



Conference Program



Choosing Conservation: Considering Ecology, Economics, and Ethics

67th International Annual Conference

Ft. Worth, TX [July 22-25, 2012] www.swcs.org/12AC

67th SWCS International Annual Conference Final Program

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Conference Schedule in Brief

Sunday, July 22

8:00 AM	Soil Quality and ECO Farming Workshop	Elm Fork I & II
8:30 AM	Science and Policy Committee Meeting.....	Treaty Oak
Noon	House of Delegates, State of Society Address & Regional Roundtable Meetings	Trinity Ballroom
1:30 PM	*LiDAR Workshop.....	Bur Oak
1:30 PM	*Conservation Leadership Workshop.....	Post Oak
1:30 PM	JSWC Editorial Board	Treaty Oak
1:30 PM	Student Member Forum	Red Oak
4:00 PM	Chapter Leader 101	Post Oak
4:00 PM	Berg & Society Fellows Forum	Trinity Ballroom
6:00 PM	New Members/First Timers Orientation	Elm Fork I & II
6:30 PM	Welcome Reception at BRIT.....	Load at Trinity Ballroom Doors

Monday, July 23

8:30 AM	Opening Plenary & Pritchard Lecture	Brazos I/II
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open	Rio Grande
10:30 AM	Concurrent Sessions	See Schedule (Page 27)
Noon	Lunch Break.....	On your own
Noon	*International Committee Meeting.....	Worthington Room
1:30 PM	Concurrent Sessions	See Schedule (Page 28)
2:00 PM	ARCSE Board Meeting.....	Treaty Oak
3:00 PM	Afternoon Break.....	Rio Grande
3:30 PM	Concurrent Sessions	See Schedule (Page 29)
5:00 PM	Poster and Exhibitor Reception in Exhibit Hall	Rio Grande
7:30 PM	Greenfire: Aldo Leopold and a Land Ethic for our Time (Movie)	Brazos I & II

Tuesday, July 24

7:30 AM	Special Topic Breakfast - NIFA-CEAP	Pecos I
7:30 AM	Special Topic Breakfast - NASS	Bur Oak
8:00 AM	Tuesday Plenary	Brazos I/II
10:00 AM	Morning Break in Exhibit Hall.....	Rio Grande
10:30 AM	Concurrent Sessions	See Schedule (Page 30)
Noon	*Awards Luncheon.....	Hacienda
Noon	Lunch Break.....	On your own
1:30 PM	Concurrent Sessions	See Schedule (Page 31)
3:30 PM	Concurrent Sessions	See Schedule (Page 32)
5:15 PM	SWCS Annual Conference Program Committee.....	Treaty Oak

Wednesday, July 25

7:30 AM	*Tour #2 - Burgundy Beef and Sunset Winery.....	Gather in Trinity Ballroom Lobby
	*Tour #4 - Fort Worth Nature Center (A&B) and Stockyards	
8:00 AM	*Tour #1 - Botanical Research Institute of Texas and Fort Worth Botanic Garden	
	*Tour #3 - Bear Creek Ranch (Dixon Water Foundation)	

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

Program Committee Welcome

Outside my front door in Madison, Wisconsin, sits a raised bed vegetable garden. This year, a third of the bed boasts seven Juliette grape tomato plants, with sweet and juicy fruit just beginning to ripen on the vines. I am only a "micro-farmer", but like all other farmers, my production choices are influenced by several factors.

This year, I bought plants, rather than seed. Plants are more expensive than seed, but a time saver. Plus I could get the plants from a locally owned garden center and contribute to the Madison economy. Organically grown plants? No. Soil test? None – even though I know I need one because my root crops produce next to nothing despite my attempts at amending the soil (mostly compost from my own bins and water from a small koi pond). Pest management? I rotate the location of my tomatoes every year. Blight has been my only issue, so I diligently remove leaves if they show signs of blight.

I share this simple example to highlight the mix of reasoning that goes into land and farm management decisions. No farmer, no person, makes decisions solely based on financial gain and loss. There are always ethical and environmental calculations that take place. Each decision can be seen as positive or negative, depending upon how the calculations are done. With this year's conference theme, the Soil and Water Conservation Society Annual Conference Program Committee invites you to consider how conservationists can better understand and inform how conservation choices are made.

The Committee is excited to welcome a series of thought provoking plenary speakers that will help us integrate the economic, environmental and ethical considerations embedded in today's most pressing conservation issues. During Sunday's Fellow's Forum, we will hear from Mark Walbridge about the Long-Term Agro-Ecosystem Research



*Rebecca Power, Program Chair
University of Wisconsin-Extension*

Network. Curt Meine, Leopold scholar and conservation historian will set the stage for the conference in Monday's H. Wayne Pritchard Lecture. We'll wrap up on Wednesday with informative conservation tours -- bison, beef, and botany Texas style.

Finally, I would like to thank the 2012 Program Committee, the North Texas Chapter and the Texas Council of Chapters of the Soil and Water Conservation Society for being willing to add leadership for this event to their already full plates. I would also like to thank SWCS staff for everything they do to make this conference a success. If you benefit from your time in Fort Worth, please take the time to let them know.

2012 Annual Conference Program Committee

Chair - Rebecca Power, University of Wisconsin-Extension

Vice-Chair – Tommy Bass, University of Montana

SWCS Staff – Dewayne Johnson, SWCS

Liaisons

- Board of Directors – Dan Towery, Ag Conservation Solutions
- Local Chapter (Texas) – Laura Broyles, USDA-NRCS & Cheryl Simmons, USDA-NRCS
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- Leadership Development – Rebecca Fletcher, USDA-NRCS
- Science and Policy Committee – Andy Manale, US EPA
- JSWC Editorial Board – Jorge Delgado, USDA-ARS
- International Activities – Theo Dillaha, Virginia Tech
- SSSA S06 – Jorge Delgado, USDA-ARS

Technical Team Leaders:

- Indrajeet Chaubey, Purdue University
- Mark Risse, University of Georgia
- Susan Andrews, USDA-NRCS
- Dan Towery, Ag Conservation Solutions
- Chris Obropta, Rutgers
- Deanna Osmond, North Carolina State University
- Margaret Krome, University of Wisconsin
- Craig Allen, University of Nebraska-Lincoln
- Kitty Smith, American Farmland Trust

**Mark your calendar:
July 21-24, 2013
Reno, Nevada
Peppermill**

Texas Welcome!

Cheryl Simmons and Laura Broyles, North TX Chapter and Texas Council of Chapters

The North Texas Chapter and the Texas Council of Chapters are proudly serving as local hosts for the 67th Annual International SWCS Conference. We are excited to participate in "Choosing Conservation: Considering Ecology, Economics, and Ethics."

As the 16th largest city in the United States and part of the No. 1 tourist destination in Texas, Fort Worth welcomes nearly 5.5 million visitors each year. Fort Worth boasts an unmistakable mix of preserved Western heritage and unrivaled artistic offerings. Whether you prefer the Cowgirl Hall of Fame, visiting museums, or watching the world's only twice-daily cattle drive, Fort Worth offers plenty of things to do. Visit the North TX Chapter website at www.swcs-northtx.org to find more things to do in North Texas.

If you have any questions or need assistance, please ask any of the Texas Volunteers and they will be happy to assist.



Scan this QR Code with your smartphone or go to www.fortworth.com

In only a few days, you can enjoy an enormous range of experiences - from longhorns to longnecks, from salons to saloons. Discover the artistic masterpieces of the Fort Worth Cultural District. Explore the true American West in the Stockyards National Historic District. Shop and dine in the 35-block Sundance Square, one of the most exciting downtown areas in the nation. See a magical show at Bass Performance Hall. Stroll through the Museum of Living Art at the top-ranked Fort Worth Zoo. And that's just the beginning of what you'll experience in Fort Worth.

Molly the Trolley

Molly the Trolley is a vintage-style trolley that offers a free, quick and convenient way to travel throughout the downtown area. The Downtown Get Around is a free route from the Fort Worth Convention Center to Sundance Square, that stops near every downtown hotel property, landmark, dining, shopping and entertainment venue.

Molly runs every 15 minutes, 7 days a week from 10 a.m.-10 p.m. You can take Molly from downtown to the Stockyards National Historic District on Saturdays only for \$1.50 each way.



Conference Volunteers

Please join the SWCS Board of Directors and the Annual Conference Program Committee in thanking these volunteers for all of their contributions and work in preparing for and delivering a great event!

Concurrent Session Moderators, Tour Leaders & AV Tech Support Volunteers

- | | | |
|------------------|--------------------|--------------------|
| • Phil Barbour | • Stephen Hammond | • Liza Rodriguez |
| • Beth Blair | • Kathya Hattaway | • Katy Rudolphy |
| • Jill Booker | • Robert Knight | • Ali Saleh |
| • Mark Boysen | • Bill Kuenstler | • Suzi Self |
| • David Brauer | • Cherie LaFleur* | • Cheryl Simmons* |
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| • Dorlene Butler | • Shea Maloney | • Scott Van Pelt |
| • Amber Carson | • Michele May | • Michael Wilson |
| • Liz Chesser | • Cathy McGuire | • Wendy Wood |
| • Sharon Davis | • Kristi McKinley* | • Ted Zobeck |
| • Joel Douglas | • Kathy Miller | |
| • Candiss Dukes | • Sally Mills | |
| • Bill Fox | • Rance Monk | |
| • Tony Garcia | • John O'Connor | |
| • Larry Goertz | • Melanie Oliver | |
| • Andrew Gross | • Jerry Pearce | |

*Denotes member of the Local Arrangements Steering Committee

Student Moderators

- Langston Anderson, Tuskegee University
- Jordan Beehler, Oklahoma State University
- Janat Bektemirova, University of Arkansas
- Kuartbay Bektemirov, University of Arkansas
- Jordan Foss, Iowa State University
- Luisa Galindo, University of Massachusetts Amherst
- Alyssa Gunderson, University of Wisconsin - Stevens Point
- Danielle Koester, Iowa State University
- Gina Lee, North Carolina State University
- Joyce Lok, Iowa State University
- Chelsea Morris, Cornell University
- Shannon Reed, Alcorn State University
- Sheila Saia, Cornell University
- Hui Shao, University of Missouri - Columbia
- Keith Toffling, University of Massachusetts, Amherst
- Bill Trenouth, University of Guelph

Conference Registration and Facility Information

The Soil and Water Conservation Society registration desk is located on the lower level on the west end of the building (next to the Trinity Ballroom). SWCS staff members will be on-site to assist you.

Registration Hours:

Sunday 11:00 a.m. — 6:30 p.m.

Monday 7:30 a.m. — 5:30 p.m.

Tuesday 7:30 a.m. — 3:30 p.m.

Tickets and Passes

The conference registration fee covers one participant. Formal name badges are not provided for guests. Additional tickets for guests to attend the Welcome Reception on Sunday evening, the Exhibit and Poster Reception on Monday Evening, the International Committee Lunch, educational tours, or the Awards lunch may be purchased at the Registration Desk and are subject to availability.

Admission to educational sessions (including the plenary sessions), exhibits, posters, and special events is by formal name badge or ticket. Your name badge should be worn at all times during the conference. For your safety, do not wear your name badge outside the conference area.

Registration packets will contain formal name badges and tickets for purchased events for all registered attendees. Tickets will be collected for all ticketed events. If available, event tickets may be purchased at the registration desk during registration hours.

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 Renaissance registration desk or at the SWCS registration desk.

Medical Services

For medical emergencies, dial “0” from any house phone or room phone.

Messages

A message board is located near registration. To preserve the educational quality of the conference, meetings will not be interrupted for personal announcements or messages.

CEUs

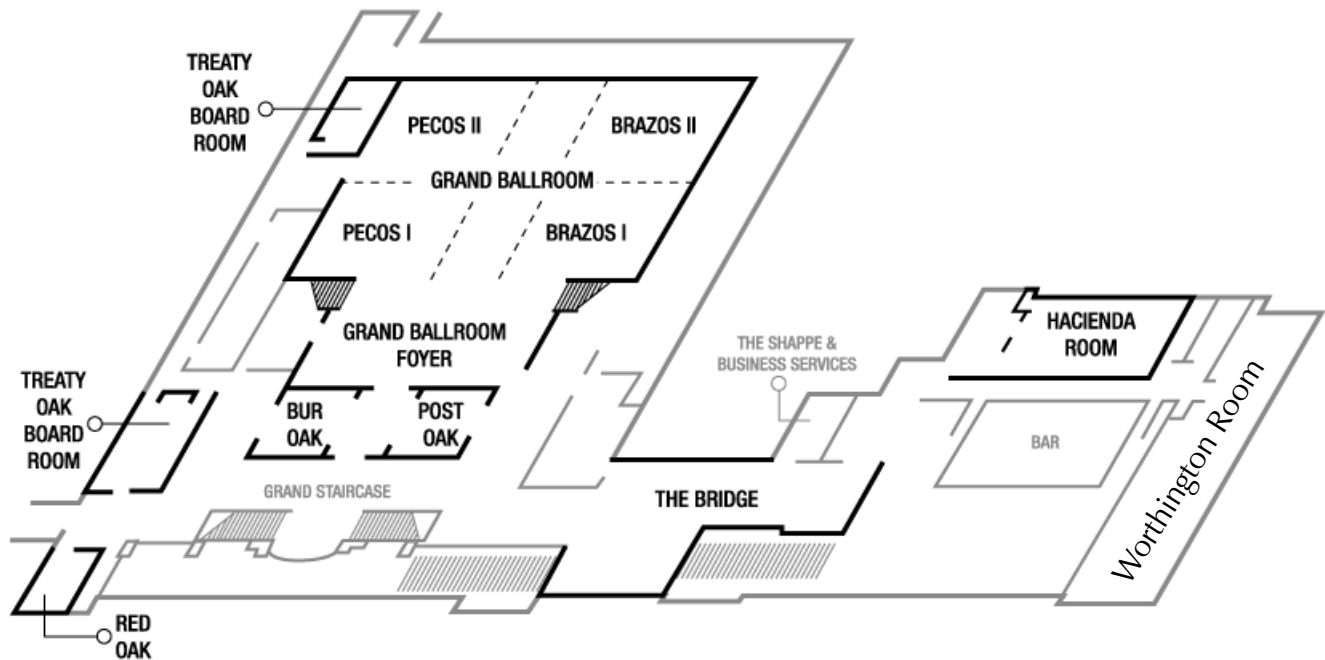
SWCS has worked to secure continuing education credits from various certifying organizations. Certified, licensed, or professional engineers (PE), agronomists (CPAg), soil scientists and classifiers (CPSS and CPSC), crop advisors (CCA), crop consultants (CPCC), foresters, range managers (CPRM), grassland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

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 can submit it on your behalf.

