

73RD SWCS INTERNATIONAL ANNUAL CONFERENCE
CULTURE, CLIMATE, AND CONSERVATION

FINAL PROGRAM

ALBUQUERQUE CONVENTION CENTER
ALBUQUERQUE, NEW MEXICO
JULY 29–AUGUST 1, 2018



SOIL
AND WATER
CONSERVATION
SOCIETY



Together we're growing more from
less for generations to come.

Tanner Tanke is just one of the many real faces behind The Good Growth Plan. He's growing crops more efficiently to protect the environment and make his farm more profitable so that it's around for his five-year-old son in years to come. We're working with farmers like Tanner to increase the average productivity of the world's major crops by 20% by 2020, without using more land, water or inputs. The more people that get involved, the better we can feed a fast-growing population.

Follow our progress at goodgrowthplan.com

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CONFERENCE SCHEDULE IN BRIEF

SUNDAY, JULY 29

11:00 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
1:00 PM	*Workshop 1: An Integrated Environmental, Economic, and Farm Management Decision-Making Tool: Nutrient Tracking Tool (NTT) <i>Isleta Meeting Room on Lower Level West Building</i>
1:00 PM	*Workshop 2: Rangeland Hydrology and Erosion Model <i>Nambe Meeting Room on Lower Level West Building</i>
1:00 PM	*Workshop 3: Using Compost to Build Soils, Reduce Erosion, and Improve Soil Moisture Retention <i>Navajo Meeting Room on Lower Level West Building</i>
4:00 PM	New Members/First Timers/ Student Orientation <i>Cochiti Meeting Room on Lower Level West Building</i>
4:30 PM	Student Development Session <i>Cochiti Meeting Room on Lower Level West Building</i>
5:00 PM	Regional Forum and Flavor Reception <i>Ballroom A on Upper Level West Building</i>

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

MONDAY, JULY 30

7:00 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
7:30 AM	State of Society Address, Regional Roundtables, and House of Delegates with Light Breakfast (For Chapter Leaders and Members) <i>Ballroom A/B on Upper Level West Building</i>
8:45 AM	Conference Kickoff, Keynote Sponsor, and Pritchard Keynote Lecture <i>Ballroom A/B on Upper Level West Building</i>
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
10:30 AM	Concurrent Sessions <i>See pages 25-27</i>
12:00 PM	Lunch on Your Own
12:00 PM	ARCSE Lunch and Annual Business Meeting <i>Apache Meeting Room on Lower Level West Building</i>
1:30 PM	Concurrent Sessions <i>See pages 25-27</i>
3:00 PM	Afternoon Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
3:30 PM	Concurrent Sessions <i>See pages 25-27</i>
5:00 PM	Exhibitor and Poster Reception <i>Ballroom C on Upper Level West Building</i>
7:00 PM	Silent Auction Ends <i>Foyer on Upper Level West Building</i>



TUESDAY, JULY 31

7:30 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
7:30 AM	Morning Coffee <i>Ballroom C on Upper Level West Building</i>
8:00 AM	Plenary Sessions <i>Ballroom A/B on Upper Level West Building</i>
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
10:30 AM	Concurrent Sessions <i>See pages 35-37</i>
12:00 PM	Awards Luncheon <i>Ballroom A/B on Upper Level West Building</i>
1:30 PM	Concurrent Sessions <i>See pages 35-37</i>
3:00 PM	Afternoon Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
3:30 PM	Concurrent Sessions <i>See pages 35-37</i>

WEDNESDAY, AUGUST 1

7:00 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
7:45 AM	*Tour #1: Manzano Mountains Watershed Restoration Tour <i>Meet at Lobby Doors on Main Level 2nd Street Entrance at 7:25 AM</i>
8:30 AM	Concurrent Sessions <i>See pages 42-43</i>
10:00 AM	Morning Break <i>Foyer on Lower Level West Building</i>
10:30 AM	Concurrent Sessions <i>See pages 42-43</i>
12:00 PM	Conference Adjourns
1:00 PM	*Tour #2: Tijeras Creek Remediation, Demonstration, and Education Project <i>Meet at Lobby Doors on Main Level 2nd Street Entrance at 12:40 PM</i>
1:00 PM	*Tour #3: Acequias Tour of Agricultural Systems <i>Meet at Lobby Doors on Main Level 2nd Street Entrance at 12:40 PM</i>
1:00 PM	CEAP Watershed Assessment Studies Annual Meeting <i>Santa Ana/Sandia Meeting Room on Lower Level West Building</i>

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



#SWCS18

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PROGRAM PLANNING COMMITTEE CHAIR MESSAGE

Welcome to the Soil and Water Conservation Society's 73rd International Annual Conference. The theme of this year's conference is "Culture, Climate, and Conservation." New Mexico and the Southwest have a rich cultural history and various climate challenges. These, combined with other factors, create unique conservation problems. Cultural factors must be taken into consideration for conservation efforts to be successful. Often, cultural factors can enhance the success of soil and water conservation by introducing alternative approaches. Culture is also important as it assures local concerns and values are considered. Soil and water conservation issues vary between regions in part because of differences in climatic conditions. This is compounded by trends of climate factors changing within and between regions. Exceptional conservation occurs when both climate and cultural factors are taken into consideration.

This year's program reflects these challenges and the intersection of culture, climate, and conservation. The eight topic areas targeted for discussion during the conference cover a variety of issues, including adaptive management of conservation practices; conservation economics, policy, and education; new tools and technology; conservation issues unique to specialty agricultural systems; and emerging research in soil health and water resource management. In addition to the main conference theme, the following three topics are highlighted this year:

- Forest Restoration: Research, Policy, and Applied Science of Ecological Restoration across Landscapes and Watersheds
- Rangeland Restoration, Health, and Grazing Management: Adapting Conservation Planning for a Changing Climate
- Using Technology to Advance Conservation

I had the pleasure and honor to serve as the program planning committee chair. The quality and range in scope of this year's program is impressive. We have some great minds conducting exceptional work in a variety of soil and water conservation subjects. This is reflected in the number of presentation abstracts submitted, with more than 170. The SWCS conference provides the opportunity for all of us—conservationists working in every region, sector, and discipline—to come together.

I want to use this opportunity to express my appreciation to the staff, members, volunteers, and sponsors of SWCS for the work you do in this worthwhile endeavor. Not only do we all depend on soil and water for our survival, but also for recreational purposes. Thank you for your hard work! I also want to wish Deanna Osmond good luck as she assumes the program planning chair role for the 2019 Annual Conference in Pittsburgh, Pennsylvania.

Enjoy the 2018 SWCS International Annual Conference with friends and colleagues. I hope you find your time in Albuquerque enlightening and enjoyable.



Francisco Arriaga
2018 Program Planning Chair
University of Wisconsin–Madison



WELCOME TO NEW MEXICO

¡BIENVENIDOS!

The New Mexico Chapter of the Soil and Water Conservation Society is honored to welcome the 2018 SWCS International Annual Conference to the Albuquerque Convention Center, Albuquerque, New Mexico. New Mexico is referred to as "The Land of Enchantment" due its scenic beauty and rich history. Our state is diverse in so many ways: culture, climate, landscapes, art, and community.

New Mexico is the fifth largest state and was admitted to the Union as the 47th state on January 6, 1912. It currently has a population of two million people. The Palace of Governors in Santa Fe, built in 1610, is one of the oldest public buildings in America. New Mexico's largest city, Albuquerque, was founded in 1706 as a Spanish farming community. It was named after a province in Spain.

The New Mexican landscape ranges from wide, rose-colored deserts to broken mesas to high, snow-capped peaks. The landscapes in New Mexico encompass the High Plains, short grass prairie on the east side; the Rocky Mountains in the north-central region; the Colorado Plateau in the northwest, and the Basin and Range in the southern part of the state. Lakes and rivers make up only 0.002% of the state's total surface area. The Rio Grande is New Mexico's longest river and runs the entire length of the state. It is the fifth longest river in the United States and supports municipal water supplies and irrigated agriculture.

Farming and ranching has been a part of New Mexico as far back as 2,500 years ago, beginning with the Mogollon people who grew corn, squash, and beans. Throughout history, American Indians, Spanish explorers, and Anglo pioneers all played key roles in shaping our state's agriculture today. Ninety-seven percent of the farms are family-owned. The New Mexico state soil is the Penistaja series, and it supports the state grass (blue grama), state tree (pinyon pine), and state flower (yucca). Penistaja is a Navajo name meaning "forced to sit."

New Mexico has a strong history of natural resource management and conservation in agriculture research and production. Dr. Fabian Garcia, the first Hispanic in the United States to lead a land-grant agriculture research station, developed a new pod-type chile pepper, which ultimately established the \$250 million New Mexico chile pepper food industry. Conservationist Aldo Leopold began his professional career on the Gila National Forest for which the first Wilderness Area in the United States is named.

Other important aspects of New Mexico's economy are scientific research, such as the nuclear energy research carried out at Los Alamos and Sandia National Laboratories, and mining of natural resources, including oil, natural gas, uranium, potash, copper, coal, zinc, gold and silver.

