are kept up to date on relevant conservation advances and Chapter news.

#### **Lance Loken**



Lance Loken has been a member of the North Dakota Chapter since 2008. Loken has served on the Legislative, Environmental Educational, and Historian committees for the past few years. He has held the position of president-elect and president and is now holding the past-president position. Loken participates in and promotes the North Da-

kota Chapter's educational workshops for the public and chapter members, which is part of the SWCS research and education mission. He was the planning committee chair for the 2014 Soil and Water Summit, "Finding Environmental Synergy in the North Dakota Oil Field." Loken has been and continues to be active in SWCS activities. He provides leadership and actively promotes SWCS's mission through his work ethic and his dedication to growing the chapter.

#### **Melissa Merritt**

Melissa Merritt became a member of the West Virginia Chapter of SWCS in 2011, became chair of the West Virginia Chapter's Membership Committee in 2013, was selected as president-elect in 2014, and served as president in 2015. In 2016, she remains a member of the executive council as past-president even though she has relocated to Maryland, further illustrating her commitment to the organization and to the chapter. In addition, she has served on the International SWCS Leadership Committee for three years. Merritt has been diligent in promoting conservation throughout her career, including planning and holding training opportunities by obtaining grants. Her focus on training was relevant and timely, and extended into the local community. Merritt's efforts to offer a wider variety of trainings and continuing education helped the West Virginia Chapter to reach brand new audiences and gain publicity. Additionally, her very successful trainings accrued additional funding for the chapter through registration fees, enabling the chapter to continue their scholarship program for undergraduate students.

#### Cathy O'Neil



Cathy O'Neill has been a member for approximately five years. She has held positions of president-elect, president, and past president, and she is currently West Slope director with the Colorado Chapter. O'Neil is characterized by her willingness to serve her Chapter. She has attended 90% of the early events, including technical workshops, annual meetings, and quarterly teleconferences.

She has also participated as a science fair judge. For the last five years, O'Neil has helped with the Colorado San Luis Valley Soil Health Tour, assisting with planning, setting up, providing beverages, managing cleanup, and making handouts. She is well deserving of the Commendation Award.

### 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.

### 2016 Best Research Paper for Impact and Quality Award

White, M.J., C. Santhi, N. Kannan, J.G. Arnold, D. Harmel, L. Norfleet, P. Allen, M. DiLuzio, X. Wang, J. Atwood, E. Haney, and M. Vaughn Johnson. 2014. Nutrient delivery from the Mississippi River to the Gulf of Mexico and effects of cropland conservation. Journal of Soil and Water Conservation 69(1):26-40.

### **Best Research Paper for Impact and Quality Award Honorable Mention**

Galzki, J.C., A.S. Birr, and D.J. Mulla. 2011. Identifying critical agricultural area with three-meter LiDAR elevation data for precision conservation. Journal of Soil and Water Conservation 66(6):423-430.

#### **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.

#### 2016 Editor's Choice Award

Smith, D.R., K.W. King, and M.R. Williams. 2015. What is causing the harmful algal blooms in Lake Erie? Journal of Soil and Water Conservation 70(2):27A-29A.

#### **Editor's Choice Award Honorable Mention**

Reicosky, D.C. 2015. Conservation tillage is not conservation agriculture. Journal of Soil and Water Conservation 70(5):103A-108A.

#### PRESIDENT'S LEADERSHIP AWARDS

#### **Mike Daniels**



Mike Daniels of University of Arkansas Extension provided vision and leadership for the Nutrient Management and Edgeof-Field Monitoring Conference in Memphis last December. The conference grew from a University of Arkansas Conservation Innovation Grant to include research and application efforts from across the country that addressed the challenge of water quality protection and production agriculture. Mike continues to support the effort as the *Journal of Soil and Water Conservation* develops a special issue on "Edge-of-Field Monitoring for Nutrient Losses: From the Great Lakes to the Gulf," targeted for publication in 2017.

#### John Kluthe



John Kluthe, NRCS District Conservationist in Clarksville, Arkansas, is receiving the President's Leadership Award for his work supporting students and young professionals. He chaired the Professional Development Committee for three years and took a leadership role in the organization and facilitation of the Student Networking Session at

the 2014 and 2015 annual conferences. This activity helped connect students and young professionals with conservation leaders in agencies and industry, in an effort to help them network and advance their conservation careers.