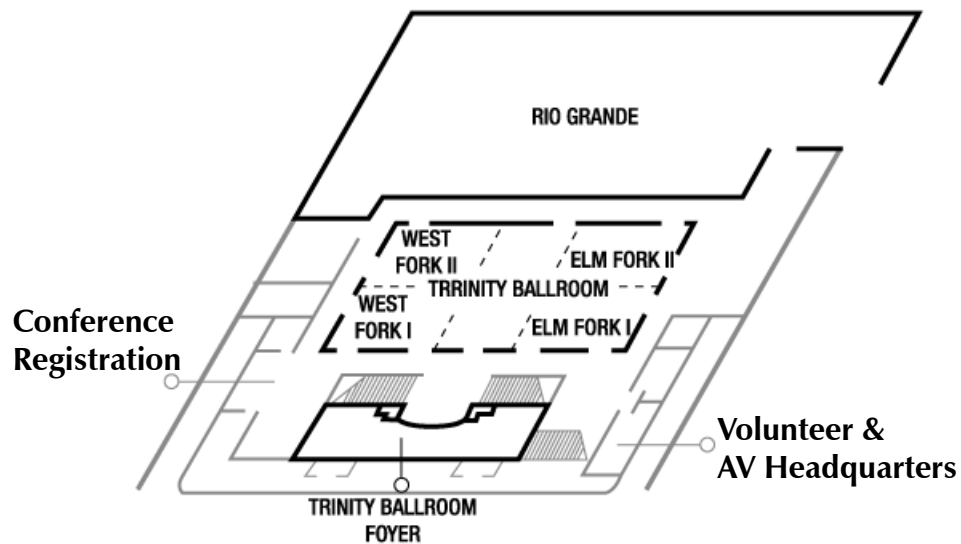


Facility Map - Renaissance Worthington

MEZZANINE



TRINITY



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Vice President: Dan Towery
Secretary: Clark Gantzer
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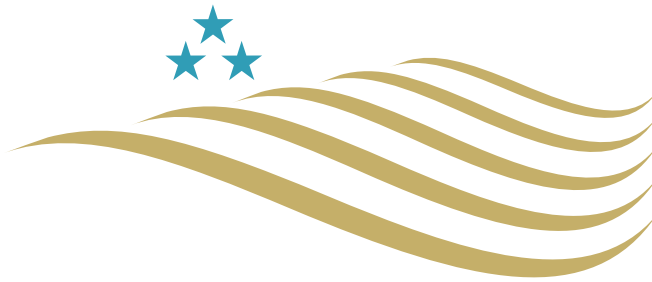


Conference Sponsors

The Soil and Water Conservation Society is pleased to recognize our 2012 Conference Sponsors.



The
Fertilizer Institute
Nourish, Replenish, Grow



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Farmers
Union**

UNITED TO GROW FAMILY AGRICULTURE



Popcorn and soda for the Monday evening screening of GreenFire generously provided by the Sand County Foundation.

A cash bar will be available.



Conference Exhibitors

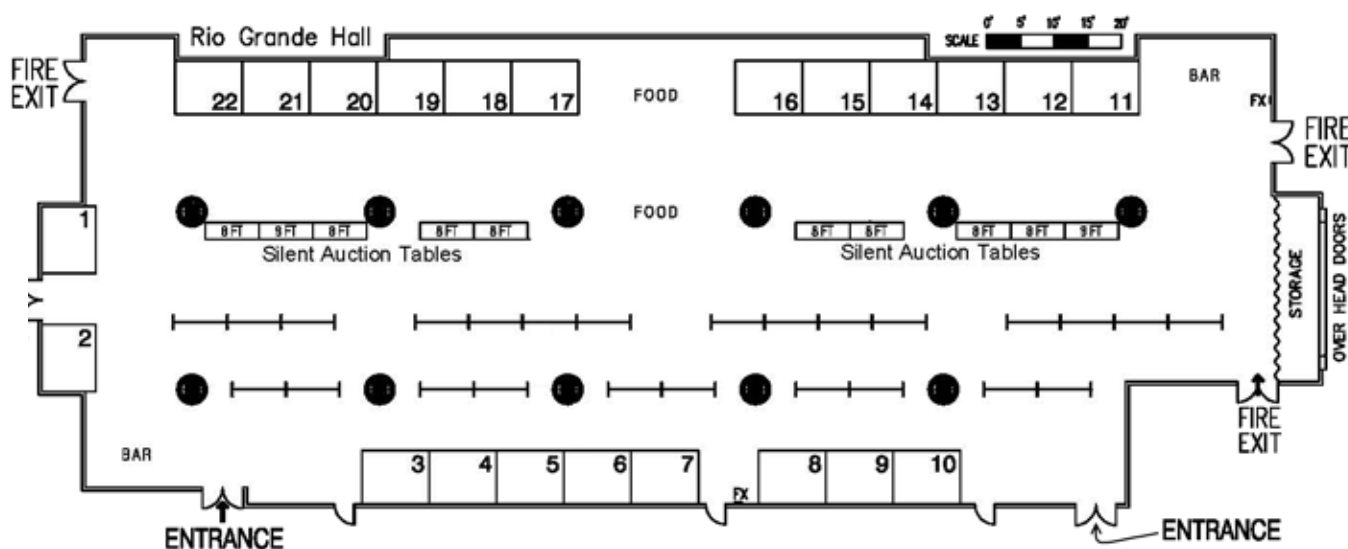
Booth Exhibitor

- 1 Silent Auction HQ
- 3 EnviroCert International, Inc.
- 4 USDA NRCS National Geospatial Mgmt Center
- 5 SWCS ISU Student Chapter
- 6 MultiView
- 7 Agren
- 8 USDA National Agriculture Statistics Service
- 9 Voss Signs
- 10 Truax Company
- 11 Univ. of Wisconsin Extension - Environmental Resources Center
- 12 Grazing Lands Conservation Initiative (GLCI)
- 13 GreenFire
- 15 SWCS CA/NV Chapter
- 16 USDA NRCS National Central Remote Sensing Lab
- 17 Agri Drain
- 18 Conservation Technology Information Center (CTIC)
- 19 The Fertilizer Institute / 4R Nutrient Stewardship
- 20 Texas Water Development Board
- 21 Bamert Seed Company
- 22 National Farmers Union

Contacts/Representatives

Cherie LaFleur and Cheryl Simmons
 David Ward and Glenda Carmney
 Bill Marken and Michele May
 Jordan Foss
 Amy Smith and Elizabeth Miracle
 Stan Buman and Tom Buman
 Renee Picanso and Doug Rundle
 Tom Tenerovicz
 David Lorenz and Paula Lorenz
 Karen Bassler and Ingrid West
 Chuck Stanley and Ken Spaeth

 Tom Esgate
 Adam Durham and Lisa Rodriquez
 Charlie Schafer, Lisa Newby, Stacy Richter
 Karen Scanlon and Chad Watts
 Lara Moody and Laura Kubitz
 Cameron Turner and Mindy Conyers
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Visit the 4R Booth!



THE FERTILIZER INDUSTRY AND USDA NRCS ARE WORKING TOGETHER TO IMPLEMENT THE 4RS

Conservation Effectiveness Assessment Program (CEAP) studies by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) have found that there is a need to increase the use of 4R nutrient stewardship – a nutrient management strategy that address the **Right Nutrient Source**, at the **Right Rate**, the **Right Time**, and in the **Right Place**. The revised NRCS 590 Nutrient Management Standard incorporates the 4Rs and NRCS Chief Dave White has praised the framework's ability to maximize fertilizer efficiency, while also minimizing environmental impacts and improving farmers' bottom line. **Learn more about the 4Rs at www.nutrientstewardship.org.**



Healthy Land
Clean Water
For Life

Legacy Gifts and Planned Giving

Legacy gifts and other planned giving options are a great way to support the long-term viability of the Soil and Water Conservation Society at a time in your life or career when "giving back" becomes an important priority. It can be as easy as a cash or stock contribution or naming the Society as a beneficiary in your life insurance or will. There are other annuity and trust options that can provide income during your life in addition to a legacy gift to the Society.

We would be pleased to speak with you about your interests in any of the following legacy gift options:

- Stock and cash gifts
- Bequests
- Life insurance
- IRAs and other retirement plans
- Charitable gift annuities and deferred payment charitable gift annuities
- Charitable remainder trusts and lead trusts

Contact Jim Gulliford at 515-289-2331 x 113 or jim.gulliford@swcs.org to discuss these options in more detail.

In many cases, you may find it possible to realize a tax benefit for you or your family. In all cases, legacy gifts to the SWCS Endowment Fund will support the work of the Society and continue to grow for years to come.

Please note that the Soil and Water Conservation Society cannot and does not provide legal or tax advice. Our advice is that you engage the services of a qualified attorney or financial professional to assist you in your financial planning and planned giving decisions.



Photo courtesy of Pindyurin Vasily

INTRODUCING THE

WATER Quality Inlet

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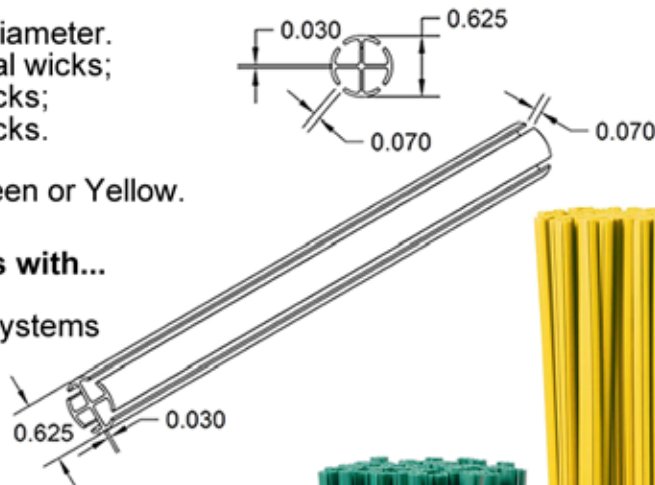
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www.nature.org

The Fertilizer Institute
www.tfi.org

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www.aes-office.com

Aspinwall
www.aspinwall.in

Conservation Technology Information Center
www.conservationinformation.org

Ecosystem Services Exchange
www.ecosystems-services-exchange.com

EnSave Inc.
www.ensave.com

Forrest Keeling Nursery
www.fknursery.com

Logiag Inc.
www.farmnutriadvisor.com

Propane Education and Research Council
www.propanecouncil.org

Stock Seed Farms
www.stockseed.com

Validus Services LLC
www.validus-services.com

White River Irrigation District

SWCS is pleased to have the following organizations as corporate members and partners in the effort to advance natural resource conservation and environmental sustainability. For more information about how you can add your organization's name to this list, please contact Meredith Foley at 515-289-2331 x 112 or email corporate.info@swcs.org

GOLD MEMBERS



SILVER MEMBERS



BRONZE MEMBERS



Sunday, July 22 Schedule & Event Descriptions

8:00 AM	Soil Quality and ECO Farming Workshop	Elm Fork I & II
8:30 AM	Science and Policy Committee Meeting.....	Treaty Oak
Noon	House of Delegates, State of Society Address & Regional Roundtable Meetings	Trinity Ballroom
1:30 PM	LiDAR Workshop	Bur Oak
1:30 PM	Conservation Leadership Workshop	Post Oak
1:30 PM	JSWC Editorial Board	Treaty Oak
1:30 PM	Student Member Forum	Red Oak
4:00 PM	Chapter Leader 101	Post Oak
4:00 PM	Berg and Society Fellows Forum	Trinity Ballroom
6:00 PM	New Members/First Timers Orientation	Elm Fork I & II
6:30 PM	Welcome Reception at BRIT - 6:15 departure, buses run on loop.....	Load at Trinity Ballroom Doors

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

Sunday, July 22 – Noon - Trinity Ballroom

The annual SWCS State of the Society meeting will include President Bill Boyer's State of the Society address, the Annual Report from Executive Director Jim Gulliford, the House of Delegates session, and (a change this year) the regional meetings. The regional meetings (historically held during breakfast or lunch) will provide conference attendees an opportunity to meet with others from their region for a roundtable discussion on local events and issues. This 90-minute session is open to all conference attendees.

Student Members Information Session and Discussion

Sunday, July 22 – 1:30 p.m. - Red Oak

Join your student colleagues and Andrew Paxson, Student Director on the SWCS Board, for a conversation with a panel of guest speakers from various conservation disciplines. Speakers will provide information about each of their respective agencies and disciplines during the interactive discussion. They will also give advice on how you can match your education to the needs of the conservation industry. Following the panel, attendees will have a roundtable session focused on student chapter membership and activities, how to start a student chapter, professional networking and more. Attendance is encouraged for student members, student chapter advisors, and those wishing to start a new student chapter.

New Members/First Timers Orientation

Sunday, July 22 – 6:00 p.m. - Elm Fork I & II

If you are a new member or are attending the Soil and Water Conservation Society annual conference for the first time, be sure to attend this orientation. This is a great opportunity to meet others and discuss the conference with a few "experienced" board members and others about sessions, schedules, symposia, and networking opportunities. Many thanks to Tom Buman, Agren, for organizing this session once again.

Welcome Reception @ BRIT

Sunday, July 22 – 6:30 -8:30 p.m. - Offsite

The conference welcome reception on Sunday evening will be held at the Botanical Research Institute of Texas (BRIT). Founded in 1987, BRIT documents the diversity of plant life and conducts extensive research around the world. In the last ten years, BRIT scientists have located and described scores of species previously unknown to science.