New Mexico has its share of current and future challenges in regard to conserving land and water so people and nature can survive. Historic uses of grazing, mining, and energy development are still evident in addition to new pressures such as climate change, drought, agricultural water use efficiency, and loss of rural lands to development. Restoration of rangelands and forest land to be more resilient to disturbances to protect future water supplies and sustainability of land productivity is currently underway.

The membership of the New Mexico Chapter looks forward to participating in the 2018 Annual Conference to learn and share new knowledge, science, and technology. We hope you enjoy our state's many attractions and sample the unique foods inherent to our region. Through this conference, we encourage you to meet new people and build a stronger network of conservationists, scientists, farmers, and agribusiness partners.

Wayne Robbie, President
New Mexico Chapter



CONFERENCE VOLUNTEERS

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Soil Science Society of America Liaison

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Troy Thompson, USDA-NRCS

Kristin Graham-Chavez, USDA-NRCS

Samantha Gorbet, USDA-NRCS

TECHNICAL TEAM LEADERS

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

Francisco Arriaga, University of Wisconsin-Madison
Using Technology to Advance Conservation

Katie Flahive, US Environmental Protection Agency
Water Resources Assessment and Management

Mark Nearing, USDA-ARS
*Rangeland Restoration, Health, and Grazing Management:
Adapting Conservation Planning for a Changing Climate*

Deanna Osmond, North Carolina State University
*Conservation in Organic, Specialty, and
Small-Scale Agriculture*

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

Linda Prokopy, Purdue University
Social Sciences Informing Conservation

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

Andrew Sharpley, University of Arkansas
*Conservation Economics and Policy Forest Restoration:
Research, Policy, and Applied Science of Ecological
Restoration across Landscapes and Watersheds*

Aleksey Sheshukov, Kansas State University and **Skye
Wills**, USDA-NRCS
Conservation Models, Tools, and Technologies



**Thank you to all who assisted
in planning the 73rd SWCS
International Annual Conference!**



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Visit www.Slido.com and search
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the conference.



CONFERENCE REGISTRATION AND FACILITY INFORMATION

The Soil and Water Conservation Society registration desk is located in the lobby on the main level near the 3rd Street entrance. SWCS staff will be on site to assist you.

REGISTRATION HOURS

Sunday 11:00 AM – 5:00 PM

Monday 7:00 AM – 5:00 PM

Tuesday 7:30 AM – 5:00 PM

Wednesday 7:00 AM – 12:00 PM

CONFERENCE ADMISSION

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

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

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

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

INTERNET

Select the "ConventionFreeWiFi" network and accept the terms and conditions for free internet connection.

LOST AND FOUND

Check with the Albuquerque Convention Center's Guest Services or at the SWCS registration desk.

CEUS

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

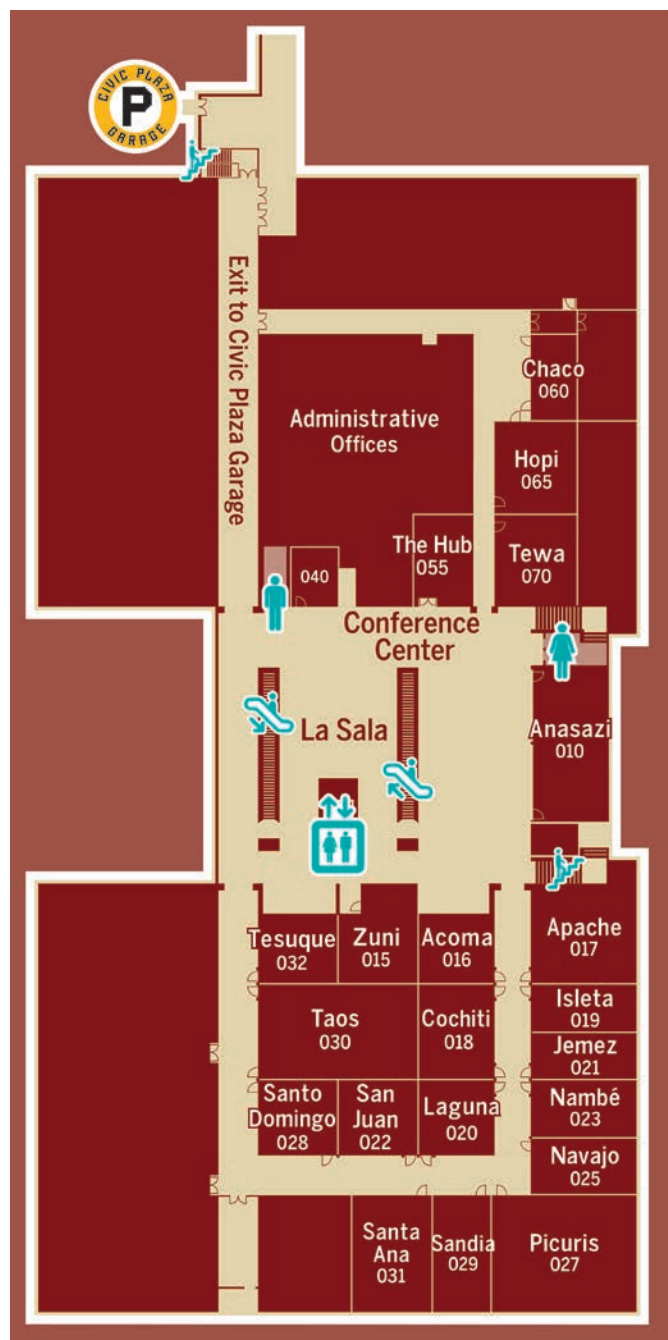
Please pick up a CEU tracking/sign in sheet at the registration desk and have each room moderator sign the sheet as appropriate. Return the form to the registration desk at the end of the conference, and we will submit on your behalf.



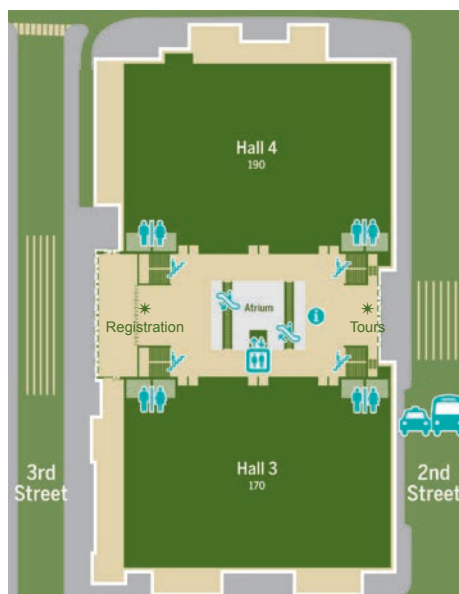


ALBUQUERQUE CONVENTION CENTER MEETING SPACE MAPS

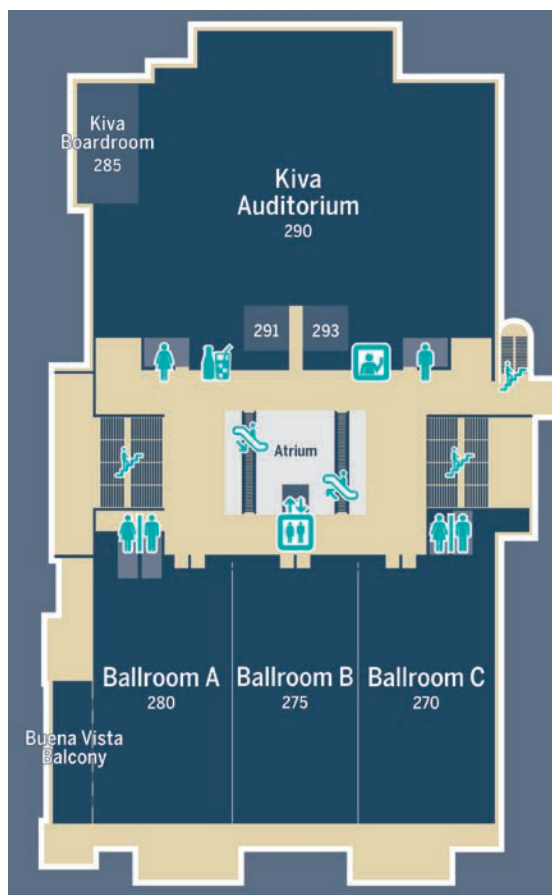
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SWCS is pleased to have the following organizations as corporate members and partners in the effort to advance natural resource conservation and environmental suitability.