#### **Hugh Hammond Bennett Chapter**

The Hugh Hammond Bennett Chapter was instrumental in hosting the 2015 Annual Conference in Greensboro, North Carolina. They brought innovation, energy, and fun to all of the activities surrounding the conference. From the Fellows Forum that opened the conference through the conservation tours that provided unique learning opportunities as the conference closed, the chapter provided opportunities for conference participants to experience both the conservation and hospitality of North Carolina. They reminded us that the spirit of Hugh Hammond Bennett remains strong in the conservation programs of North Carolina and the chapter.

#### SCHOLARSHIP RECIPIENTS

### MELVILLE H. COHEE STUDENT LEADER CONSERVATION SCHOLARSHIP

The Melville H. Cohee Student Leader Conservation Scholarship was started in the early 1990s to honor student members who succeed as leaders in their studies, volunteerism, and work.

#### **Cory James Cole**

As a member of the SWCS Wyoming Chapter, Cory Cole has served as both an officer and workshop organizer. He has held quite an extensive list of volunteer leadership positions and has provided educational presentations for FFA groups as well as local schools. Cole is currently the state soil scientist for USDA-NRCS Alaska and is pursuing a master's degree in Natural Resource Management at the University of Alaska. Although his time in Alaska has been short thus far, he has successfully established soil health

research trials and conducted numerous workshops and trainings on the subject. Cory Cole embodies the requirements for the Melville H. Cohee Scholarship.

### 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 James Cole**

As a member of the SWCS Wyoming Chapter, Cory Cole has served as both an officer and workshop organizer. He has held quite an extensive list of volunteer leadership positions and has provided educational presentations for FFA groups as well as local schools. Cole is currently the state soil scientist for USDA-NRCS Alaska and is pursuing a master's degree in Natural Resource Management at the University of Alaska. He states that he is pursuing this degree and is planning to continue on for a PhD in order to strengthen his conservation knowledge.

#### 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. No chapter can be recognized more than once during a 10-year period for the same basic activity.

#### **Hoosier Chapter**

The Hoosier Chapter is presented a Chapter Achievement Award for their work in 2015 to put together two outstanding chapter events. Their summer meeting focused on water quality trading in southeastern Indiana and featured nationally recognized speakers. The fall meeting focused on protecting, enhancing, and restoring native pollinator habitat. The goal was to expose membership to management of monarch habitat and recommendations for incorporating pollinator friendly plantings. Over 100 attendees benefited from the event. Congratulations to the Hoosier Chapter.

#### **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.

#### **North Dakota Chapter**

The North Dakota Chapter is recognized with the Outstanding Chapter Award for executing "Saving the Soil

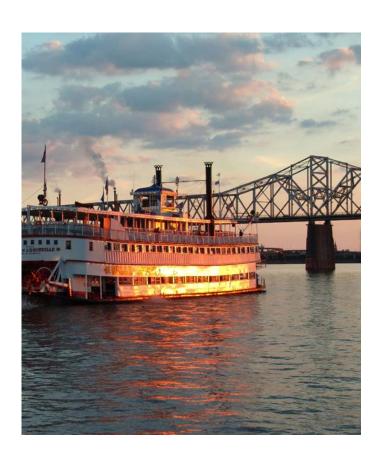
Resource," a successful event on future natural resource concerns in North Dakota. This meeting provided information on soil health, no-till gardening, and new technologies, and brought together 50 SWCS members and nonmembers to discuss challenges and advances in protecting the state's soil resources. Congratulations to all the North Dakota Chapter.

#### **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.

#### Michigan Chapter

The Michigan Chapter is recognized with the Sustained Performance Award for their consistency in providing programs on timely conservation projects. Over the past two years they have produced multiple workshops, field tours, and educational events for conservation professionals. The Chapter issues a newsletter several times each year to communicate with members. They seek out partners to support and work with to accomplish their goals, such as Michigan Association of Conservation Districts (MACD). They have also expanded their reach by incorporating online viewing coverage for events. The Michigan Chapter is commended for their high level of sustained performance.



# Save the Date

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# **SWCS 72ND INTERNATIONAL ANNUAL CONFERENCE**



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### **SWCS Conference Sites** and Presidents





1947 Omaha, NE, Ralph H. Musser

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

1967 Des Moines, IA, Cecil W. Chapman

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

1976 Minneapolis, MN, Chester E. Evans

1977 Richmond, VA, J. Vernon Martin

1978 Denver, CO, Arthur D. Latornell

1979 Ottawa, ON, William Moldenhauer

1980 Dearborn, MI, Gerald R. Calhoun

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