Learn about BRIT's history, present, and future as we talk about our research programs, herbarium, libraries, and educational programs. Explore BRIT at your own pace as you learn about the many sustainable features of their building and landscape.

Appetizers and a cash bar will be provided. Busses will be available to load beginning at 6:15 p.m. and be shuttling attendees between the hotel and BRIT.

The last bus will depart BRIT at 9:00 p.m. to return to the hotel.

Soil Quality and ECO Farming Workshop:

A systems approach to enhance agro-ecosystem services

Presented at the 67th International Annual Conference
Soil and Water Conservation Society
Ft. Worth, Texas

Agenda

- 8:00 Climate and Carbon effects on Soil and Water Quality: rethinking tillage in the 21st Century.
- Randall Reeder, Ext. Ag. Engineer (retired), Ohio State University
 - Rafiq Islam, Soil Scientist, The Ohio State University
- 8:45 ECO Farming and agro-ecosystem services
- Jim Hoorman, Extension Educator, The Ohio State University
- 9:30 Break
- 9:45 The Systems Approach to No-till (including strip-till)
- Paul Jasa, Extension Ag. Engineer, University of Nebraska
 - Jodi DeJong-Hughes, Extension Educator, University of Minnesota
- 11:15 Cover crops and below-ground soil health
- Dave Brandt, President, Ohio No-Till Council
 - Rafiq Islam, Soil Scientist, Ohio State University
- 12:00 Lunch
- 1:15 No-till: Continuous NT impact on soil and water quality
- Don Reicosky, Soil Scientist (retired), USDA-ARS, Morris, MN
- 2:15 Soil quality tests and demonstrations
- Rafiq Islam, Soil Scientist, The Ohio State University
 - Jim Hoorman, Extension Educator, The Ohio State University
- 3:40 Evaluation
- 3:45 Adjourn

This workshop is a dual-purpose educational program: (1) A Train-the-Trainer program, mainly for educators and agency people who want to teach soil quality management to farmers and others; and (2) An educational workshop for crop consultants, farmers and anyone else who wants to learn more in-depth about agricultural soil quality and how to improve it. It is supported by a grant from the USDA North Central Region Sustainable Agriculture Research and Education program (SARE).

The workshop will include: Soil quality and health; 21st century agriculture; Continuous no-till; Systems approach to no-till, including strip-till in cold climates; Cover crops; Soil quality test kit demo; and ECO farming.

ECO Farming is a concept that leads to enhanced ecosystem services. ECO means: E = Exclusive Long-term No-till (a system that minimally disturbs the soil only for planting and fertilizer application.) C = Continuous Cover means keeping a living and growing crop on the soil during the entire year. O = Operational practices that improve soil and water quality, increase carbon sequestration and improve farm economics.



Conservation Leadership Development

Sunday, July 22 - 1:30 - 4:00 p.m. - Post Oak

Time	Topic	Presenters
1:30 p.m.	Welcome	Becky Fletcher, Chair, CLDC
1:40 p.m.	Recruiting Leaders to Your Board Using Committees Effectively	Carlela Vogel, Executive Director, The Funding Information Center, Inc.
2:30 p.m.	Social Media – Why? How?	Dewayne Johnson, SWCS and Becky Fletcher
3:00 p.m.	Break	
3:15 p.m.	Award Winning Chapters: Hoosier Chapter	Harold Thompson
	Alabama Chapter	Earl Norton
3:50 p.m.	Wrap up and Evaluations	Melissa Merritt
4:00 p.m.	Adjourn	

Chapter Leader 101

Sunday, July 22 - 4:00 - 6:00 p.m. - Post Oak

Time	Topic	Presenters
4:15 p.m.	Welcome	Becky Fletcher, Chair, CLDC
4:20 p.m.	The Nuts and Bolts <ul style="list-style-type: none">Officer ResponsibilitiesCommunications with Members, HeadquartersOn Line ResourcesPlanningBudgetingQ&As	Ross Braun, Cathy McGuire, Becky Fletcher, Larry Wright



We see new worlds in every acre

Our mission began in 1926 and it continues today. We help growers improve crop productivity on their land in widely varying, unpredictable and always challenging conditions. We started by creating the first successful corn hybrids and today are employing our Accelerated Yield Technology (AYT™) system to elevate yield expectations in corn, soybeans and other crops. Pioneer Hi-Bred, A DuPont Business, has led — and continues to lead — the way by combining proprietary genetics with traits and by utilizing information technology with field-by-field analytics.

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Berg & Society Fellows Forum

Sunday, July 22 - 4:00 p.m. - Trinity Ballroom

The Long-Term Agro-Ecosystem Research (LTAR) Network for Agriculture

This network is a concept that has found new life through recent ARS efforts and can have a tremendous impact on baseline research for conservation agriculture. We believe this will be a very interesting discussion for attendees on how the work they're doing integrates with this and other networks.

From the LTAR Program Summary:

"The Long-Term Agro-Ecosystem Research network is [...] urgently needed to answer some of the important largescale questions posed by the challenges of the impending effects of climate change and water scarcity, including how episodic events such as floods, drought, and pest and pathogen outbreaks might affect an agroecosystem's ability to produce agricultural products or provide valuable ecosystem services. The LTAR network will also be invaluable for detecting important but slow-acting phenomena such as changes in soil carbon, climate, and the effect of land use changes. Such knowledge is vital if we are to achieve our goals for a sustainable agricultural future."

The Fellows Forum will include 1) an overview of the network by Mark Walbridge, USDA-ARS, on how it came into being and the vision for program, 2) two 20-minute presentations from participating network partners on their role in the network, and 3) a Q&A panel discussion with the audience including as many of the network partners as possible for the final 40 minutes. Discussion will be focused on how this network research integrates with, supports, and enhances other work being performed throughout the US and abroad.



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Monday, July 23 Schedule & Event Descriptions

8:30 AM	Opening Plenary & Pritchard Lecture	Brazos I/II (Grand Ballroom)
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open	Rio Grande
10:30 AM	Concurrent Sessions	See Schedule (Page 27)
Noon	Lunch Break.....	On your own
Noon	International Committee Luncheon	Worthington Room
1:30 PM	Concurrent Sessions	See Schedule (Page 28)
2:00 PM	ARCSE Board Meeting.....	Treaty Oak
3:00 PM	Afternoon Break.....	Rio Grande
3:30 PM	Concurrent Sessions	See Schedule (Page 29)
5:00 PM	Poster and Exhibitor Reception in Exhibit Hall	Rio Grande
7:30 PM	Greenfire: Aldo Leopold and a Land Ethic for our Time (Movie)	Brazos I/II (Grand Ballroom)

2012 Pritchard Lecturer: Curt Meine, Ph.D.

Monday, July 23 - 8:30 a.m. - Brazos I/II (Grand Ballroom)

Cultivating Community: Bringing Ecology, Economics, and Ethics Together on the Land

Curt Meine, Ph.D., is a conservation biologist, historian, and writer. He received his bachelor's degree in English and History from DePaul University in Chicago and his graduate degrees in Land Resources from the Nelson Institute for Environmental Studies at the University of Wisconsin-Madison. Over the last twenty years, Meine has worked on projects involving topics ranging from biodiversity conservation planning, sustainable agriculture, and international development, to crane and wetland conservation, prairie restoration, and development of community-based conservation programs. Meine serves as the Director of Conservation Biology and History for the Center for Humans and Nature, Senior Fellow with the Aldo Leopold Foundation in Baraboo, Wisconsin, and Research Associate with the International Crane Foundation, also located in Baraboo. He is Adjunct Associate Professor in the Department of Forest and Wildlife Ecology at the University of Wisconsin-Madison and is active as a founding member of the Sauk Prairie Conservation Alliance in Sauk County, Wisconsin.



His keynote address will challenge us to consider the words Aldo Leopold wrote in "The Conservation Ethic" in 1933 on how "bread and beauty grow best together. Their harmonious integration can make farming not only a business but an art." Leopold also wrote, "The landscape of any farm is the owner's portrait of himself. Conservation implies self-expression in that landscape, rather than blind compliance with economic dogma."

Join us for Dr. Meine's perspectives and personal reflections on writings and history from the last century can show us how economics, ecology, & ethics can be used together to advance conservation in the next century.



Monday Evening Activity: Movie Screening

Green Fire: Aldo Leopold and a Land Ethic for Our Time

Monday, July 23 - 7:30 p.m. - Brazos I (Grand Ballroom)

Green Fire: Aldo Leopold and a Land Ethic for Our Time is a production of the Aldo Leopold Foundation, the U.S. Forest Service, and the Center for Humans and Nature. The film provocatively examines Leopold's thinking, renewing his idea of a land ethic for a population facing 21st century ecological challenges. Leopold's biographer, conservation biologist Dr. Curt Meine, serves as the film's on-screen guide. The film shares highlights from Leopold's life and extraordinary career, explaining how he shaped conservation in the twentieth century and still inspires people today. Although probably best known as the author of the conservation classic *A Sand County Almanac*, Leopold is also renowned for his work as an educator, philosopher, forester, ecologist, and wilderness advocate.

The film also features commentary and insight from some of today's most recognized and credible scholars and conservation leaders, including: three of Aldo Leopold's children—Nina, Carl, and Estella, Leopold scholars, noted environmental writers, scientists, humanities experts, public policy leaders, business leaders, and leaders of non-profit groups inspired by Leopold.

Popcorn and soda for the screening generously provided by the Sand County Foundation. A cash bar will be available.





Changing perspectives on weed management

Benefits of conservation tillage challenged by growing weed problem

INFORMATION PROVIDED BY DOW AGROSCIENCES

The glyphosate system has provided growers with the option to make a dramatic change in their weed management programs. By incorporating glyphosate in over-the-top applications, they were able to enjoy the many benefits of a more simple system, decrease the amount of herbicides sprayed overall and take pride in a clean field.

Over time, growers have incorporated the glyphosate system into a majority of their corn and soybean acres. With that transition, they also have seen other areas of the farm change. Many farm sheds no longer include the same cultivation equipment that represented the quintessential weed control tools for previous generations.

"We used to spend a lot more time in the tractor when we were using the moldboard plow and chisel," says Alan Vonderhaar, who farms near Camden, Ohio. "These tillage tools played an important part in removing weeds because we didn't always have the herbicide tools."

In addition to less-intensive tillage practices, the introduction of the herbicide-tolerant glyphosate system helped growers spend less time in the field and more time on other aspects of farm management and life.

Weeds challenging yield and farming practices

Many farmers across the Midwest are having an increasingly difficult challenge with growing weed problems. This issue is changing their perspectives on the benefits they've gained from the glyphosate system. Vonderhaar and Kevin Casner, who farms near Carrollton, Mo., are both up against weeds that are challenging their yield potential and the farming practices they have adopted.

Both growers have incorporated multiple modes of action in their weed control programs, along with a clean start from a residual foundation herbicide. However, they're still looking for a new solution to help restore their confidence in their glyphosate-tolerant system.

"We have been depending on glyphosate for a while, and now we are going back to our preemergence products, too. It would be nice to have another tool in the toolbox," Casner says.

Sustain the benefits with new technology

The Enlist™ Weed Control System will allow growers to keep farming the way they prefer and restore the on-farm benefits that are being challenged by an increase in weed pressure.

The Enlist system will enable the use of multiple modes of action and will include a new herbicide component, which is a proprietary blend of glyphosate and new 2,4-D choline. It features a technology package called Colex-D™ Technology.

Colex-D Technology will provide growers a herbicide with ultra-low volatility, minimized potential for physical drift, decreased odor and improved handling characteristics.

The Enlist system was designed for growers to build on the glyphosate system and continue to provide the benefits that growers have come to appreciate, including options for conservation tillage and better weed control with multiple modes of action.

"The advances that happened thanks to the glyphosate system have gone hand in hand with moving farming forward," Vonderhaar says.

For more information on the Enlist system, visit Enlist.com or follow on Twitter® @EnlistOnline.

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Tuesday, July 24 Schedule & Event Descriptions

7:30 AM	Special Topic Breakfast - NASS 2012 Census of Agriculture.....	Bur Oak
7:30 AM	Special Topic Breakfast - NIFA-CEAP Lessons Learned	Pecos I
8:00 AM	Tuesday Plenary	Brazos I/II
10:00 AM	Morning Break in Exhibit Hall.....	Rio Grande
10:30 AM	Concurrent Sessions	See Schedule (Page 30)
Noon	Awards Luncheon.....	Hacienda
Noon	Lunch Break.....	On your own
1:30 PM	Concurrent Sessions	See Schedule (Page 31)
3:30 PM	Concurrent Sessions	See Schedule (Page 32)
5:15 PM	SWCS Annual Conference Program Committee.....	Treaty Oak

Special Topic Breakfast (Early Bird Sessions)

Tuesday, July 24 - 7:30 a.m. - Bur Oak

2012 Census of Agriculture

Renee Picanso, USDA-NASS

USDA's National Agricultural Statistics Service is gearing up to conduct the 2012 Census of Agriculture. The Census of Agriculture is the leading source of facts and figures about American Agriculture and is used by everyone who provides services to farmers and rural communities. Questionnaires will be mailed in late December 2012 and due back in February 2013. The support and assistance of all involved in agriculture is needed to ensure that the Census coverage is complete and accurate.

Tuesday, July 24 - 7:30 a.m. - Pecos I

Lessons Learned from NIFA CEAP Watersheds

Deanna Osmond, North Carolina State University and additional speakers

As part of the overall Conservation Effects Assessment Project (CEAP), 13 agricultural watershed projects were funded jointly by the USDA National Institute of Food and Agriculture (NIFA) and Natural Resources Conservation Service (NRCS). The projects, conducted from 2004 to 2011, were to evaluate the effects of cropland and pastureland conservation practices on spatial and temporal trends in water quality at the watershed scale, as well as social and economic factors that influence implementation and maintenance of practices. The recent synthesis of lessons learned about implementing conservation practices to protect water quality will be presented and discussed relative to agencies and organizations incorporation of these lessons.