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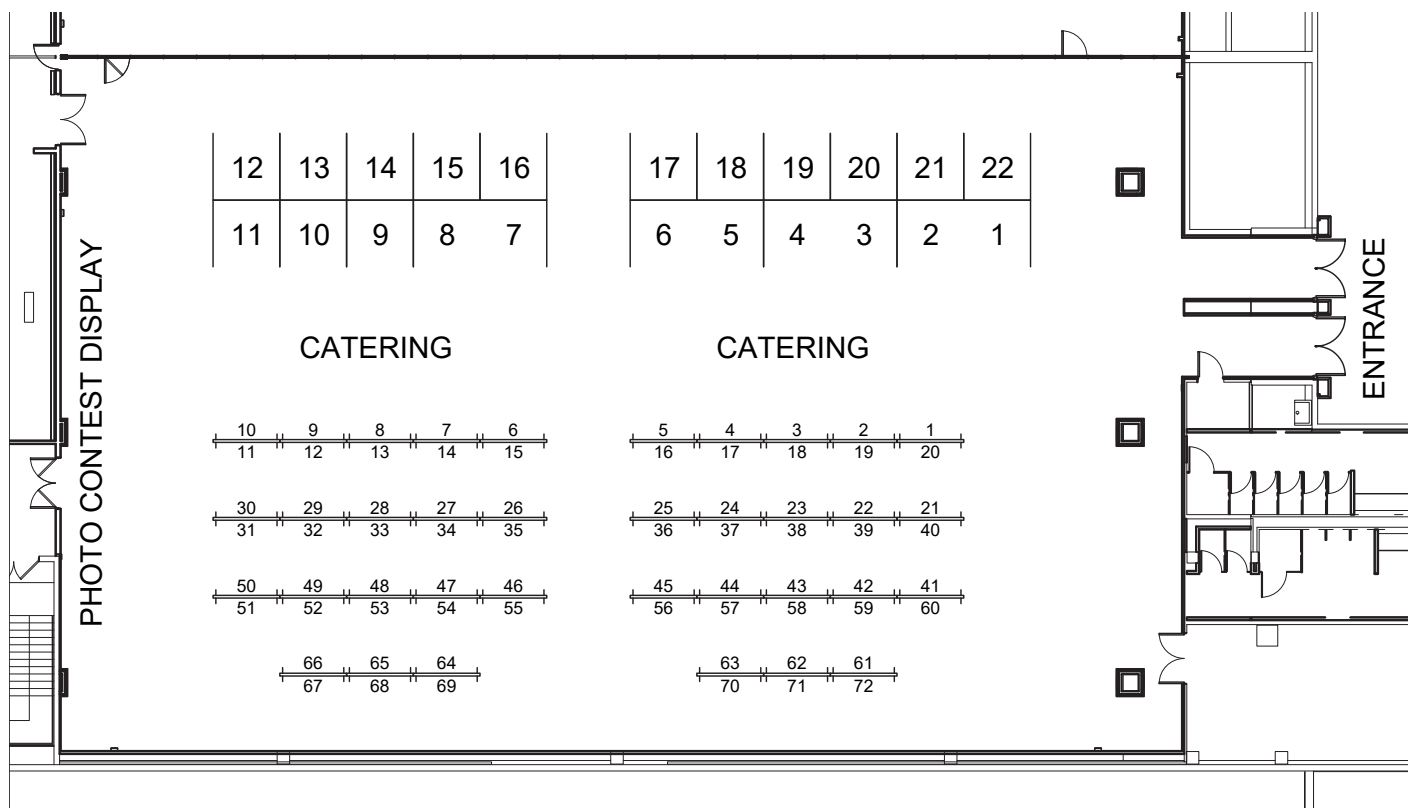
BRONZE MEMBERS



Are you interested in having your organization recognized for its dedication to natural resources protection and sustainability? Contact Clare Lindahl at clare.lindahl@swcs.org or 515-289-2331 to discuss all the benefits of becoming an SWCS Corporate Member.



EXHIBIT HALL LAYOUT



Booth #	Exhibitor	Booth #	Exhibitor
1 & 2	American Farmland Trust	15	Ecodrum Composter
3 & 4	Natural Resources Conservation Service	16	Green Cover Seed
5 & 6	Syngenta	17	New Mexico Cattle Growers' Association
7 & 8	Soil and Water Conservation Society	18	New Mexico Association of Conservation Districts
9	Agri Drain Corporation	19	Iowa Water Center (Iowa State University)
10	Soil Health Institute	20	NRCS Federal Credit Union
11	The Fertilizer Institute	21	Truax Company, Inc.
12	US Environmental Protection Agency	22	Voss Signs
13	National Center for Appropriate Technology		
14	Natural Resources Defense Council		



EXHIBITORS

Booth #	Exhibitor	Representative
1 & 2	American Farmland Trust <i>farmland.org</i>	Kris Reynolds <i>kreynolds@farmland.org</i>
3 & 4	Natural Resources Conservation Service <i>nrcs.usda.gov</i>	Steve Kadas <i>steve.kadas@nm.usda.gov</i>
5 & 6	Syngenta <i>syngenta.com</i>	Ann Bryan and Karyn Ostrom <i>ann.bryan@syngenta.com</i> ; <i>kostrom@gscommunications.com</i>
7 & 8	Soil and Water Conservation Society <i>swcs.org</i>	Matt Wiseman <i>matthew.wiseman@nm.usda.gov</i>
9	Agri Drain Corporation <i>agridrain.com</i>	Charlie Schafer <i>charlie@agridrain.com</i>
10	Soil Health Institute <i>soilhealthinstitute.org</i>	Sheldon Jones <i>sjones@soilhealthinstitute.org</i>
11	The Fertilizer Institute <i>tfi.org</i>	Lara Moody <i>lmoody@tfi.org</i>
12	US Environmental Protection Agency <i>epa.gov</i>	Katie Flahive <i>flahive.katie@epa.gov</i>
13	National Center for Appropriate Technology <i>ncat.org</i>	Jeff Schahezenski <i>jeffs@ncat.org</i>
14	Natural Resources Defense Council <i>nrdc.org</i>	Lara Bryant <i>lbryant@nrdc.org</i>
15	Ecodrum Composter <i>ecodrumcomposter.com</i>	Holden Bunko <i>holden@ecodrumcomposter.com</i>
16	Green Cover Seed <i>greencoverseed.com</i>	Keith Berns <i>keith@greencoverseed.com</i>
17	New Mexico Cattle Growers' Association <i>nmagriculture.org</i>	Caren Cowan <i>nmcga@nmagriculture.org</i>
18	New Mexico Association of Conservation Districts <i>nmacd.org</i>	Debbie Hughes <i>conserve@hughes.net</i>
19	Iowa Water Center (Iowa State University) <i>water.iastate.edu</i>	Brian Gelder <i>bkgelder@iastate.edu</i>
20	NRCS Federal Credit Union <i>nrcscreditunion.org</i>	Stuart Himmelstein <i>stuart.himmelstein@nrcscreditunion.org</i>
21	Truax Company, Inc. <i>truaxcomp.com</i>	Steve Clubine <i>truax3@qwestoffice.net</i>
22	Voss Signs <i>vosssigns.com</i>	Tom Tenerovicz <i>tom@vosssigns.com</i>



POSTER PRESENTATIONS

Adaptive Management of Conservation Efforts

1. Pollinator Habitat Seeding in Sussex County, Virginia
2. Resistance Is Futile...or Is It? Do Plant-Soil Feedbacks Promote Lehmann Lovegrass to the Detriment of Blue Grama?
3. Understory Composition of a Restored Longleaf Pine Stand
4. Upland Bird Habitat Buffer in Sussex County, Virginia

Conservation Economics and Policy

5. Community-to-Farm Organic Waste Utilization
6. Economics of Cover Crops on Corn/Soybean Rotations in Minnesota
7. Potential Use of Tillage, Crop Residue, and Nitrogen Management for Soil and Water Conservation, Higher Yields, and Increased Economic Returns in Cropping Systems of the Andes

Conservation in Organic, Specialty, and Small-Scale Agriculture

8. Linking Chicago's Urban Agricultural Districts: Converting the Englewood Rail Line into a Nature Trail

Conservation Models, Tools, and Technologies

9. Assessing Wetland Loss Impacts on Watershed Hydrology Using an Improved Modeling Approach
10. Impacts of Selected Summer Cover Crops on Wind Erosion Control
11. Predictions of Hydrological Modification on a Tropical Wetland
12. Spatial Distribution of Plant Available Nitrogen in Conventionally Managed Beef-Pastures of Southern Piedmont, Georgia
13. Total Sediment Lead (Pb) Concentrations in a Northwestern New Mexico Irrigation Ditch following the Gold King Mine Spill
14. Using Ecological Sites and State and Transition Models in New Mexico to Support Conservation Planning

Outreach, Education, and Community Engagement

15. Building a Foundation for Addressing "Wicked" Water Resources Challenges through Participatory Modeling: Stakeholder Identification and Engagement

16. Moving Beyond Barriers and Scaling Up Conservation Practice Adoption
17. The 1% Challenge: Increasing Soil Organic Matter in Dallas County, Iowa
18. Visualizing Western Soil Properties Using Web Resources

Social Sciences Informing Conservation

19. Perceived Barriers to Participation in Federal Conservation Programs
20. Trusting Culture: Examining the Roles of Trust in Social Relationships on Farmer Decision-Making and Conservation Practice Adoption
21. Understanding the Barriers and Needs of Agricultural Retailers and Certified Crop Advisers in Supporting Cover Crop Adoption