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Tuesday Morning Plenary Session

Tuesday, July 24 - 8:30 a.m. - Brazos I/ii

Considering Ecology, Economics, and Ethics. Our distinguished panel, moderated by Dan Zinkand, will discuss the projected economic ramifications of the pending Farm Bill on conservation programs, the effects on farms, communities, and farmers, and potential to reach the goal of balancing food, fiber, feed, and fuel with limited supplies of funds and growing supplies of people.



Laurie Drinkwater, Ph.D., is an Associate Professor of Horticulture in the College of Agriculture and Life Sciences at Cornell University in Ithaca, NY and has a broad interest in using science to develop sustainable societies that provide for all people while preserving natural resources and biosphere integrity for future generations. Dr. Drinkwater's research group conducts studies of soil nutrient cycling processes in agroecosystems at scales ranging from the rhizosphere to farm and watershed scales.



Ray Layton, DuPont-Pioneer, holds the position of Research Fellow for Environmental Safety within the Global Regulatory Scientific Affairs group at DuPont-Pioneer. He has been involved in conducting environmental and human health risk assessments for over thirty years, including 23 years focused on the potential environmental effects of agricultural practices worldwide (13 years with conventional pesticides, 10 years with GM crops).



Curt Meine, Ph.D., is a conservation biologist, environmental historian, and writer who serves as Senior Fellow with the Aldo Leopold Foundation and with the Center for Humans and Nature, and as Associate Adjunct Professor at the University of Wisconsin-Madison. He has written several books, including *Aldo Leopold: His Life and Work* and *Correction Lines: Essays on Land, Leopold, and Conservation*, and is the on-screen guide in the documentary film *Green Fire: Aldo Leopold and a Land Ethic for Our Time*.



Katherine (Kitty) Smith is Chief Economist and Vice President of the American Farmland Trust, a non-profit organization dedicated to keeping good farmland in agricultural production and protecting the natural resources contributing to and affected by that production. Previously, she spent 27 years with USDA, initially focusing on agri-environmental policy, and most recently as Administrator of USDA's Economic Research Service.



Dan Zinkand, Dan Zinkand Communications, LLC, provides editorial content to agricultural media and marketing communications to the agricultural and legal industries. He has covered agriculture and food for 20 years, including the adoption of biotech corn, soybeans and alfalfa and consumer reactions; conservation tillage systems; and why farmers do and don't use conservation practices.

Wednesday, July 25 Schedule & Event Descriptions

Wednesday, July 25

Outdoor Classroom/Educational Tours

7:30 AM Tour #2 - Burgundy Beef and Sunset Winery.....Gather in Trinity Ballroom Lobby
Tour #4 - Fort Worth Nature Center (A&B) and Stockyards for all tours

8:00 AM Tour #1 - Botanical Research Institute of Texas and Fort Worth Botanic Garden
Tour #3 - Bear Creek Ranch (Dixon Water Foundation)

Complete tour descriptions online at www.swcs.org/12AC Tours

Buses will leave on time. Please be ready to get on the bus 10 minutes before your tour departs. All buses will depart from the Trinity Ballroom entrance.

Tour 1 - Botanical Research Institute of Texas and Fort Worth Botanic Garden

Time: 8:00 a.m. – Noon

Fee: \$40. Light snack.

Tour 2 - Burgundy Beef and Sunset Winery Tour

Time: 7:30 a.m. – 4:00 p.m.

Fee: \$55. Includes lunch and wine tasting

Tour 3 - Bear Creek Ranch

Time: 8:00 a.m. – 1:00 p.m.

Fee: \$45. Lunch included in tour.

Tour 4 - Fort Worth Nature Center and Stockyards

A) Bison Feeding Hayride – \$35 per person OR

B) Naturalist Led Nature Hike – \$30 per person

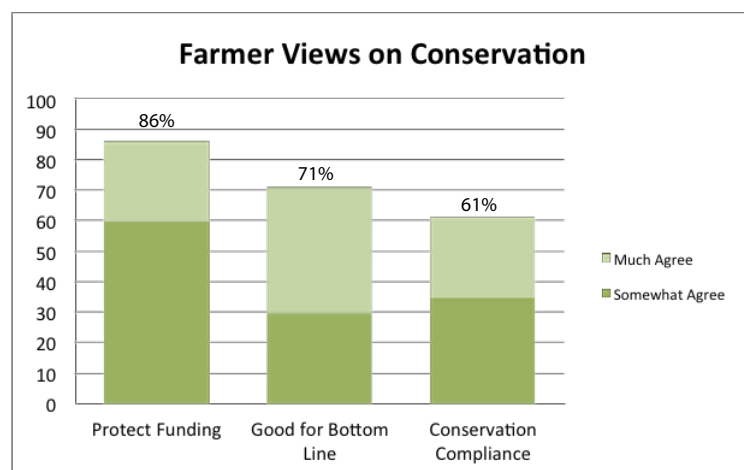
Time: 7:30 a.m.– 2:15 p.m.

Lunch on your own at Stockyards.

CONSERVATION: GOOD FOR FARMERS, GOOD FOR THE ENVIRONMENT



National Farmers Union, along with Cultivate Impact, Greenberg Quinlan Rosner Research and Public Opinion Strategies, conducted a survey of 502 American farmers across 13 states in America's Heartland.¹



- Eighty-six percent of farmers say the level of conservation funding should be maintained or increased.
- Nearly three-quarters of farmers say that conservation programs help their bottom line.
- Farmers believe that in order to receive federal subsidies including crop insurance, they should have to meet some environmental standards.

www.NFU.org

¹ Greenberg Quinlan Rosner Research and Public Opinion Strategies conducted a survey among 502 farmers in IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, OK, SD, and WI, with a minimum of \$50,000 in annual sales. The survey was conducted by live professional interviewers between June 7 and 13, 2012. Demographic information from USDA's National Agricultural Statistics Service (NASS) and Census of Agriculture was used to ensure a representative sample. The full sample is subject to a margin of error of +/-4.37 percentage points at the 95 percent confidence interval; margin of error is higher among subgroups.



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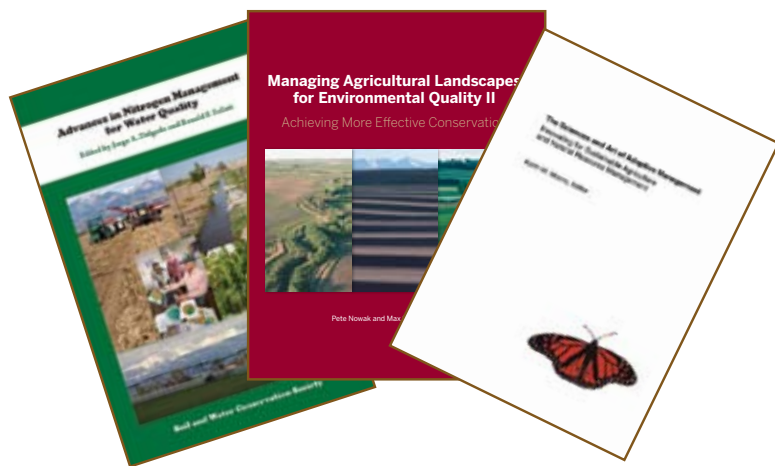


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Conservation NewsBriefs is a weekly service aimed at providing SWCS members and stakeholders in the conservation community with timely updates on soil and water conservation issues in the news. This informative weekly digest of current news (from a variety of national and international news outlets) is delivered directly to the subscriber's inbox every Thursday. Conservation NewsBriefs has more than 23,000 subscribers.

Concurrent Educational Sessions

Monday	10:30 a.m.	10:50 a.m.	11:10 a.m.	11:30 a.m.
Brazos I & II Symposium	Conservation Technology Innovations: New Options for the Future <i>Page 40</i> - Gregorio Cruz, USDA-NRCS			
Pecos I Symposium	Conservation Effects Assessment Project: Accomplishments from USDA-ARS Benchmark Watersheds <i>Page 39</i> - Mark Walbridge, USDA-ARS			
Pecos II Symposium	Lessons from Monitoring and Measurement of Water Quality Projects in Midwestern Agriculture Watersheds <i>Page 44</i> - Jimmy Daukas, American Farmland Trust			
Bur Oak Modeling & Tools	CIG Presentation: Application of NutrientNet in Chesapeake Bay Watershed as powered by Nutrient Tracking Tool <i>Ali Saleh, Tarleton State University</i>	Assessment of Riparian Buffers as an Alternative Conservation Practice using the USDA AnnAG-NPS Watershed Pollutant Loading Model <i>Ronald Bingner, USDA-ARS-NSL</i>	Adaptive hydrologic enforcement of LiDAR-based Digital Elevation Models <i>Brian Gelder, Iowa State University</i>	Modeling the effects of conservation tillage on hydrology and nutrient transport in a Canadian Prairie watershed under frozen soil condition. <i>Wanhong Yang, University of Guelph</i> Originally: Yongbo Liu
Post Oak Outreach/Education	The Impact of Nutrient Management Planning in Arkansas <i>Mike Daniels, University of Arkansas</i>	Evaluation of Agricultural Irrigation Efficiency and State Water Policy in Arkansas <i>Kuatbay Bektemirov, University of Arkansas</i>	Emergency Conservation recovery in the New Madrid Floodway <i>David Speidel, USDA NRCS</i>	Watershed Based Program Design and Implementation <i>Jacqui Laporte, Ontario Ministry of Agriculture, Food and Rural Affairs</i>
West Fork I & II Water	The Lake Macatawa Water Quality Project. <i>Dan Callam, Hope College</i> Originally: Graham Peaslee	Retrospective analysis of periodically-collected suspended-sediment data in the United States <i>Casey Lee, U.S. Geological Survey</i>	A GIS index approach to prioritize water quality monitoring of CAFOs in North Carolina <i>Jay Christensen, US EPA, National Exposure Research Laboratory</i>	Large-Scale Restoration of Disturbed Wetlands on Florida Agricultural Lands <i>Mitchell Griffin, CH2M HILL</i>
Central Symposium	Food Security: Conservation, Inputs and Technology <i>Page 43</i> - Jorge Delgado, USDA-ARS-SPNR			
Elm Fork I & II Soil	Vertical Tillage Effects on Corn Yield, Disease and Pathogens, and Soil Properties <i>DeAnn Presley, Kansas State University</i>	Wind Erosion of Organic Soils <i>Ted M Zobeck, USDA-ARS</i>	Regional Assessment of Short-term Impacts of Corn Stover Removal for Bioenergy on Soil Quality and Crop Production <i>DeAnn Presley, Kansas State University</i>	Estimation of soil water evaporative loss after tillage operation using stable isotope technique <i>Mutiu Busari, University</i>

Monday	1:30 p.m.	1:50 p.m.	2:10 p.m.	2:30 p.m.
Brazos I & II	No Presentations Scheduled			
Pecos I Symposium	Conservation Effects Assessment Project: Accomplishments from USDA-ARS Benchmark Watersheds PART II Page 39 - Mark Walbridge, USDA-ARS			
Pecos II Symposium	MRBI Symposium Page 44 - Mike Daniels, University of Arkansas			
Bur Oak Water	The use of models to manage for water availability and nutrient transport in an agricultural landscape <i>Jeannie Barlow, U.S. Geological Survey</i>	Agronomic, Economic and Institutional Factors Influencing Spatial Variability of Water Use in the Irrigation District 014-Rio Colorado, Mexico <i>Yamilett Carrillo, University of Arizona</i>	Estimating Flood Damages Averted from NRCS Watershed Projects <i>Noel Gollehon, Natural Resources Conservation Service, USDA</i>	Water As A Crop Helping Land-owners Find Value Meeting Society's Water Resource Needs. <i>Alex Echols, Sand County Foundation</i> Originally: Steven Parrett
Post Oak Conservation Economics	Assessing the Economic Impact of New Water Quality Regulations <i>Brad Barbeau, CSU Monterey Bay School of Business</i>	The Value of Environmental Benefits from NRCS WRP easements. <i>David Buland, USDA NRCS</i> Originally: Felix Spinelli	Use of the Discount Rate in Conservation Programs and Projects: <i>Mark Xu, NRCS, USDA NRCS</i>	Sell Versus Burn Crop Residue Management Decisions Using Economic Analysis For Arkansas Wheat-Soybean Double Crop Production Systems <i>C. Robert Stark, University of Arkansas at Monticello School of Agriculture</i>
West Fork I & II Symposium	Deep and Silent Waters: Challenges in Aquifer Sustainability Page 40 - Jean Steiner, USDA-ARS			
Central Symposium	Pollinator Conservation Grows Up: Lessons Learned from the Field (CIG Session) Page 45 - Cheryl Simmons, USDA-NRCS			
Elm Fork I & II Conservation Policy	Learning from NIFA-CEAP: Changing Conservation Programming <i>Deanna Osmond, NC State University</i>	Evaluating the Environmental Benefits of Rangeland Conservation Practices <i>Kenneth Spaeth, USDA-NRCS</i>	Toward Integrated Wetland Conservation: A Diagnostic Framework <i>Kyle Magyera, Wisconsin Wetlands Association</i>	Conservation of Mangrove ecosystems: Global assessment of climatic impacts, <i>Keith Toffling, University of Massachusetts</i> Originally: Tim Randhir

Concurrent Educational Sessions

Monday	3:30 p.m.	3:50 p.m.	4:10 p.m.	4:30 p.m.
Brazos I & II Symposium	Ecological Farming: A systematic approach to increasing ecological services and economic profit <i>Page 41</i> - James Hoorman, Ohio State University Extension			
Pecos I Symposium	Conservation Effects Assessment Project: Accomplishments from USDA-ARS Benchmark Watersheds PART III <i>Page 39</i> - Mark Walbridge, USDA-ARS			
Pecos II Symposium	Discovery Farms: Monitoring Runoff from Real, Working Farms <i>Page 41</i> - Mike Daniels, University of Arkansas			
Bur Oak Symposium	International Grassroots Conservation Success Stories <i>Page 43</i> - Theo Dillaha, SWCS International Committee			
Post Oak Water Quality & Agriculture	Using conservation tillage to increase yield and water use efficiency of corn and cotton under deficit irrigation <i>R.Louis Baumhardt, USDA Agricultural Research Service</i>	Potential for Improving Agriculture's Water Use Efficiency in Northwest Mexico: The Mexicali Agricultural Valley <i>Yamilett Carrillo, University of Arizona</i>	Assessing the effects of nutrient enrichment on agricultural stream ecology: Regional implications for nutrient criteria development <i>Jeff Frey, U.S. Geological Survey</i>	Effects of retired lands on water quality in southern Minnesota agricultural watersheds <i>Jeff Frey, U.S Geological Survey</i>
West Fork I & II Symposium	Deep and Silent Waters: Challenges in Aquifer Sustainability PART II <i>Page 40</i> - Jean Steiner, USDA-ARS			
Central Modeling & Tools	A New Framework to Incorporate Agronomic Systems into Ecological Site Descriptions <i>Susan Andrews, Natural Resources Conservation Service</i>	Effect of Topographic Characteristics on Compound Topographic Index for Identification of Gully Channel Initiation Locations. <i>Ron Bingner, USDA-ARS-National Sedimentation Laboratory Originally: Henrique Momm</i>	Rapid Response to Historic Drought Impacts on the National Forests and Grasslands in Texas <i>Kathleen Ward, USDA-FS-National Forests and Grasslands in Texas</i>	Developing a Comprehensive National Conservation Cost Database <i>Mark Xu, NRCS, USDA</i>
Elm Fork I & II Conservation Policy	Systems Approach To Reduce Nitrogen Loss <i>Alex Echols, Sand County Foundation</i>	Climate Change, Natural Resource Concerns in Malawi, Africa <i>John Kluthe, USDA-NRCS</i>	Water Conservation: A Stakeholder Approach to Implementing Statewide Initiatives <i>Vanessa Escobar, Texas Water Development Board</i>	Economic Implications of Deed Restrictions on NRCS Conservation Easements <i>Janet Perry, USDA NRCS NHQ Originally: Felix Spinelli</i>

Tuesday	10:30 a.m.	10:50 a.m.	11:10 a.m.	11:30 a.m.
Pecos I Symposium	2012 Farm Bill Implications for Conservation <i>Page 36</i> - Jimmy Daukas, American Farmland Trust			
Red Oak	No Presentations Scheduled			
Bur Oak Symposium	Choosing the Best Survey Tool GPS, Optical, or MGIS <i>Page 38</i> - Micah Bench, Trimble Navigation, LTD			
Post Oak Urban	Land use pattern and stream flows in urbanizing watersheds. <i>Paul Ekness, University of Massachusetts</i> Originally: Timothy Randhir	Development of an Urban Eco-system along Eight Miles of the San Antonio River <i>Jacque Thomas, Jacobs Engineering Group</i>	Engineering a "Natural" Solution to an Unnatural Challenge, Shoreline Stabilization and Beautification on Town Lake Trail, Austin <i>Heather Harris, CH2M HILL</i>	Erosion control through the vetiver system in urban settings in Central Africa <i>Yves-Dady Botula, University of Kinshasa DR Congo / Ghent University Belgium</i>
West Fork I & II Symposium	Streamlining Conservation Delivery <i>Page 46</i> - Cheryl Simmons, NRCS			
Central Symposium	Advances and Challenges in Monitoring Water at the Field Edge: Methods and Case Studies <i>Page 37</i> - Mark Tomer, USDA/ARS			
Elm Fork I Symposium	Expanding Support Creation of the first Friends of a Soil and Water Conservation District <i>Page 42</i> - Dale Threatt-Taylor, Wake Soil and Water Conservation District			
Elm Fork II Economics, Ecology & Ethics	Bennett, Leopold and the Shadow of James Madison <i>Alex Echols, Sand County Foundation</i>	A Brief Survey of Ethical Arguments for Soil Conservation <i>Thomas Sauer, USDA-ARS</i>	Soil microbial communities and enzyme activities in soils during historically extreme drought conditions in the USA <i>Veronica Acosta Martinez, USDA-ARS</i>	Economic and Biophysical Impacts of Land Management Practices in Southern Manitoba <i>Mohammad Khakbazan, Agriculture and Agri-Food Canada</i>

Concurrent Educational Sessions

Tuesday	1:30 p.m.	1:50 p.m.	2:10 p.m.	2:30 p.m.
Pecos I Symposium	Conclusions and Conservation Benefits from the Nation Cropland Assessment <i>Page 38</i> - Arnold King, Texas AgriLife Research			
Red Oak	No Presentations Scheduled			
Bur Oak Adaptive Management	Effect of pinyon and juniper slash on sediment production following a prescribed cut-and-limb treatment in central Nevada <i>Sarah Noelle, The University of Arizona</i>	CIG Presentation: Targeting conservation practices through watershed modeling informed by farmer interviews <i>Margaret Kalcic, Purdue University</i>	Sustainable Cropping Systems Using Cover Crops, Native Species Field Borders and Riparian Buffers for Environmental Quality <i>Clark Gantzer, University of Missouri</i>	Strategies Targeting American Agricultural Resources Sustainability: A 6-State Study of Energy Coupled with Resource Management <i>Martha Zwonitzer, Iowa Soybean Association</i>
Post Oak Symposium	Phyto-Aquatic Nutrient Recycling (CIG Session) <i>Page 45</i> - H. Tony Hartmann, Great Lakes Ag Energy			
West Fork I & II Symposium	BMP's in the Chesapeake Bay; what is really there? <i>Page 37</i> - Bob Ensor, Howard Soil Conservation District			
Central Symposium	Advances and Challenges in Monitoring Water at the Field Edge: Methods and Case Studies PART II <i>Page 37</i> - Mark Tomer, USDA/ARS			
Elm Fork I Symposium	Toward guidelines for model calibration and validation? <i>Page 47</i> - Claire Baffaut, USDA-ARS-CSWQRU			
Elm Fork II Water	Complexity of Agricultural and Human Interactions on Water Quality and Quantity in the Mississippi Delta <i>Richard Coupe, U.S. Geological Survey</i>	The Effects of 2011 Ohio and Mississippi River Valley Flooding on Cairo, Illinois Area <i>Kenneth Olson, University of Illinois</i>	The effects of groundwater withdrawals from the Mississippi River Valley alluvial aquifer on surface water quality in northwestern Mississippi <i>Heather Welch, US Geological Survey</i>	Iowa Daily Erosion Project <i>Brian Gelder, Iowa State University</i>

Tuesday	3:30 p.m.	3:50 p.m.	4:10 p.m.	4:30 p.m.
Pecos I Symposium	Spinoff Technologies from the CEAP National Cropland Assessment Page 46 - Arnold King, Texas AgriLife Research			
Red Oak Soil	Examining plant nutrient recovery efficiencies in the United States, 1996-2010 <i>Wen-Yuan Huang, Economic Research Service, U.S. Department of Agriculture</i>	NuGIS: a Nutrient Use Geographic Information System for the U.S. <i>Paul Fixen, IPNI</i>	Assessment of Polluting Potential of Major soil types within Lake Huron tributaries <i>Ross Wilson, Ausable Bayfield Conservation Authority</i>	The Impact of 2011 Induced Levee Breaches on Agricultural Lands of Mississippi River Valley <i>Kenneth Olson, University of Illinois, NRES</i>
Bur Oak Adaptive Management	Management Of Drainage Waters: New Practice Standards <i>Alex Echols, Sand County Foundation</i>	A basis for decision making on soil conservation in Prince Edward Island PEI, Canada: Considering the evidence <i>Linnell Edwards, Agriculture and Agri-Food Canada</i>	Adaptive management of ecosystem services in Orinoco Watershed: A regional Assessment. <i>Luisa Galindo, University of Massachusetts Originally: Timothy Randhir</i>	Nutrients management in the Danube River Basin <i>Mihaela Popovici, International Commission for the Protection of Danube River ICPDR</i>
Post Oak Symposium	Embracing Conservation Practices as a Producer A Panel Discussion Page 42 - Gretchen Kamps, University of Wisconsin-Platteville Pioneer Farm			
West Fork I & II Symposium	Addressing the Adoption Challenge (CIG Session) Page 36 - Thomas Green, Agflex, Inc.			
Central Symposium	Advances and Challenges in Monitoring Water at the Field Edge: Methods and Case Studies PART III Page 37 - Mark Tomer, USDA/ARS			
Elm Fork I Symposium	Toward guidelines for model calibration and validation? PART II Page 47 - Claire Baffaut, USDA-ARS-CSWQRU			
Elm Fork II Water Quality & Agriculture	Paired Watershed Studies in the Jordan Lake Watershed: A Regulated System in North Carolina <i>Deanna Osmond, NC State University</i>	Management of creek pastures to protect and improve water quality <i>Kevin Wagner, Texas A&M University, Texas Water Resources Institute</i>	The NRCS/USACE Partnership Handbook: A Field Guide to Working Together Toward Shared Goals <i>Cynthia Wood, U.S. Army Corps of Engineers</i>	Physicochemical Properties of Soils and some Water Sources on the Western Flank of Mount Cameroon <i>Norbert Fomenky, University of Buea Originally: Aaon Tening</i>

Poster Presentations

Adaptive Management of Conservation Efforts

1. NRCS Remote Sensing Labs Utilization of Aerial Photography in Support of Stewardship Land Monitoring
Adam Durham, USDA-NRCS
2. Sustainable ranch management: Integrating resource monitoring and business planning
Kristie Maczko, Sustainable Rangelands Roundtable, University of Wyoming

Agricultural and Conservation Economics

3. Values and the Agricultural Landscape
Pike Brown, Ph.D., Landcare Research, New Zealand

Biodiversity Conservation and Management

4. Geospatial Analysis of Flood Plain Land Use and Riparian Vegetation Pattern in the Tuolumne Watershed, San Joaquin Valley, California
Augustine Awunudiogba, California State University Stanislaus
5. Pyrosequencing Reveals Bacteria Carried in Different Wind Eroded Sediments
Dr. Terrence G. Gardner, USDA-ARS/ Alabama A&M University
6. Virginia Quail Management Assistance Program Facilitating Diverse Habitat Development
Robert Glennon, Virginia Tech
7. **CIG Poster:** Increasing the Availability of Local Ecotype Milkweed (*Asclepias* spp.) Seed for Monarch Butterfly Habitat Conservation
Eric Mader, The Xerces Society for Invertebrate Conservation
8. **CIG Poster:** Promoting Agricultural Sustainability through Beneficial Insect Hedgerows: Restoring Pollination and Pest Control Services on Farms in California's Central Valley, Phase II
Mace Vaughan, The Xerces Society for Invertebrate Conservation

Conservation Models, Tools and Technologies

9. Potentials of Aerial Cropping For Rehabilitation of Degraded Land In South Western Nigeria
Aruleba Joseph Olusegun, Ekiti State University, Nigeria
10. Potential Use of a New NLEAP-GIS Tool to determine and reduce Nitrate Losses from the Arkansas Delta
Theodis Bunch, USDA/NRCS
11. A New Nitrogen Index to Assess Sustainability of Cropping Systems of Andean Regions of South America
Jorge A. Delgado¹ USDA-ARS, Soil Plant Nutrient Research Unit, Fort Collins, CO 80526
12. Phytoremediation Database: A tool to assist in remediation and rehabilitation of contaminated sites
Joel Douglas, USDA-NRCS
13. Evaluating the utility of sediment retention structure dredge and dairy manure compost as a restoration strategy for highly degraded rangelands in Central Texas
William Fox, Texas AgriLife Research, Texas A&M University System
14. GeoObserver - A Tool for Streamlining Geospatial Data Management
Paul Fukuhara, USDA NRCS NGMC
15. **CIG Poster:** Integrating No-Till Cropping, Manure and Cover Crops with Manure Slurry Seeding
Tim Harrigan, Michigan State University
16. NRCS Imagery Support for Conservation Planning
Tony Kimmel, NRCS-National Geospatial Management Center
17. Using Multi-frequency Reservoir Survey Techniques to Refine Watershed Conservation Strategy
Jason McAlister - Blackland Research Center
18. **CIG Poster:** Monitoring Edge-of-Field Surface-Water Runoff: a Three-State Pilot Project to Promote and Evaluate a Simple, Inexpensive, and Reliable Gauge
Randy Mentz, University of Wisconsin-Platteville Pioneer Farm
19. NRCS National Elevation Program support Conservation Planning & Design
Steve Nechero, USDA-NRCS-NGMC
20. Rural Stormwater Management Model - Southeast Shores of Lake Huron, Ontario, Canada
Tom Prout, General Manager and Secretary Treasurer, Ausable Bayfield Conservation Authority ABCA
21. Differentiating Tillage Practices Using Landsat -5 TM Data
Sonisa Sharma, University of Nebraska-Lincoln

22. **CIG Poster:** Development and Testing of Pollinator Habitat Enhancement Specifications for Six Regions of the U.S
Eric Mader, The Xerces Society for Invertebrate Conservation
23. Using Rare Earth Element (REE) Tracers to Identify Preferential Micro-Sites of Post-Fire Aeolian Erosion
R. Scott Van Pelt, USDA-ARS
24. Assessment of Sampling Methods for Carbon Credit Monitoring
Sumit Sharma, Oklahoma State University
25. Nitrous oxide emissions as a function of N application to bioenergy feedstocks
Tracy M. Wilson, Oklahoma State University

Outreach, Education and Community Engagement

26. Arkansas Discovery Farms: Row Crop Production
Pearl Daniel, University of Arkansas
27. Enabling locals in Sierra Leone, Africa to Attain a Healthy Future Through Sustaining Long-Term Water Quality
Liberty Galvin, Oklahoma State University

Soil Resource Assessment and Management

28. Soil Carbon Accumulation After Short-term Use of Rye as a Winter Cover Crop
Francisco Arriaga, University of Wisconsin
29. Soil Compaction Under Dual-Purpose Winter Wheat
Alexandra Cumbie, Oklahoma State University
30. Sustainable Nutrient Management of In-field Livestock Wintering Systems
Dennis Haak, Agriculture and Agri-Food Canada
31. Evidence towards sediment accumulation characteristics of slotted pipes as best management practices on agricultural landscapes
Robert Kroger, Mississippi State University
32. Soil Aggregation and Glomalin in a Soil Quality Management Study in a Cold, Semi-arid Region
Kris Nichols, USDA-ARS
33. High-resolution soil erosion modelling with a LiDAR-derived DEM for a small Lake Huron coastal watershed in Ontario
Peter Nowell, University of Guelph
34. Effect of Agronomic Practices on Soil Microbial Biomass and Cumulative Greenhouse Gas Emissions from Bioenergy Sorghum Production
Joseph Storlien, Texas A&M University