Soil Health Resources, Indicators, Assessment, and Management

22. ACC Deaminase Bacteria Abundance and Diversity in Dryland Agricultural Sites of Eastern Colorado
23. Adding a Wheat Cover Crop to Improve Soil Physical Properties in North Carolina
24. Assessment of Contaminated Soil Health Using Polyarenes Ratio as Indicator
25. Ecological Agriculture Application with Winter Flooding
26. Improving the Science behind Soil Health: NRCS-University Collaborative Dynamic Soil Properties (DSP) Studies
27. Nematodes as Indicators of Soil Health
28. Nitrogen Mineralization from Selected No-Till Crop Residues
29. Soil Health Interpretations: Using Soil Survey Data to Inform Soil Health Assessment and Conservation Planning
30. Soil Respiration Method Utilizing a Single Cell IRGA
31. Soil Respiration Testing Can Help Target How Responsive Soils Are to Amendments
32. Streamlining Soil Quality Indicators for Arid and Semiarid Cropping Systems
33. The Effect of Organic Nitrogen Sources, Crop Rotation, Cover Crops, and Reduced Tillage on Crop Yield Resilience



34. Tracking Changes in Soil Biological Properties and Other Soil Health Indicators under Different Management Practices
35. Visualizing Soil Health Practices across California Landscapes

Water Resource Assessment and Management

36. Effects of Land Application of Reclaimed Wastewater on Surface Water Quality
37. Evaluating the Potential Utility of Switchgrass (*Panicum virgatum*) for Phytoremediation of Pesticides
38. Monitoring the Effectiveness and Prioritization of Conservation Practices

Forest Restoration: Research, Policy, and Applied Science of Ecological Restoration across Landscapes and Watersheds

39. Mapping Tree Resources in the Great Plains Using High-Resolution Imagery
40. The Southwest Fire Science Consortium: An Opportunity in Fire Science and Management
41. Understory Composition in Southwest Dry Mixed-Conifer Forest in Absence of Contemporary Treatments

Rangeland Restoration, Health, and Grazing Management: Adapting Conservation Planning for a Changing Climate

42. Arkansas Discovery Farm as a Platform for Conservation Education
43. Arkansas Discovery Farm Results for Cotton
44. Characteristics, Motivations, and Experiences of Agriculture Producers Who Participated in NRCS Programs – Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP)
45. Distribution of Biological Soil Crusts and Their Influence on Soil Stability in the Rio Puerco Watershed
46. Erodibility of and Dust Emissions from Bare Soil Surfaces in the North American Southwest
47. Growth and Performance of Guar (*Cyamopsis Tetragonoloba* L.) under Various Irrigation Regimes in Semiarid Region of New Mexico
48. Quantitative Analysis of USDA-NRCS Investments to Support US Dairy Environmental Stewardship Efforts

Using Technology to Advance Conservation

49. Adapting Cover Crops to Low-Rainfall Eastern Washington
50. Adoption of Solar Irrigation Pumps on US Farms: A Multilevel Model Analysis
51. Agricultural Conservation Planning Framework (ACPF) Version 3: A New Method Of Sub-Catchment Delineation to Better Link Upland and Riparian Settings and Enhance Watershed Planning Technologies
52. Can Spatial Detail on Practice Placement Opportunities in Watersheds Inform Regional Conservation Planning Strategies? Results of a Virtual Multiwatershed Experiment
53. Denitrification Bioreactors to Limit Nitrate-Nitrogen Migration
54. New Method for Development of Setback Areas on Restrictive Slopes, for West Virginia Nutrient Management Plans
55. Producer Engagement Using the Agricultural Conservation Planning Framework (ACPF) Toolbox: What Do We Know?

Conservation Innovation Grant Showcase

56. Conservation Best Practices from Day One of a Beginning Farmer's Career
57. Demonstration and Implementation of a Nutrient Management Risk Advisory System for Protection of Water Quality in Runoff Prone Climates
58. Demonstration of Pollinator Conservation Practices and a Framework for Regional Implementation on the Southern High Plains
59. Developing and Piloting a Water Quality Trading Program for Agricultural Operators in the San Jacinto Watershed
60. Erie Phosphorus Market: Water Quality Crediting in the Western Lake Erie Basin
61. Evaluating Compaction Best Management Practice Effects on Soil Properties and Demonstration of Soil Moisture Monitoring for Compaction Prevention in Heavy Clay Soils of the Northeast
62. Evaluating Grazed Crop Crops for Soil Health and Profitability in Dryland Cropping Systems of the Semiarid High Plains
63. Hydrologic Monitoring to Support NRCS Practice Evaluation and Development in the Great Lakes and Mississippi River Watersheds



64. Increasing Adoption of Organic Methods by Historically Underserved Producers in Minnesota and Wisconsin through Innovative Outreach, Demonstration, and Technology Transfer Strategies
65. Outreach on Grazing Lands to Enhance Economic Analysis (Costs and Benefits) Conservation Changes
66. Quantifying Dynamic Soil Health Effects of Tillage and Cover Crops
67. Quantifying the Environmental Benefits of Rotational Grazing in the Chesapeake Bay Watershed
68. Restoring the Gulf: Leveraging Deepwater Horizon Funds with Impact Investment
69. Water Quality and Soil Health under Fallow Season Cover Crops in Mid-South Row-Crop Production

Professional and Chapter Development

70. Professional and Chapter Development Committee
71. SWCS North Dakota Chapter

Coming Soon!



**CONSERVATION
MEDIA LIBRARY**

Explore a variety of conservation practices through:

- videos
- photos
- factsheets



NRCS/SWCS photo by Lynn Betts

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SUNDAY, JULY 29

SCHEDULE AND EVENTS

SCHEDULE

11:00 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
1:00 PM	*Workshop 1: An Integrated Environmental, Economic, and Farm Management Decision-Making Tool: Nutrient Tracking Tool (NTT) <i>Isleta Meeting Room on Lower Level West Building</i>
1:00 PM	*Workshop 2: Rangeland Hydrology and Erosion Model <i>Nambe Meeting Room on Lower Level West Building</i>
1:00 PM	*Workshop 3: Using Compost to Build Soils, Reduce Erosion, and Improve Soil Moisture Retention <i>Navajo Meeting Room on Lower Level West Building</i>
4:00 PM	New Members/First Timers/ Student Orientation <i>Cochiti Meeting Room on Lower Level West Building</i>
4:30 PM	Student Development Session <i>Cochiti Meeting Room on Lower Level West Building</i>
5:00 PM	Regional Forum and Flavor Reception <i>Ballroom A on Upper Level West Building</i>

*Additional fees apply.

EVENTS

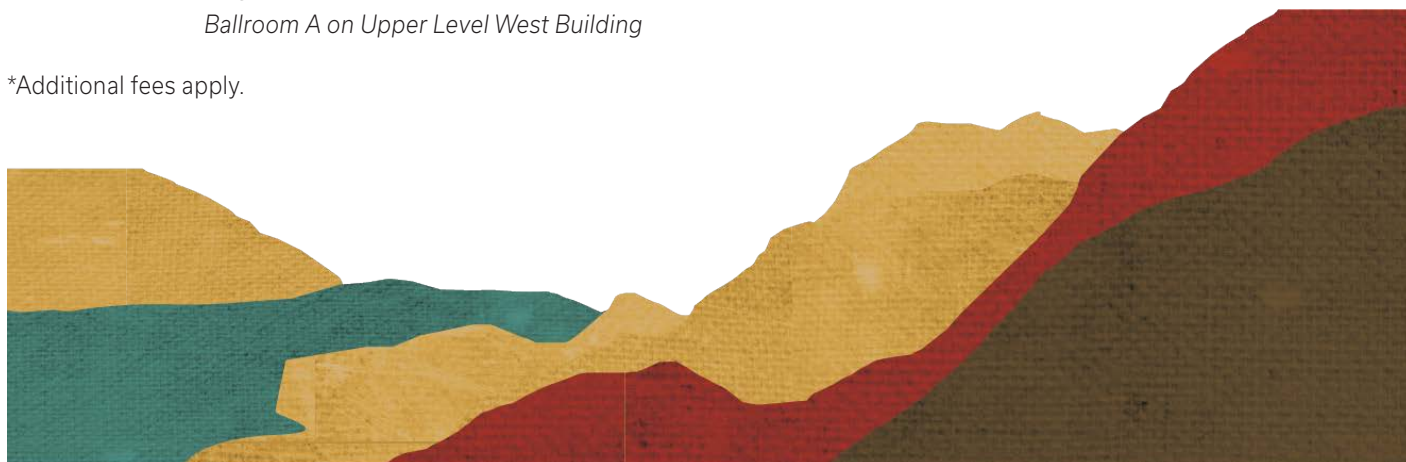
Workshop 1: An Integrated Environmental, Economic, and Farm Management Decision-Making Tool: Nutrient Tracking Tool (NTT)

1:00 PM – 5:00 PM, *Isleta Meeting Room on Lower Level West Building*

Instructors: Ali Saleh, TIAER at Tarleton State University; Mindy Selman, USDA Office of Environmental Markets; Kannon Narayana, TIAER at Tarleton State University

The Nutrient Tracking Tool (NTT) is a user-friendly, web-based model developed by Texas Institute for Applied Environmental Research (TIAER) staff in collaboration with the United States Department of Agriculture. NTT estimates cost effective, eco-friendly land management operations and conservation practices associated with crop and animal production. Agricultural Policy/ Environmental Extender (APEX), Farm-level Economic Model (FEM), and Animal Production Life Cycle Analysis Tool (APLCAT) are the models driving NTT.