Water Resource Assessment and Management

35. A River Runs Thru It... the North Canadian River Watershed Traveling Educator Workshop
Karla Beatty and Debi Carnott, Oklahoma Conservation Commission
36. Sediment Loading Measurements in the Lake Macatawa Watershed
Daniel J. Callam, Hope College
37. Monitoring Water Wells in Middle Tennessee with Down Well Camera
Sam O. Dennis, Tennessee State University
38. Water table response to precipitation events based on depth to groundwater and vegetation
Birl Lowery, University of Wisconsin-Madison
39. Evaluation of perennial warm-season grasses production for forage and biofuel in Washington
Romulus Okwany, Washington State University
40. The NRCS/USACE Partnership Handbook: A Field Guide to Working Together Toward Shared Goals
Cynthia Wood, Institute for Water Resources, U.S. Army Corps of Engineers

Sustainable Aquifer Symposium Posters

41. ASCE-EWRI Standardized Reference ET Equation based Bushland Reference ET Calculator.
Prasanna H. Gowda, Jerry Ennis, Terry A. Howell, Thomas H. Marek, and Dana O. Porter, USDA-ARS and Texas AgriLife
42. Quantitative and qualitative analysis of groundwater in Aguanaval and Chupaderos aquifers (MEXICO)
Hugo Junez-Ferreira, UAZ; Carlos Bautista-Capetillo, UAZ; Francisco Mojarro, UAZ
43. SPELLmap: An Application Tool For Handling Large Georeferenced Hydrological Datasets
Jorge A. Guzman, ARS-USDA Grazinglands Research Laboratory
44. Variations in precipitation between 1970 and 2009 in the Canadian River watershed in New Mexico and Texas: Implications regarding the use of Lake Meredith and the Ogallala Aquifer as water supplies
David Brauer, CPRL-ARS-USDA

Symposia Sessions Summary		
Title & Organizer	Day/Time	Location
2012 Farm Bill Implications for Conservation Jimmy Daukas, American Farmland Trust	Tuesday, 10:30 – Noon	Pecos I
Addressing the Adoption Challenge (<i>CIG Session</i>) Thomas Green, Agflex, Inc.	Tuesday, 3:30 – 5:00 p.m.	West Fork I/II
Advances and Challenges in Monitoring Water at the Field Edge: Methods and Case Studies Mark Tomer, USDA/ARS	Tuesday, 10:30 a.m. – 5:00 p.m.	Central
BMP's in the Chesapeake Bay; what is really there? Bob Ensor, Howard Soil Conservation District	Tuesday, 1:30 – 3:00 p.m.	West Fork I/II
Choosing the Best Survey Tool GPS, Optical, or MGIS Micah Bench, Trimble Navigation, LTD	Tuesday, 10:30 – Noon	Bur Oak
Conclusions and Conservation Benefits from the Nation Cropland Assessment Arnold King, Texas AgriLife Research	Tuesday, 1:30 – 3:00 p.m.	Pecos I
Conservation Effects Assessment Project: Accomplishments from USDA-ARS Benchmark Watersheds Mark Walbridge, USDA-ARS	Monday, 10:30 a.m. – 5:00 p.m.	Pecos I
Conservation Technology Innovations: New Options for the Future Gregorio Cruz, USDA-NRCS	Monday, 10:30 a.m. - Noon	Brazos I & II
Deep and Silent Waters: Challenges in Aquifer Sustainability Jean Steiner, USDA-ARS	Monday, 1:30 – 5:00 p.m.	West Fork I/II
Discovery Farms: Monitoring Runoff from Real, Working Farms Mike Daniels, University of Arkansas	Monday, 3:30 – 5:00 p.m.	Pecos II
Ecological Farming: A systematic approach to increasing ecological services and economic profit James Hoorman, Ohio State University Extension	Monday, 3:30 – 5:00 p.m.	Brazos I/II
Embracing Conservation Practices as a Producer: A Panel Discussion Gretchen Kamps, University of Wisconsin-Platteville Pioneer Farm	Tuesday, 3:30 – 5:00 p.m.	Post Oak
Expanding Support Creation of the first Friends of a Soil and Water Conservation District Dale Threatt-Taylor, Wake Soil and Water Conservation District	Tuesday, 10:30 – Noon	Elm Fork I
Food Security: Conservation, Inputs and Technology Jorge Delgado, USDA-ARS-SPNR	Monday, 10:30 a.m. – Noon	Central
International Grassroots Conservation Success Stories Theo Dillaha, SWCS International Committee	Monday, 3:30 – 5:00 p.m.	Bur Oak
Lessons from Monitoring and Measurement of Water Quality Projects in Midwestern Agriculture Watersheds Jimmy Daukas, American Farmland Trust	Monday, 10:30 a.m. – Noon	Pecos II
MRBI Symposium Mike Daniels, University of Arkansas	Monday, 1:30 – 3:00 p.m.	Pecos II
Phyto-Aquatic Nutrient Recycling (<i>CIG Session</i>) H. Tony Hartmann, Great Lakes Ag Energy	Tuesday, 1:30 – 3:00 p.m.	Post Oak
Pollinator Conservation Grows Up: Lessons Learned from the Field (<i>CIG Session</i>) Cheryl Simmons, USDA-NRCS	Monday, 1:30 – 3:00 p.m.	Central
Spinoff Technologies from the CEAP National Cropland Assessment Arnold King, Texas AgriLife Research	Tuesday, 3:30 – 5:00 p.m.	Pecos I
Streamlining Conservation Delivery Cheryl Simmons, NRCS	Tuesday, 10:30 – Noon	West Fork I/II
Toward guidelines for model calibration and validation? Claire Baffaut, USDA-ARS-CSWQRU	Tuesday, 1:30 – 5:00 p.m.	Elm Fork I

Symposium Session Descriptions and Agendas

2012 Farm Bill Implications for Conservation

Jimmy Daukas, American Farmland Trust

Tuesday, 10:30 – Noon

Pecos I

The Farm Bill is the single most important piece of legislation affecting conservation. The 2012 Farm Bill is being debated under the pressure of severe budget cuts and increasing demands on producers to improve environmental quality. The early glimpse of a Farm Bill that the Agriculture Committees sent to the Super Committee showed significant, even dramatic changes in conservation programs as well as safety net programs. All have important implications for conservation on the ground and in the fields. Panelists will present the latest information on the status of the Farm Bill, potential impacts on conservation, review changes and new programs, and next steps.

Panelists:

- Mitch Daniels, American Farmland Trust
- John Peterson, Soil and Water Conservation Society
- Jimmy Daukas, American Farmland Trust (Moderator)

Addressing the Adoption Challenge

Thomas Green, Agflex, Inc.

Tuesday, 3:30 – 5:00 p.m.

West Fork I/II

(CIG Session)

Four recent Conservation Effects Assessment Program (CEAP) reports show unmet challenges in adoption of proven best management practices (BMPs). For example, the Great Lakes Basin CEAP indicates a significant opportunity for increased conservation, with 47% of cropland acres in need of additional nutrient management and approximately 19% at a critical need level. More than 20 studies point to fear of income loss as a barrier to farmer adoption. Tactics to address this economic risk include technical support, education, cost-shares and incentive payments, community-based programs, performance guarantees and on-field comparison trials.

This symposium will look into several programs that incorporate a combination of the tactics above in order to best adapt to the needs of both the producer and the watershed. Programs presenting include:

- 1) **BMP CHALLENGE**, an opportunity to test state-recommended nutrient management and tillage practices with a risk-free guarantee that covers any net returns loss due to the BMP
- 2) **Minnesota Department of Agriculture Nutrient Management Initiative**, an in-field evaluation focused on helping farmers fine-tune their nutrient application rates by comparing to either a higher or lower application rate
- 3) **Great Lakes Protection Fund**, agricultural retailer projects in the Sandusky River watershed that use SWAT based analysis to target acres for developing conservation plans
- 4) **Wisconsin Buffer Initiative**, a collaborative effort to identify specific areas to implement riparian buffers within a larger conservation system in order to increase efficiency and effectiveness.

Presenters:

1. Brian Brandt - American Farmland Trust
2. Brian Williams, MDA Nutrient Management Initiative
3. Thomas Green, IPM Institute of North America
4. Peter Nowak, Professor, Emeritus, for Environmental Studies at the University of Wisconsin-Madison Nelson Institute

Advances and Challenges in Monitoring Water at the Field Edge: Methods and Case Studies

Mark Tomer, USDA/ARS

**Tuesday, 10:30 a.m. – 5:00 p.m. -- 3 sessions
Central**

The aim of this session is to share lessons learned from experience and new technologies that are being developed that can assist conservationists who are interested in monitoring water quantity and quality at the field edge. New initiatives including NRCS's Mississippi River Basin Initiative are encouraging field scale monitoring efforts to better understand effects of conservation practices on water quality at the field scale. There is also cost sharing being made available to producers through special practice 799 under interim standards. However, monitoring is expensive and edge of field monitoring presents many challenges due to the ephemeral and rapid responses in flows that occur at this scale compared to stream monitoring. Snowmelt is an additional challenge in Northern climates, especially when a significant snowpack partially melts and refreezes on a diurnal basis. Against these challenges, there is need to use consistent methods to allow comparison among sites and practices where landowners agree that data collected on their property can be shared.

This session will summarize efforts that university and government scientists are undertaking to address the challenges involved with edge of field monitoring. These efforts include case studies, development of new monitoring methods, statistical analysis of data, assessment of practices, and development of guidelines to locate and install gauging and sampling equipment.

Session 1

1. Andrew Sharpley, University of Arkansas
2. Daren Harmel; USDA-ARS
3. Doug Smith, USDA-ARS
4. Mark Tomer, USDA-ARS

Session 2

1. Dennis Busch, University of Wisconsin-Platteville
2. Philip Parker, University of Wisconsin-Platteville
3. Kevin King, USDA-ARS
4. Mike Daniels; University of Arkansas

Session 3

1. Jacqui Laporte, Ontario Ministry of Agriculture, Food and Rural Affairs
2. Merrin Macrae, University of Waterloo
3. Tom Prout, Ausable Bayfield Conservation Authority

BMP's in the Chesapeake Bay; what is really there?

Bob Ensor, Howard Soil Conservation District

**Tuesday, 1:30 – 3:00 p.m.
West Fork I/II**

EPA has long contended that agriculture is a major contributor to the decline of the water quality in the Chesapeake Bay. The agricultural sector has long contended that there are many more Best Management Practices on the ground than are being credited. The presenters embarked on a fact finding mission to determine the truth, through a project funded by the National Association of Conservation Districts and then through a project funded by Howard County Maryland. The objective of the NACD project was to seek agreement among the six Bay watershed states on a common data collection protocol that would feed consistent information on non-cost shared, farmer funded practices to the Chesapeake Bay Model.

The objective of the Howard County project was to collect all BMP data on properties in the Agricultural Preservation Program, which would be entered into the Bay Model. This project included determining if an individual farm could meet the TMDL and have N and P tradable credits.

Results in the Howard County project show:

- many farmer-funded practices have not been reported;
- farms can meet the TMDL and have excess N and P credits;
- the potential benefits and costs of completing inventories of BMP's on watershed agricultural farms
- if replicated in the six bay states, it could significantly impact agriculture's TMDL load allocation and policy decisions.

These results have ramifications far beyond the Chesapeake Bay setting precedence for TMDL activities nationwide.

Presenters:

- Bob Ensor, District Manager, Howard Soil Conservation District
- Dana York, President, Green Earth Connection.

Choosing the Best Survey Tool GPS, Optical, or MGIS

Micah Bench, Trimble Navigation, LTD

Tuesday, 10:30 – Noon

Bur Oak

There are many survey tools available to Civil Engineers to include survey GPS, optical, lasers, mapping tools and more. Which tool from the survey tool chest is best for the application and job at hand to best fulfill the customers' requests? Field to Finish using Integrated Survey Solutions

This session will consist of collecting combined GNSS and optical data, as well as integrating imaging data collected simultaneously using integrated workflows. Users will gain experience utilizing field procedures to collect data on the State Plane Coordinate System using an integrated survey process that combines real-time GNSS and robotic surveying operations. Survey data will be collected using one data collector, one job and one coordinate system. Survey field data will be collected using enhanced workflows that increase productivity through new field collection methods in a true multitasking environment. Imagery will be collected from both the data collector camera and the robotic total station camera to provide enriched survey data information to the office technicians as well as to final deliverables. The field workflows will incorporate the use of sharing data (near Real-time) from the field to the office and back to the field from the office. Sharing all survey data collected in the field with the office as well as sending updated project data to the field will enhance productivity, communications and collaboration efforts for all your projects. Survey data will then be transferred to office software for viewing, quality control, and reporting. The data will be viewed in both 2D and 3D views, viewed with data overlays on captured images, processing feature codes including linework and symbology, export survey data to Google Earth.

Presenters:

- Sean Chard, Trimble Navigation
- Gretchen Hartley, Trimble Navigation

Conclusions and Conservation Benefits from the Nation Cropland Assessment

Arnold King, Texas AgriLife Research

Tuesday, 1:30 – 3:00 p.m.

Pecos I

The CEAP National Cropland Assessment was designed to quantify the environmental effects of conservation practices applied to cropland fields of the United States. The CEAP team completed the study using the APEX model and detailed cropland management information gathered by on-site interviews with a representative sample of farmers throughout the Nation. The APEX output data represents the edge of field losses of sediment, nutrients, and pesticides. The APEX data was then integrated into the SWAT/HUMUS model to assess water quality effects in each 2 digit watershed which included all major river systems in the United States.