APEX model simulates the environmental impacts of land management operations at the whole-farm and small watershed scales. FEM simulates the economic impacts of agricultural practices, conservation practices, and policies. APLCAT simulates the water footprint, energy use, and greenhouse gas emissions associated with beef cattle production.





NTT includes weather, soil, and basic land management data for most of the contiguous United States. The users can enter a baseline and alternative management systems. After running the models, NTT integrates the results and produces a report showing the nitrogen, phosphorous, sediment loss potential, and crop yield differences between the baseline and alternative management systems.

Attendees of the workshop will learn how to apply APEX, FEM, and APLCAT in the NTT framework to make their own environmental, economic, and farm management decisions. Specifically, they will learn about (1) APEX, FEM, and APLCAT programs in NTT; and (2) details on how NTT works, data requirements for the models, available data with the tool, how to enter input parameters, how to run the models, and how to interpret results.

Workshop 2: Rangeland Hydrology and Erosion Model

1:00 PM – 5:00 PM, Nambe Meeting Room on Lower Level West Building

Instructors: *Mark Nearing, USDA-ARS; Mariano Hernandez, USDA-ARS; Jason Williams, USDA-ARS; Fred Pierson, USDA-ARS; George Peacock, Colorado State University; David Goodrich, USDA-ARS; Ken Spaeth, USDA-NRCS; S. Kossi Nouwakpo, University of Nevada; Osama Al-Hamdan, Texas A&M University-Kingsville*

This workshop is designed to provide attendees background on dominant hydrologic and erosion processes on rangelands, equations implemented in the Rangeland Hydrology and Erosion Model (RHEM), and how to access and interpret model predictions using examples from across the United States for different ecological and climatic conditions. Predicting soil erosion is a common practice in rangeland management for assessing the effects of management practices impacts on sustainability and soil health. RHEM was specifically designed to address rangeland conditions for estimating runoff, erosion, and sediment delivery rates and volumes at the spatial scale of the hillslope and the temporal scale of a single rainfall event. RHEM links the model's hydrologic and erosion parameters with rangeland plant community by providing a new system of parameter estimation equations based on diverse rangeland datasets through a simple web-enabled interface. Model inputs are surface soil texture, slope

length, slope steepness, slope shape, dominant plant life form, percentage of canopy cover, and percentage of ground cover by component. Climate (precipitation intensity, duration, and frequency) is estimated for sites within the United States with the CLIGEN stochastic weather generator. Attendees will need to bring a Microsoft Windows-based laptop to run the model during the workshop. The RHEM model can be accessed at <https://apps.tucson.ars.ag.gov/rhem/>. RHEM scientific publications can be accessed at <http://apps.tucson.ars.ag.gov/rhem/docs>.

Workshop 3: Using Compost to Build Soils, Reduce Erosion, and Improve Soil Moisture Retention

1:00 PM – 5:00 PM, Navajo Meeting Room on Lower Level West Building

Instructor: *Jean Bonhotal, Cornell Waste Management Institute*

Use of compost, a recycled product, for controlling erosion and sedimentation can reduce costs, increase effectiveness of revegetation, and promote environmental protection. Compost blankets (a layer of compost spread or blown onto a slope to a depth of 1 to 4 inches) and berms (a triangular dike of compost placed perpendicular to directed and sheet flow) have been used to reduce soil loss and improve soil moisture retention. Application of compost blankets can stabilize slopes, and compost filter berms can filter and slow the flow of moving water in ditches.

The use of a compost blanket has been shown to reduce runoff and erosion by absorbing rainfall impact and retaining water with a slow release. The blanket can suppress weed growth, while providing a medium for germination and growth of seeded plants. Applications help remediate compacted soil and reduce crusting, facilitating percolation into underlying soil. It can be particularly useful in late season construction, controlling runoff before vegetation can be established. A virtual tour with demonstrations will illustrate the effectiveness of these tools.

Compost filter berms offer advantages over traditional measures such as silt fences and straw bales and filter out fine particles and associated chemical contaminants from water flowing through them. They can collect large volumes of sediment without becoming clogged. Compost



berms can be left in place, thus eliminating removal costs. It is recommended that such berms be used to diffuse flow above steep slopes where compost blankets are installed.

Comparative demonstrations will be conducted of different compost properties, such as water holding capacity, organic matter content, particle size, and nutrient content.

New Members/First Timers/Student Orientation

4:00 PM – 4:30 PM, Cochiti Meeting Room on Lower Level West Building

New members, conference first timers and students, will have the opportunity to network with one another and discuss the conference with SWCS leadership and Board of Directors members who will share tips for navigating the agenda, connecting with fellow conservationists, and making the most out of time spent at the conference. Attendees are encouraged to use this time to ask questions about the conference and the Society.

Student Development Session

4:30 PM – 5:00 PM, Cochiti Meeting Room on Lower Level West Building

SWCS will hold a special session for student attendees. The session will unveil the professional development opportunities throughout the conference, discuss benefits of an SWCS student membership, and connect students with professional mentors. Attendance is encouraged for student members and professionals wishing to connect with students.

Regional Forum and Flavor Reception

5:00 PM – 6:30 PM, Ballroom A on Upper Level West Building

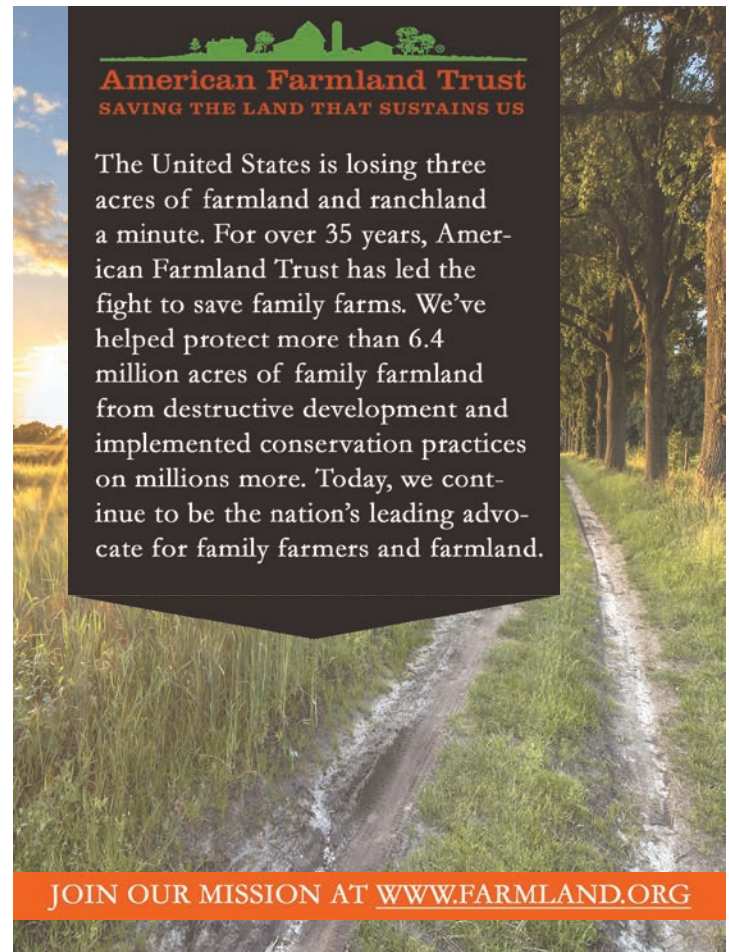
This year's conference reception, organized by the SWCS New Mexico Chapter, will include a selection of themed dishes/appetizers highlighting the local flavor of Albuquerque, along with a cash bar. Spend time networking with colleagues from 5:00 PM to 5:30 PM, followed by presentations from invited speakers.

Culture, Climate, and Conservation: The Future of New Mexico

Presenters: Kurt Riley, Sky City-Acoma Pueblo; Kenny Salazar, New Mexico Association of Conservation Districts

New Mexico, a state characterized by its extremely diverse geography, culture, and agricultural practices, is facing new challenges within the industries of agriculture and food production, including issues related to sustaining healthy lands for livestock, wildlife, and local communities as well as ensuring clean and abundant water for future generations. Additionally, the state's natural resources will be affected by a changing climate, emerging technologies, and an evolving society. Presenters will explain how their organizations are addressing changes in cultural traditions, highlight progressive conservation programs and practices, and discuss what adaptation measures may be taken to meet societal resource needs.

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



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MONDAY, JULY 30

SCHEDULE AND EVENTS

SCHEDULE

7:00 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
7:30 AM	State of Society Address, Regional Roundtables, and House of Delegates with Light Breakfast (For Chapter Leaders and Members) <i>Ballroom A/B on Upper Level West Building</i>
8:45 AM	Conference Kickoff, Keynote Sponsor, and Pritchard Keynote Lecture <i>Ballroom A/B on Upper Level West Building</i>
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
10:30 AM	Concurrent Sessions <i>See pages 25-27</i>
10:30 AM	CIG Showcase <i>Anasazi on Lower Level West Building</i>
12:00 PM	Lunch on Your Own
12:00 PM	ARCSE Lunch and Annual Business Meeting <i>Apache Meeting Room on Lower Level West Building</i>
1:30 PM	Concurrent Sessions <i>See pages 25-27</i>
1:30 PM	CIG Showcase <i>Anasazi on Lower Level West Building</i>
3:00 PM	Afternoon Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
3:30 PM	Concurrent Sessions <i>See pages 25-27</i>
3:30 PM	CIG Showcase <i>Anasazi on Lower Level West Building</i>
5:00 PM	Exhibitor and Poster Reception <i>Ballroom C on Upper Level West Building</i>
7:00 PM	Silent Auction Ends <i>Foyer on Upper Level West Building</i>

EVENTS

State of Society Address, Regional Roundtables, and House of Delegates with Light Breakfast (For Chapter Leaders and Members)

7:30 AM – 8:45 AM, *Ballroom A/B on Upper Level West Building*

Prior to the conference kickoff, the State of the Society Address will be delivered by Board Chair Rex Martin and CEO Clare Lindahl. The Regional Roundtables and House of Delegates will follow. Regional Roundtables provide chapter members an opportunity to meet with SWCS leadership and others from their region for a discussion on local events and issues. The House of Delegates session serves as platform for chapter leaders and members to communicate regional natural resource and chapter needs to SWCS leadership. A light breakfast will be provided for chapter leaders and members in attendance.

Conference Kickoff and Keynote Sponsor

8:45 AM - 9:00 AM, *Ballroom A/B on Upper Level West Building*

Presenters: *Clare Lindahl, Soil and Water Conservation Society; Rex Martin, Soil and Water Conservation Society; Liz Hunt, Syngenta*

Board of Directors Chair Rex Martin and CEO Clare Lindahl will kick off the 73rd SWCS International Annual Conference followed by a presentation from Liz Hunt with Syngenta, this year's presenting sponsor.

Pritchard Keynote Lecture: Building a Culture of Conservation

9:00 AM – 10:00 AM, *Ballroom A/B on Upper Level West Building*



Presenter: *Jacqueline Comito, Iowa State University: Water Rocks! and Iowa Learning Farms*

How do we build a culture of conservation? Through engaging examples and stories, Jacqueline Comito will demonstrate ways to



build an inclusive culture of conservation that strengthens our commitment to value natural resources in our lives. She asserts that this commitment will lead to a more sensitive stewardship of our cultural history and natural environment that will be transmitted from generation to generation. Comito will demonstrate that the most powerful tools in our outreach toolkit are our humor, caring, creativity, and curiosity.

A 2015 recipient of the Environmental Law Institute's National Wetlands Award for Outreach and Education, Comito is actively involved in research, extension, and outreach activities in the areas of water, watershed-based community activities, and environmental attitudes. Comito, an anthropologist, is the director of two highly successful outreach and education programs at Iowa State University: Water Rocks! and Iowa Learning Farms. Her creativity and vision have propelled these programs to become highly successful and often requested across Iowa and the Midwest. Iowa Learning Farms, now in its 14th year, is the catalyst that has brought farmers and Iowans together to learn from one another to adopt conservation practices on the land, including wetlands. Water Rocks! has reached over 100,000 people across the Midwest—many of them youth! Comito interacts with a variety of stakeholders, including farmers, interested citizens, teachers, youth, environmental groups, and agency personnel. Along with anthropological work, Comito serves as a video writer, director, and producer as well as a music lyricist, producer, and musician and will be featured in the upcoming Rutgers University Press book, *Anthropological Lives: An Introduction to the Profession*. Comito (along with two other colleagues) won a 2018 American Society of Agriculture and Biological Engineers Blue Ribbon Award for Educational Aids for Water Rocks! "Rock Your Watershed! A Game of Choice and Chance."

Exhibitor and Poster Reception

5:00 PM – 7:00 PM, *Ballroom C on Upper Level West Building*

This reception offers a prime opportunity to visit with exhibitors showcasing their newest technology, programs, products, and services. Attendees will have the opportunity to view posters and hear from the authors. This is also a great time to connect with potential business associates and reconnect with colleagues. A

selection of appetizers will be served, along with a cash bar. A ticket for this event is included with full conference registration. Additional tickets may be purchased online in advance for guests or at the registration table if available.

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Monday, July 30, 2018			
7:00 AM - 5:00 PM	Registration Desk Open		Lobby Main Level 3rd Street Entrance
7:30 AM - 8:45 AM	State of Society Address, Regional Roundtables, and House of Delegates with Breakfast (For Chapter Members)		Ballroom A/B Upper Level West Building
8:45 AM - 10:00 AM	Conference Kickoff - Clare Lindahl, Soil and Water Conservation Society; Rex Martin, Soil and Water Conservation Society; Keynote Sponsor - Liz Hunt, Syngenta Crop Protection, Inc.; Pritchard Keynote Lecture: Building a Culture of Conservation - Jacqueline Comito, Iowa State University; Water Rocks! and Iowa Learning Farms		Ballroom A/B Upper Level West Building
10:00 AM - 10:30 AM	Morning Break: Exhibit Hall and Poster Presentations Open		Ballroom C Upper Level West Building
10:30 AM - 12:00 PM	Symposia Sessions		
Anasazi Lower Level West Building Conservation Innovation Grants Showcase	Conservation Innovation Grants Program Overview and Stakeholder Updates - Kari Cohen, USDA-NRCS; Innovation Delivery to Historically Underserved Producers - Edward Henry, USDA-NRCS		
Acoma/Zuni Lower Level West Building Conservation Economics and Policy	Lightning Conversations on the Science and Policy of Conservation - Lindsey Yasarer, USDA-ARS		
Cochiti Lower Level West Building Rangeland Restoration, Health, and Grazing Management	Rangeland Erosion Processes and Modeling - Mark Nearing, USDA-ARS		
Taos Lower Level West Building Professional and Chapter Development	10:30 AM - 11:15 AM Website and Social Media Tips for Chapters and Small Organizations - Lisa Cox, Gem City Fine Foods; Becky Fletcher, USDA-NRCS	11:15 AM - 12:00 PM Field Notes: Brief Career Profiles - Jill Wheeler, Syngenta; Micheal Newman-Brooks, City of Chicago; Doug Karlen, USDA-ARS; Sangu Angadi, New Mexico State University; Lakisha Odum, Foundation for Food and Ag Research; Lisa Ferguson, The Nature Conservancy	
10:30 AM - 12:00 PM	Oral Presentations		
	10:30 AM	10:50 AM	11:10 AM
Isleta/Jemez Lower Level West Building Conservation Models, Tools, and Technologies	Evaluation of Soil Vulnerability Index (SVI) for an Intensively Managed High Desert Irrigation District Austin Davis, University of Missouri-Columbia	Tree and Shrub Selection Guide for Conservation in the Great Plains Gary Bentrup, USDA-National Agroforestry Center	Turf Replacement Program Evaluation Melissa Matlock, Western Municipal Water District
Nambe/Navajo Lower Level West Building Outreach, Education, and Community Engagement	Conservation on Rented Farmland: Developing Effective Outreach for Non-Operating Landowners Peggy Petrzalka, Utah State University	Soils Information and Effective Conservation: You Can't Have One Without the Other Michael Robotham, USDA-NRCS	Sustainability Training in Agricultural Resource Systems (STARS): A Train-the-Trainer Model for Agriculture and Natural Resources Professionals Beth Baker, Mississippi State University
Picuris Lower Level West Building Water Resource Assessment and Management	Evaluating the Effect of Pasture Type and Grazing Intensity on the Hydrology of Southern Great Plains Rewati Niraula, Tarleton State University	Improving Storm Water Quality by Stabilizing Construction Site Soils Richard McLaughlin, North Carolina State University Crop and Soil Sciences	Wildflower Growth Response to Construction Site Soil Conditions Abigail Haselton, North Carolina State University