The symposium focuses on edge of field conservation practice effects assessed by the APEX model and off-site water quality impacts assessed by the SWAT/HUMUS model. The impacts are based on sediment, nutrients, and pesticide loads expected to be delivered at the outlet of each watershed assessed by the study. Lessons Learned on data input requirements, model calibration and "what we would do differently" will be discussed. An open discussion period will follow the formal presentations

The symposium will follow this outline:

Moderator: Arnold King, Texas AgriLife Research, Temple, Texas

1. Edge of Field losses of Sediments, Nutrients, and Pesticides by Lee Norfleet, NRCS, Temple, Texas
2. Water Quality Effects of Sediments, Nutrients, and Pesticides by Jeff Arnold, ARS, Temple, Texas
3. Cropland Treatment Needs - Cost Optimization Software by Jay Atwood, NRCS, Temple, Texas
4. Lessons Learned and What We Would Do Differently by Lee Norfleet, NRCS, Temple, Texas

Conservation Effects Assessment Project: Accomplishments from USDA-ARS Benchmark Watersheds

Mark Walbridge, USDA-ARS

Monday, 10:30 a.m. – 5:00 p.m. -- 3 sessions
Pecos I

The symposium “Conservation Effects Assessment Project: Accomplishments from USDA-ARS Benchmark Watersheds” will illustrate the opportunities for ARS research accomplishments to support conservation policy. Specifically, their long-term databases provide scientific bases for regional assessment outcomes, their site-specific research improves watershed model structure, and their multi-scale research affords opportunities to evaluate the success of conservation practice implementation and targeting. The strength of the ARS network, representing a number of different soil, climate, and cropping systems, helps reduce uncertainty in documentation of conservation program success. This overview outlines the project, lists a few earlier accomplishments, and introduces the symposium, which will highlight major recent accomplishments in a number of fields. The symposium will communicate information on conservation practice efficacy and targeting to NRCS conservationists and LGU extension agents.

Session 1

- 10:30p CEAP ARS Watershed Assessment Study – Overview
John Sadler, USDA-ARS
- 10:40p Conservation Program Effects on Soil Quality
Doug Karlen, USDA-ARS
- 11:00p Factors Impacting Mitigation of Pesticide Runoff and Leaching
Tom Potter, USDA-ARS
- 11:20p Efficacy of Edge-of-Field Conservation Practices
Matt Moore, USDA-ARS
- 11:40p Tools to Improve Practice Placement Efficacy
Mark Tomer, USDA-ARS

Session 2

- 1:30p Implementation of Nutrient Reduction Measures
Ray Bryant, USDA-ARS
- 1:50p SWAT, ANNAGNPS, and APEX Modeling
Advancements
Jeff Arnold, USDA-ARS
- 2:10p Impact of Weather and Climate Scenarios on
Assessment Outcomes
Jurgen Garbrecht, USDA-ARS
- 2:30p Association between conservation practices and
ecology
Richard Lizotte, USDA-ARS

Session 3

- 3:30p Fine Sediment Sources on CEAP Watersheds
Roger Kuhnle, USDA-ARS
- 3:50p Impacts of conservation practice placement within a
watershed: Case study in tile drained systems
Tom Moorman, USDA-ARS
- 4:10p Panel Discussion: NRCS and Extension Service
Feedback on Information Needs
 - Lisa Duriancik, NRCS
 - Wayne Honeycutt, NRCS
 - Deanna Osmond, NCSU Ext
 - Jim Gulliford, SWCS
 - Shanon Phillips, Oklahoma Cons. Commission
 - Moderator: Roberta Parry, EPA

Conservation Technology Innovations: New Options for the Future

Gregorio Cruz, USDA-NRCS

Monday, 10:30 a.m. - Noon

Brazos I/II

(CIG Session)

A component of the Environmental Quality Incentives Program, the Conservation Innovation Grants (CIG) is a competitive grant program intended to stimulate the development and adoption of innovative conservation approaches and technologies. CIG enables Natural Resources Conservation Service (NRCS) to work with Federally recognized Indian tribes, State or local unit of government, non-governmental organizations, or individuals to accelerate technology transfer and adoption of promising technologies and approaches to address some of the Nation's most pressing natural resource concerns.

Since 2004, NRCS has funded projects addressing different resource concerns such as energy, water quality, soil quality, wildlife, forestry, and more. Integration of new technologies and approaches is an important element of the CIG program and a NRCS goal. As a method to provide an opportunity to learn about ways to accelerate conservation practice adoption, improve natural resource management, share innovative conservation projects and the learn about the CIG program, NRCS and CIG participants will present grant examples and results during the symposium.

10:30 a.m. Cheryl Simmons, Moderator Welcome

10:35 a.m. Lillian Woods, Team Leader/National Technology Support Coordinator

10:45 a.m. Gregorio Cruz, Conservation Innovation Grants Program Manager

11:20 a.m. Mace Vaughan, Pollinator Specialist, Xerces Society
Noon End Session

CIG-related presentations and sessions offered at the conference are tagged in this agenda and on the schedule grid as **CIG Session**, **CIG Poster**, or **CIG Presentation**.

Deep and Silent Waters: Challenges in Aquifer Sustainability

Jean Steiner, USDA-ARS

Monday, 1:30 – 5:00 p.m. -- 2 sessions

West Fork I/II

There are numerous challenges to address ecological, economic, and ethical considerations of aquifer sustainability in face of growing populations and climate change. In this symposium we will feature case studies of integrated research focused on aquifer sustainability that will highlight new tools and the role of data and equity in bringing people to the table to tackle multiple and conflicting interests. The symposium is intended to advance science and policy discussions relating to ground-water resources and sustainability.

Session 1:

- Opening: Dr. Dan R. Upchurch, USDA-ARS
- Valuing Aquifers: Challenges on the Road Toward Sustainability
Jean Steiner, USDA-ARS, El Reno, OK
- Ogallala Aquifer Use, Sustainability, and a New Paradigm for the Texas High Plains
Terry A. Howell, USDA-ARS, Bushland, TX
- Enhancing Groundwater Sustainability: Policy and management alternatives for the Calera aquifer, Zacatecas, Mexico
Francisco Mojarro, Universidad Autonoma de Zacatecas

Session 2:

- Poster Session with Symposium Posters (In Exhibit Hall)
 41. ASCE-EWRI Standardized Reference ET Equation based Bushland Reference ET Calculator.
Prasanna H. Gowda, Jerry Ennis, Terry A. Howell, Thomas H. Marek, and Dana O. Porter, USDA-ARS and Texas AgriLife
 42. Quantitative and qualitative analysis of groundwater in Aguanaval and Chupaderos aquifers (MEXICO).
Hugo J  nez Ferreira, Carlos Bautista-Capetillo, Francisco Mojarro, Universidad Aut  noma de Zacatecas
 43. Variations in precipitation between 1970 and 2009 in the Canadian River watershed in New Mexico and Texas: Implications regarding the use of Lake Meredith and the Ogallala Aquifer as water supplies.
David Brauer, USDA-ARS, Bushland, TX
 44. SPELLmap: An Application For Handling Large Georeferenced Hydrological Datasets
J.A. Guzman, D.N. Moriasi, P.J. Starks, J.L. Steiner, and P.H. Gowda, USDA-ARS, El Reno, OK, and Bushland, TX
- Assessment tools: Linkages of atmospheric-surface-subsurface water assessment
Daniel N. Moriasi, USDA-ARS
- Sustainability on the Border: Water, Climate, and Social Change in a Fragile Landscape
W.L. Hargrove University of Texas, El Paso
- Panel on Research and Policy Needs
Dan R. Upchurch, USDA-ARS (Moderator)

Discovery Farms: Monitoring Runoff from Real, Working Farms

Mike Daniels, University of Arkansas

Monday, 3:30 – 5:30 p.m.

Pecos II

The Discovery Farms Program began in Wisconsin to fill the purpose of engaging producers in the identification and if necessary the reduction of nutrient and sediment losses from a variety of agriculture farming systems by collecting runoff data from real, working farms. The program is founded on the belief that farmers who are engaged, educated and empowered with actual on-farm information will use the data to address water quality concerns. The concept has demonstrated the success of this approach and has now spread to three other states: Arkansas, Minnesota and North Dakota and is gaining interest around the country from producers and their commodity organizations.

This symposium will share experiences, successes, the principals of operation and key tasks needed to develop and implement Discovery Farms programs from each of the four states. Among the four states, edge of field and feedlot monitoring is being conducted for a diverse set of agricultural production systems ranging from livestock operations in Wisconsin, livestock and cash grain farms in Minnesota, beef cattle and row crop farms in North Dakota to poultry, livestock, rice and cotton farms in Arkansas. The purpose of the symposium is two-fold: 1) to provide guidance and advice to help other States develop plans and partnerships with stakeholder groups to build Discovery Farms programs in their respective States, and 2) review edge of field monitoring options for NRCS practice 799 to help consultants, extension personnel, NRCS and State Agency representatives become familiar with the science and proper monitoring techniques. Edge-of-field monitoring is now approved by NRCS as a standard practice (Standard 799) eligible for cost-share for producers interested in quantifying sediment and nutrient losses from their operations.

Session Speakers:

- Dennis Frame & Dennis Busch - University of Wisconsin-Platteville
- Warren Formo, Minnesota Agricultural Water Resource Center
- Ron Wiederholt, North Dakota State University
- Mike Daniels & Andrew Sharpley, University of Arkansas
- Robert Kroger, Mississippi State University

Ecological Farming: A systematic approach to increasing ecological services and economic profit

James Hoorman, Ohio State University Extension

Monday, 3:30 – 5:00 p.m.

Brazos I/II

ECO Farming or ecological farming and ranching is a new concept that employs all our current knowledge and technology about conservation best management practices that increase carbon sequestration and improve the environment. ECO Farming stands for E=Exclusive Long-term No-till or a no-till system that does not disturb the soil. Exclusive Long-term No-till increases carbon sequestration and allows the soil ecology to recover. C = Continuous Living Cover means keeping a living and growing crop or cover crop on the soil during the entire year. A continuous living cover impacts soil ecology, nutrient recycling, soil compaction, hydrologic water movement and management, and global climate change. O= Operational technologies used on the farm or ranch to improve the soil environment. Operational technologies may include integrated pest management (IPM), genetic manipulation, crop rotations, biological controls, controlled traffic, water table drainage management (where applicable), and other best management practices. Farmers and ranchers who have adopted this approach are reporting 50-70% reductions in commercial fertilizer and herbicides while increasing crop yields and profits. ECO Farming is a systems approach that closely mimics Mother Nature and natural forces in the environment that improve ecological services while keeping agricultural profitable.

This session will include visual soil demonstrations on soil quality and soil health, presentations on soil ecology and nutrient recycling, biology of soil compaction and water dynamics, cover crop economics, and using sustainable crop rotations and cover crops including legumes to provide homegrown nitrogen. The ECO farming or ecological farming and ranching concept will be introduced, demonstrated, and applied using real life examples.

Presenters:

- Defining Eco Farming: James J. Hoorman (45 minutes)
- Practical applications: David Brandt (30 minutes)
- Q&A Period and Future Direction Both (15 minutes)
-

Embracing Conservation Practices as a Producer: A Panel Discussion

Gretchen Kamps, University of Wisconsin-Platteville Pioneer Farm

Tuesday, 3:30 – 5:00 p.m.

Post Oak

Each day a producer makes many decisions that have potential to affect conservation, but how much thought is put into conservation when those decisions are made? With commodity and land prices sustaining high values, producers are making production decisions to determine how to generate the most revenue on their farms, and for some, the value of conservation practices is overlooked. Join three Southwestern Wisconsin farmers for this symposium focusing on the economics and ethics of conservation in place on their farms. Each of the farmers will share how their animal and cropping enterprises are managed to protect natural resources and why conservation is viewed as a value-added practice on their farms.

They will share ideas of things that have been done on their farms to balance livestock, crops and the environment. They will also discuss what they think needs to happen in order to encourage small, limited resource farms to address environmental concerns. Government sponsored conservation programs with an economic incentive are enticing, but many farmers want to address conservation with an affordable and common-sense approach where they can, that is within their budgets and timetables. Listen as these producers share their successes and failures in conservation practices and bring your own success and failure examples along to share during the open discussion.

This symposium will be an outstanding opportunity to learn directly from the producer and participate in a dialogue about livestock, crops, and conservation practices, how they affect the environment and how commodity prices influence farm enterprise decisions.

Featuring three southwestern Wisconsin producers:

- Josh Kamps
- Richard Gorder
- Mark Riechers.

Expanding Support Creation of the first Friends of a Soil and Water Conservation District

Dale Threatt-Taylor, Wake Soil and Water Conservation District

Tuesday, 10:30 – Noon

Elm Fork I

Citizens in Wake County, North Carolina have created the first Friends organization for a Soil and Water Conservation District in the nation. This non-profit organization will leverage economic support and increase the ability of the Wake Soil and Water Conservation District (Wake District) to achieve its conservation goals. The Friends of the Wake Soil and Water Conservation District (Friends of the District) provides community based support for the local soil and water conservation district. The goal of the organization is to increase awareness of the Wake District, provide a voice for needed resources and support from county leadership.

To support the ecological efforts of the Wake District, the Friends of the District realized that the challenges of limited resources and a SWCD's traditional operating methods needed to be addressed. To protect the natural resources in Wake County the Friends of the District was formed to allow for flexibility and innovation in every possible funding and outreach opportunity. The problems the Wake District face are not unique and are very common across the nation. How we have chosen to handle current issues will inspire other organizations.

Rather than an advocacy "club", the Friends of the District work to increase the District's range of awareness to the citizens of Wake County. They understand the need to sustain our watersheds, promote clean water, and conservation work.

Panelists:

- JB Martin, State Conservationist, North Carolina, USDA-NRCS
- Shawn Springer, SWCS North Carolina Hugh Hammond Bennett Chapter
- Dale Threatt-Taylor, Wake Soil and Water Conservation District (Moderator)

Food Security: Conservation, Inputs and Technology

Jorge Delgado, USDA-ARS-SPNR

**Monday, 10:30 a.m. – Noon
Central**

This is the 13th Annual SWCS-SSSA Joint Symposium, which is being held at the 2012 SWCS and SSSA annual meetings.