12:00 PM - 1:30 PM	Lunch on Your Own	
1:30 PM - 3:00 PM	Symposia Sessions	
Anasazi Lower Level West Building Conservation Innovation Grants Showcase	Water Management for Weather Resilience - Hamid Farahani, USDA-NRCS	
Acoma/Zuni Lower Level West Building Conservation Models, Tools, and Technologies	Using Ecological Sites and State and Transition Models to Support Objective-Based Conservation Planning - Michael Kucera, USDA-NRCS	
Cochiti Lower Level West Building Rangeland Restoration, Health, and Grazing Management	Rangeland Erosion Processes and Modeling (Continued) - Mark Nearing, USDA-ARS	
Taos Lower Level West Building Professional and Chapter Development	1:30 PM - 2:15 PM Conservation Sales Training: Lessons Learned from the Private Sector - Catherine DeLong, Soil and Water Conservation Society	2:15 PM - 3:00 PM Crucial Conversations: A Preview of the Course and Where to Find Local Opportunities to Participate - Dale Threatt-Taylor, SWCS Southeast Region Director
1:30 PM - 3:00 PM	Oral Presentations	
Isleta/Jemez Lower Level West Building Conservation in Organic, Specialty, and Small-Scale Agriculture	1:30 PM Partnerships to Support Conservation with Organic Producers Ben Bowell, Oregon Tilth	1:50 PM Supporting Biodiversity in Organic Systems Ben Bowell, Oregon Tilth
Nambe/Navajo Lower Level West Building Using Technology to Advance Conservation	1:30 PM Advancing Wetland Restoration with Mapping and Incentives Marli Rupe, Vermont Department of Environmental Conservation	2:10 PM Supporting Pollinators with Agroforestry Practices Gary Bentrup, USDA-National Agroforestry Center
Picuris Lower Level West Building Water Resource Assessment and Management	1:30 PM Changing Water Balances in an Irrigated Watershed Transitioning from Furrow to Sprinkler Irrigation David Bjorneberg, USDA-ARS	2:30 PM Conservation Generation: How Young Farmers are Leading in Conservation and Resilience Kate Greenberg, National Young Farmers Coalition; Tiana Baca, New Mexico farmer
	2:10 PM Developing a Construction Stormwater BMP Plan using a Systems Approach Earl Norton, Alabama Soil and Water Conservation Committee	2:30 PM Planning for Resilience: Hurricane Related Catastrophic Soil Interpretations through National Cooperative Soil Survey Data Richard Reid, USDA-NRCS
	2:10 PM Connecting Human and Hydrologic Systems to Understand Sustainability of Traditional Irrigation Communities in New Mexico Alexander Fernald, New Mexico State University	2:30 PM Successful Watershed Management: Getting to Scale Rebecca Power, University of Wisconsin

3:00 PM - 3:30 PM	Afternoon Break: Exhibit Hall and Poster Presentations Open		Ballroom C Upper Level West Building
3:30 PM - 5:00 PM	Symposia Sessions		
Anasazi Lower Level West Building Conservation Innovation Grants Showcase	Dairy Waste Technology - Steven Rowe, Newtrient		
Acoma/Zuni Lower Level West Building Social Sciences Informing Conservation	Meta-Review of Barriers and Motivations for Farmers to Adopt Conservation Practices - Linda Prokopy, Purdue University		
Cochiti Lower Level West Building Soil Health Resources, Indicators, Assessment, and Management	Carbonomics: The Amazing Economy of the Soil - Keith Berns, Green Cover Seed		
Taos Lower Level West Building Professional and Chapter Development	3:30 PM - 4:15 PM Engaging Students and New Professionals in your Chapter - Megan Koppenhafer, Soil and Water Conservation Society; Robert Knight, Texas A&M University; Alexandra Firth, Mississippi State University; Spencer Pech, Iowa State University	4:15 PM - 5:00 PM Building Strong Boards and Board Members - Jimmy Daukas, American Farmland Trust; Becky Fletcher, USDA-NRCS	
3:30 PM - 5:00 PM	Oral Presentations		
Isleta/Jemez Lower Level West Building Adaptive Management of Conservation Efforts	3:30 PM Microbial Diversity of Locally Derived Effective Microorganisms in Composting Broiler Litter and its Role in Enhancing the Potentiality to Mineralize Nitrogen in Soil and Improve the Nutritional Value of Edamame Kishan Mahmud, University of Georgia	3:50 PM New Arkansas Discovery Farm in the Eucha-Spavinaw Watershed Advances Innovative Wastewater and Manure Management for a Full-Time Dairy Operation James Burke, University of Arkansas	4:10 PM Spatial and Temporal Variability of Metal Concentration in Agricultural Fields Downstream From the 2015 Gold King Mine Spill Gaurav Jha, New Mexico State University
Nambe/Navajo Lower Level West Building Forest Restoration	Evaluation of Forest Silvicultural Treatment Effects on Runoff and Sediment Yield in a Northern New Mexico Forest Furkan Atalar, New Mexico State University	Inventory and Monitoring of Tree Resources in Agroecosystems Using High-Resolution Imagery Todd Kellerman, USDA Forest Service National Agroforestry Center	Strategies for Soil and Water Conservation and Sustainable Forage Corn Production in New Mexico: Increasing Cutting Height, Decreasing Row Spacing, and Forage Quality Considerations Sultan Begna, New Mexico State University
Picuris Lower Level West Building Soil Health Resources, Indicators, Assessment, and Management	Assessing Dynamic Soil Properties and Inventorying an Ecological Site on Coastal Plain Soils in Longleaf Pine (<i>Pinus palustris</i>) and Pasture Land Cover/Uses Daniel Wallace, USDA-NRCS	Post-Wildfire Rehabilitation on Federal Lands Penny Luehring, USDA Forest Service	Watershed Restoration following Wildfire: A Case Study from the Manzano Mountains, New Mexico Cody Stropki, SWCA Environmental Consultants
5:00 PM - 7:00 PM	Exhibitor and Poster Reception		Soil Health and Maize Yield Analysis Detects Long-Term Tillage and Cropping Effect Aaron Ristow, Cornell University
	Ballroom C Upper Level West Building		



MONDAY, JULY 30 SYMPOSIA SESSIONS

Conservation Innovation Grants (CIG) Showcase

10:30 AM – 5:00 PM, *Anasazi on Lower Level West Building*

The USDA-Natural Resources Conservation Service (NRCS), in conjunction with SWCS, will again host the Conservation Innovation Grants (CIG) Showcase at the SWCS Annual Conference. Since 2004, CIG has supported the development of innovative natural resource conservation approaches and technologies on working lands. This year's showcase includes three panel presentations that will highlight exciting work currently underway by CIG grantees.

This showcase runs from 10:30 AM to 5:00 PM on Monday, July 30. Following the showcase, CIG project posters will be presented in the poster session held in the poster display area of the Exhibit Hall from 5:00 PM to 7:00 PM.

Introduction: CIG Program Overview and Stakeholder Updates (10:30 AM)

Presenter: *Kari Cohen, USDA-NRCS*

Presentation 1: Innovation Delivery to Historically Underserved Producers (11:00 AM)

Moderator: *Edward Henry, USDA-NRCS*

Presentation 2: Water Management for Weather Resilience (1:30 PM)

Moderator: *Hamid Farahani, USDA-NRCS*

Presentation 3: Dairy Waste Technology (3:30 PM)

Moderator: *Steven Rowe, Newtrient*

Professional and Chapter Development Session

10:30 AM – 5:00 PM, *Taos on Lower Level West Building*

New this year, the Professional and Chapter Development Committee has developed sessions for the growth of professionals and chapter leaders. These sessions will help professionals become more effective across the diverse set of fields that serve conservation. You will learn from the experiences, challenges, and successes of other conservation professionals. Sessions on chapter development are relevant not only to SWCS chapters but also to any small organization seeking to have a big impact with minimal staff and budget.

Presentation 1: Website and Social Media Tips for Chapters and Small Organizations – *Lisa Cox, Gem City Fine Foods; Becky Fletcher, USDA-NRCS* (10:30 AM – 11:15 AM)

Moderator: *Rob Lawson, USDA-NRCS*

Presentation 2: Field Notes: Brief Career Profiles – *Doug Karlen, USDA-ARS; Micheal Newman-Brooks, City of Chicago; LaKisha Odom, Foundation for Food and Agriculture Research; Jill Wheeler, Syngenta* (11:15 AM – 12:00 PM)

Moderator: *Megan Koppenhafer, SWCS Intern*

Presentation 3: Conservation Sales Training: Lessons Learned from the Private Sector – *Catherine DeLong, SWCS* (1:30 PM – 2:15 PM)

Presentation 4: Crucial Conversations: A Preview of the Course and Where to Find Local Opportunities to Participate – *Dale Threatt-Taylor, SWCS Southeast Region Director* (2:15 PM – 3:00 PM)

Moderator: *Susan Meadows, SWCS North Central Region Director*

Presentation 5: Engaging Students and New Professionals in your Chapter – *Robert Knight, Texas A&M University; Alexandra Firth, Mississippi State University; Spencer Pech, Iowa State University* (3:30 PM – 4:15 PM)

Moderator: *Megan Koppenhafer, SWCS Intern*

Presentation 6: Building Strong Boards and Board Members – *Jimmy Daukas, American Farmland Trust; Becky Fletcher, USDA-NRCS* (4:15 PM – 5:00 PM)

Moderator: *Cathy McGuire, USDA-NRCS*

Lightning Conversations on the Science and Policy of Conservation

10:30 AM – 12:00 PM, *Acoma/Zuni on Lower Level West Building*

Moderator: *Lindsey Yasarer, USDA-ARS*

In the arena of soil and water conservation, science and policy are often intermingled at the local, regional, and national scales. Communication between scientists, policymakers, and conservationists is critical at this junction between science and policy. This session is meant to ignite a discussion and develop ongoing conversations on the science and policy of conservation.