This joint symposium will be titled “Food Security: Conservation, Inputs and Technology.” This is a topic of great importance and interest to both societies. It is very clear from recent publications that food security is not likely to be achieved without choosing conservation, and that the topics of ecology, economics and ethics are important for achieving sustainable food security. This joint symposium will continue with the tradition of cooperation between the two societies and will help to create opportunities to disseminate this cutting-edge information to members of both societies. It will also help to “jumpstart” a conversation about why choosing conservation is important for economics, global sustainability, and food security, at both societies. The farm bill is an important activity that is related to these topics, and the presentation about the 2012 Farm Bill and its relationship to the topic of food security will be timely and in sync with the goals of the program. The SWCS and SSSA have always been at the forefront of conservation and soil science, and this year’s topic connects with current global issues related to soil and water conservation and global sustainability.

- | | |
|--------------|--|
| 1:30-1:35 pm | Introductory Remarks
Moderator: <i>Jorge A. Delgado</i> , USDA-ARS, Fort Collins, CO 80526 |
| 1:35-1:55 pm | Potential to Develop Crops to Contribute to Food Security, Conservation and Sustainable Systems
<i>Dr. Junping Chen</i>
USDA-ARS Molecular Biologist (Plants), Lubbock, TX |
| 1:55-2:15 pm | Soil Management for Food Security
<i>Drs. Tom E. Schumacher¹, Sharon K. Papiernik² and David Lobb³</i>
¹ Professor, Plant Science Dept., South Dakota State University; ² Supervisory Soil Scientist, USDA-ARS; ³ Faculty, Department of Soil Science, University of Manitoba |
| 2:15-2:35 pm | Economics, Soil and Water Conservation and Food Security
<i>Dr. John Westra</i>
Associate Professor, Department of Agricultural Economics and Agribusiness, Louisiana State University |
| 2:35-2:55 pm | Farm Bill 2012: Conservation, Food Security, and Technology
<i>Dr. C. Wayne Honeycutt</i>
USDA-NRCS Deputy Chief for Science and Technology |
| 2:55-3:00 pm | Discussion / Adjourn |

International Grassroots Conservation Success Stories

Theo Dillaha, SWCS International Committee

Monday, 3:30 – 5:00 p.m.**Bur Oak**

This session will explore the characteristics of successful grassroots conservation efforts around the world. Each presentation will address the following topics:

1. Overview of the particular grassroots conservation program
2. How the program works,
3. Conservation benefits/impacts,
4. Role of government support in program success (financial, etc.),
5. Challenges encountered and how they were addressed,
6. Recommended practices for successful grassroots conservation programs

The session will conclude with a 30-min roundtable discussion and question and answer session on the characteristics of successful grassroots conservation programs.

Presentations (15 minutes each including 2-3 minutes for individual questions):

- Grassroots Conservation in the Congo Region
Speaker: Alain Ndonga, University of Kinshasa, Democratic Republic of Congo
- Grass Roots Conservation in Lantapan, Philippines
Speaker: Manuel Reyes, Department of Natural Resources and Environmental Design, North Carolina Agricultural and Technical State University. Greensboro; and Theo Dillaha, Biological Systems Engineering Department, Virginia Tech, Blacksburg
- Grassroots Conservation in Nigeria: Role and Challenges of the National FADAMA Project
Speaker: Mutiu Busari Ph.D., Department of Soil Science & Land Management, University of Agriculture, Abeokuta, Nigeria
- Opportunities of Conservation Agriculture-based Resources Conserving Practices to Build Resilience Against Drought and Soil Degradation in Northern Ethiopia
Speaker: Yves-Dady Botula Manyala, MSc., Department of Natural Resources Management, Faculty of Agronomy, University of Kinshasa and Ph.D. Student, Department of Soil Management, Ghent University, Belgium

Lessons from Monitoring and Measurement of Water Quality Projects in Midwestern Agriculture Watersheds

Jimmy Daukas, American Farmland Trust

Monday, 10:30 a.m. – Noon

Pecos II

According to the U.S. Geological Survey, upper Midwest watersheds contribute the highest nutrient loads that can cause low-oxygen dead zones in the Gulf of Mexico. Reducing nutrient runoff is challenging in these states in part because of high nitrogen-dependent corn production and the prevalence of shallow-tiled fields that quickly drain water from beneath the soil surface. Advanced nutrient management and other buffer-type practices could reduce the leakage and runoff of nutrients from fields. Better monitoring and measurement of project activities designed to accelerate adoption of conservation practices is critical to success.

The Leadership for Midwestern Agricultural Watersheds is an effort of a number of partners of watershed-scale projects to advance toward success in improving water quality in the context of a healthy farm economy, through communications among watershed project leaders-sharing approaches, lessons learned, and results. Participants are drawn from projects in Wisconsin, Minnesota, Iowa and Illinois. Partners identified improving understanding of the most cost-effective ways of measuring progress made and results achieved by watershed-scale nutrient management projects as an important priority.

Monitoring and measurement is taking place at various levels within the watershed, e.g., the edge of field, in-stream, and watershed. Projects are gathering baseline data in different ways, e.g., inventory of practices, benchmarking, geo-spatial databases. Some projects also are securing social information and indicators through surveys and interviews to understand attitudes and measure changes in perspectives.

Panelists will present on their project's approach to environmental monitoring, baseline data and the use of social information. Panelists also will present recommendations on ways to address challenges and improve measurement. Better understanding of the impact of projects and the integration of social and environmental measurement has implications for improving future conservation policy, how conservation decisions are made, cost efficiency of conservation expenditures.

Panelists:

- Mike Baise, American Farmland Trust;
- Joseph Britt, Sand County Foundation;
- Todd Sutphin, Iowa Soybean Association;
- David De Gues, The Nature Conservancy

MRBI Symposium

Mike Daniels, University of Arkansas

Monday, 1:30 – 3:00 p.m.

Pecos II

The MRBI: Sharing Experiences and Successes

The Mississippi Healthy River Basin Initiative was launched in 2010 in twelve states to address excess nutrient delivery to the Gulf of Mexico. This financial assistance program is authorized to spend \$80 million and is independent of the farm bill. It offers some new and innovative concepts for conservation programming including partnerships, monitoring and assessment.

Panelists:

- Mike Sullivan, State Conservationist – Arkansas NRCS.
- Jennifer Heglund, USDA-NRCS
- Andrew Wargo, Desha County Conservation District and Charles Glover, Poinsett County Conservation District
- Dr. Michele Reba, USDA-ARS, Jonesboro, Arkansas

Phyto-Aquatic Nutrient Recycling

H. Tony Hartmann, Great Lakes Ag Energy

Tuesday, 1:30 – 3:00 p.m.

Post Oak

(CIG Session)

Great Lakes Ag Energy (GLAE) & Resource Engineering Associates (REA) introduce their Phyto-Aquatic Nutrient Recycling (PANR) system. The technology integrates aqua-cultural algal wastewater treatment, aka High Rate Algae Pond (HRAP) systems, with anaerobic digesters and other practical wastewater bio-treatment technologies. The PANR System combines advances in algae bioreactors and other harvestable water features, with retention ponds and engineered or natural wetland habitat, to sequester and recycle nutrients on-site. This in turn, enables broader use of digester technology, distributed energy generation & energy efficiency, and improves wastewater and non-point source cleanup, handling, and grey water recovery.

H. Tony Hartmann (CEO, GLAE) will provide background and give an overview of the CIG project (2010-2012). John Hackney (CTO, GLAE) will describe the algal and harvestable components of the PANR System, including greenhouse functions, outdoor algal troughs and harvestable bog. Carl Chenoweth, (Senior Engineer - P.E., REA) will describe planning, permitting, engineering, comprehensive nutrient management plan integration, construction of the retention pond(s) and engineered wetlands. All will be available for Q & A, including a discussion of conventional systems, and a comparison, including economic analysis.

Presenters:

1. H. Tony Hartmann, CEO, Great Lakes Ag Energy
2. John Hackney, CTO, Great Lakes Ag Energy
3. Carl Chenoweth, P.E., Resource Engineering Associates

Pollinator Conservation Grows Up: Lessons Learned from the Field

Cheryl Simmons, USDA-NRCS

Monday, 1:30 – 3:00 p.m.

Central

(CIG Session)

In 2008, through an NRCS Conservation Innovation Grant, the Xerces Society launched a series of on-farm pilot projects to restore pollinator habitat on farms from Maine to Florida to California. This presentation follows those case studies-from initial landowner meetings-to mass seeding native wildflowers-to the ongoing management of maturing habitat.

Lessons learned include some of the human barriers to conservation adoption, the economic costs and benefits of habitat restoration, and novel approaches to establishing forb-rich landscapes. Through these lessons, the Xerces Society and agency partners have been able to refine the process of pollinator habitat conservation. The results are increasingly successful project implementation, greater motivation by farmers to take action, and a growing understanding that pollinator conservation can enhance other ecosystem services, such as supporting other beneficial insects for pest control services ("conservation biological control").

New technology, including a Pollinator Habitat Assessment Tool for in-field decision-making by conservation planners, and region-specific habitat restoration guidelines will also be introduced as part of the presentation.

Presenters:

- Eric Mader, The Xerces Society for Invertebrate Conservation
- Mace Vaughan, The Xerces Society for Invertebrate Conservation

Spinoff Technologies from the CEAP National Cropland Assessment

Arnold King, Texas AgriLife Research

Tuesday, 3:30 – 5:00 p.m.

Pecos I

The CEAP National Cropland Assessment was one of the most complex computer simulation studies ever conducted by USDA. The National assessment required massive amounts of data and computing power to study the environmental effects that conservation practices had on soil and water quality. As a result of this undertaking, there are several spinoff technology developments that will be beneficial to society.

This symposium will focus on four spinoff technologies that resulted from the work required to complete the National Cropland Assessment. They are:

1. A field office planning tool based on APEX as a simulator
2. An assessment and potential development of a P index procedure based on digitized CEAP data
3. Using CEAP data to assess the effects of optional uses of cropland coming out of CRP contracts
4. A World Resource Institute (WRI) project on alternative strategies for Nutrient Trading

An open discussion will follow the formal presentations

The symposium will follow this outline:

- Moderator: Susan Wang, Texas AgriLife Research, Temple, Texas
- 1st presentation: A field Office Planning Tool by Evelyn Steglich
- 2nd Presentation: Using CEAP Results to evaluate USDA's Phos. Index by David Moffitt
- 3rd Presentation: CRP Lands - Optional Land Uses by Richard Iovanna
- 4th Presentation: Economics and Alternatives related to Nutrient Trading by Michelle Perez

Streamlining Conservation Delivery

Cheryl Simmons, NRCS

Tuesday, 10:30 – Noon

West Fork I/II

Providing science-based technical assistance to clients is the foundation for successfully carrying out NRCS' mission of helping people help the land. NRCS' on-site assistance to help clients identify conservation objectives, inventory resource concerns and opportunities, analyze alternatives, and formulate treatments through conservation planning is unique. This technical assistance is documented in 1.6 million conservation plans and 30 million planned practices in NRCS' National Conservation Plan Database.

In 2002, the Farm Bill expanded NRCS' historical field operations to include the development and administration of contracts and easements for financial assistance programs. In addition to providing technical assistance, NRCS field staffs now manage about 400,000 Farm Bill program contracts. With stagnant to decreasing staff numbers, NRCS continued to deliver more programs and more dollars on more acres.

In January 2009, NRCS leadership responded to these concerns by formally initiating the Conservation Delivery Streamlining Initiative, with the purpose to define and implement a more effective, efficient and sustainable business model for delivering conservation assistance. Aligning NRCS' business systems with its mission, strategic plan, and business model is critical to agency's success.

The NRCS Client Gateway, using geospatial tools to support participation in programs, a revised resource concern list and more will be covered in this symposium.

Presenters/Authors:

1. Conservation Delivery Streamlining Initiative - Establishing a Business Model for Future Conservation Assistance
Lane Price, CDSI-NRCS, Kristie McKinley, CDSI-NRCS, Russ Hatz, NTS-NRCS, Anthony Burns, NTS-NRCS, Cheryl Simmons, NTS-NRCS
2. Client Gateway - Assisting NRCS customers through the internet.
Tim Carney, CDSI-NRCS
3. Financial Assistance Ranking Model - Integrating GIS into everyday business
Kristie McKinley, CDSI-NRCS

Toward guidelines for model calibration and validation?

Claire Baffaut, USDA-ARS-CSWQRU

Tuesday, 1:30 – 5:00 p.m.

2 sessions

Elm Fork I

Multi-objective decision-making requires assessment and predictive tools such as simulation models, which can be used to evaluate trade-offs and incorporate economics and ecology. However, models can be effective only if their results are meaningful, which requires that they are correctly calibrated and validated.

This symposium follows the SWCS 2011 modeling summit, which led to a recommendation to “develop a set of best practices during parameterization, calibration, and validation in order to obtain a model that produces correct outputs and is not over parameterized”. Similar discussions among members of the American Society of Agricultural and Biological Engineers have led to an effort to develop model calibration and validation guidelines. Toward this goal, technical papers have been written and are being reviewed that summarize the current calibration and validation procedures recommended by model developers or expert users for 32 models. Following publication of these papers, discussions will take place to develop the guidelines. This symposium represents one of these discussions and will include:

1. Individual presentations of the recommendations provided for the models most interesting to the SWCS audience (WEPP, RHEM, SWAT, APEX, HSPF, AnnAG-NPS, DRAINMOD, etc).
2. Presentation of a draft synthesis of the 32 papers for discussion.
3. Discussion on the following topics:
 - What form could calibration/validation guidelines take?
 - Should other literature be included?
 - What needs to be included?

This symposium will be most useful to model practitioners interested in calibration/validation procedures and to resource managers who need to understand how to ensure meaningful results.

Presenters, Part 1:

- Mariano Hernandez, USDA-ARS
- Wayne Skaggs, North Carolina State University
- Rob Malone, USDA-ARS
- Claire Baffaut, USDA, ARS

Presenters, Part 2:

- Daniel Moriasi, USDA-ARS
- Discussion period

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