The session is organized in three subsections, followed by a discussion. The first subsection will discuss case studies on the science of soil and water conservation. The focus will then shift to several large-scale regional efforts to synthesize conservation science through projects such as the USDA Agricultural Research Service (USDA-ARS) Long-Term Agroecosystem Research (LTAR) Network, and the Mississippi River Basin/Gulf of Mexico Hypoxia Task Force. The presentations will conclude with a talk that will explore the larger picture of how science and policy are intertwined at the national level. Finally, there will be an open discussion with the audience of all topics explored by the speakers. Each of the speakers will be limited to 10 minutes so that multiple points of view can be shared in a faster format, allowing time for a 10 to 20 minute discussion with the audience.

Presentation 1: The Drive to Improve Water Quality via Conservation Adoption: Who's At the Wheel and Where Are We Headed? – *Andrew Sharpley, University of Arkansas*

Presentation 2: Long-Term Agroecosystem Research (LTAR) and Sustainability: A Shared Process – *Tim Strickland, USDA-ARS*

Presentation 3: USDA Conservation Effects Assessment Project (CEAP): Fifteen Years of Research and Assessment in a Watershed Network – *Martin Locke, USDA-ARS*

Presentation 4: National Nonpoint Source Program: A Catalyst for Water Quality Improvements – *Katie Flahive, US Environmental Protection Agency*

Presentation 5: The Conservation of Mass: How Single Focus Best Management Practices (BMPs) Fail to Address Global Environmental Problems – *Andy Manale, APM and Associates Consulting*

Presentation 6: Synthesizing Science to Inform and Adapt Management, Programs, and Policy: Experience, Insights, and Challenges – *Lisa Duriancik, USDA-NRCS*

Rangeland Erosion Processes and Modeling

10:30 AM – 12:00 PM, Cochiti on Lower Level West Building

Moderator: *Mark Nearing, USDA-ARS*

Predicting soil erosion is a common practice in rangeland management for assessing the effects of

management practices' impacts on sustainability and soil health. Soil loss rates on rangelands are considered one of the few quantitative indicators for assessing soil quality, rangeland health, and conservation practice effectiveness. Both concentrated flow erosion and splash and sheetflow may be active on rangelands, but concentrated flow erosion is particularly effective at detaching and transporting large quantities of soil, water, and dissolved elements. Soil, nutrients, and water are all possible limiting factors for ecosystem productivity in rangelands, and small resource losses can threaten sustainability. This symposium is targeted toward the science and prediction of soil erosion on rangelands, and the development and use of understanding the erosion processes and how they are affected by management and perturbations, such as fire. A specific focus of the symposium will be on the relatively new USDA Rangeland Hydrology and Erosion Model, including the functional development of the model itself as well as experimental work that has gone into development of both the model and our understanding of rangeland erosion processes.

Presentation 1: The Rangeland Hydrology and Erosion Model – *Mark Nearing, USDA-ARS; Mark Weltz, USDA-ARS; Frederick B. Pierson, USDA-ARS; Ken Spaeth, USDA-NRCS*

Presentation 2: Vegetation and Ground Cover Effects on Hydrologic Function in Treated and Untreated Woodlands of the Great Basin – *C. Jason Williams, USDA-ARS; Frederick B. Pierson, USDA-ARS; Sayjro K. Nouwakpo, University of Nevada; Osama Z. Al-Hamdan, Texas A&M University-Kingsville; Mark A. Weltz, USDA-ARS*

Presentation 3: Application of the Rangeland Hydrology and Erosion Model Coupled with CLIGEN to Estimate Hillslope Soil Erosion on a Grid Cell Basis – *Mariano Hernandez, USDA-ARS*

Presentation 4: Infiltration and Soil Loss Modeling with the Rangeland Hydrology and Erosion Model on Saline and Sodic Soils – *Sayjro K. Nouwakpo, University of Nevada; Mark A. Weltz, USDA-ARS; Awadis Arslan; Colleen H. Green; Osama Z. Al-Hamdan, Texas A&M University-Kingsville*

Presentation 5: Applications of RHEM in Rangeland Conservation Planning: Policy and Procedure – *Ken Spaeth, USDA-NRCS; Mark Weltz, USDA-ARS; Frederick B. Pierson, USDA-ARS; C. Jason Williams, USDA-ARS*



(Continued) 1:30 PM – 3:00 PM, Cochiti on Lower Level West Building

Presentation 6: Extending RHEM from Hillslopes to Watersheds and Large Areas with AGWA/KINEROS2 – David Goodrich, USDA-ARS; Haiyan Wei, USDA-ARS; Mariano Hernandez, USDA-ARS; Ken Spaeth, USDA-NRCS; Mary Nichols, USDA-ARS; Shea Burns, University of Arizona; Phil Guertin, University of Arizona; Carl Unkrich, USDA-ARS

Presentation 7: Rangeland Hydrology and Erosion Model: Data and Model Services Deployed through the Cloud Services Integration Platform (CSIP) – George Peacock, Colorado State University; Tim Carney; Gerardo Armendariz, USDA-ARS; Rumpal Sidhu; Gerardo Armendariz, USDA-ARS; Olaf David, Colorado State University

Presentation 8: Fire Impacts on Rangeland Erosion and Implications for Modeling – Frederick B. Pierson, USDA-ARS; C. Jason Williams, USDA-ARS

Presentation 9: A Parametrization Approach to Estimate Erodibility on Undisturbed and Disturbed Rangelands – Osama Z. Al-Hamdan, Texas A&M University-Kingsville; Frederick B. Pierson, USDA-ARS; Mark Nearing, USDA-ARS; C. Jason Williams, USDA-ARS; Mariano Hernandez, USDA-ARS; Sayjro K. Nouwakpo, University of Nevada; Mark A. Weltz, USDA-ARS; Ken Spaeth, USDA-NRCS; Jan Boll

Using Ecological Sites and State and Transition Models to Support Objective Based Conservation Planning

1:30 PM – 3:00 PM, Acoma/Zuni on Lower Level West Building

Moderator: Michael Kucera, USDA-NRCS

Presenters: Brandon Bestelmeyer, USDA-ARS; Joel Brown, USDA-NRCS; Richard Strait, USDA-NRCS

Use of Ecological Site Information, Ecological Site Descriptions (ESDs), and State and Transition Models (STMs) in the 9 Step Conservation Planning Process on all land uses will be covered to support objective based conservation planning. ESDs provide land managers the information needed for evaluating land use suitability, response to different management activities or disturbance processes, and ability to sustain productivity over the long term. Integrating ESDs is the most spatially and temporally relevant model for a conservation planner

to use for multiple land uses when discussing client objectives, defining resource concerns, conducting inventories, selecting applicable practices/management measures, monitoring effects, and supplying feedback. Site specific use of STMs assure that conservation planners collect, organize, manage, and apply ecologically based conservation planning information. STMs describe a range of resource conditions (e.g., states and phases) and processes (e.g., time, triggers, succession, disturbances, management activities/practices) related to transitions in each land use. Development of hierarchical nested STMs for major land uses and sub-land uses that describe a common range of resource conditions, along with the conservation practices/management systems that can drive a desired resource change, allow the planner to focus on applicable land use(s) that apply. STMs can also be utilized to avoid making common conservation planning mistakes, such as utilizing practices that are not well-suited or applying practices that have negative effect on resource conditions. Transitions between states include information about conservation practices and adaptive management

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concepts that can achieve desired resource conditions. States and phases are explicitly connected to soil health, soil health indicators, and soil health management systems; and can be utilized across the country on a wide range conditions to guide conservation planning.

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

3:30 PM – 5:00 PM, *Acoma/Zuni on Lower Level West Building*

Moderator: *Linda Prokopy, Purdue University*

Presenters: *Sarah Church, Purdue University; Ben Gramig, University of Illinois-Urbana Champaign; Pranay Ranjan, Purdue University*

This symposium will present results from a completed review and meta-analysis of 35 years (1982 to 2017) of quantitative and qualitative social science research papers that have examined motivations of and barriers to adoption of conservation practices in US agriculture. The proposed study updates and greatly expands on previous work that has reviewed BMP adoption. This meta-analysis (1) reviews all appropriate studies published during the timeframe, (2) accommodates a number of advances in this field of study such as the growth of qualitative research with farmers, and (3) focuses on both barriers to and motivations for adoption. All US studies found in the peer-reviewed literature, theses/dissertations, and grey literature since the early 1980s were reviewed for potential inclusion in this meta-analysis and review. Papers were identified through database literature searches. The project investigators employed vote-count meta-analysis and qualitative coding methods to identify patterns and trends in the literature. After a brief discussion of the study's methodology, the speakers will present study findings and discuss implications for conservation outreach and education as well as suggestions for future adoption studies. Preliminary results suggest that certain farm and farmer demographics, environmental attitudes, prior experience with conservation practices, and social networks are important determinants of practice adoption.

Carbonomics: The Amazing Economy of the Soil

3:30 PM – 5:00 PM, *Cochiti on Lower Level West Building*

Presenter: *Keith Berns, Green Cover Seed*

Sometimes the best way to understand a complex system is to compare it to other systems that we already understand. Green Cover Seed co-founder Keith Berns does just that in his Carbonomics presentation where he compares the economy of a country to the underground economy of the soil. There are many striking similarities between the economy of a country and the interactions that are occurring in a healthy soil. The economy of the soil is based on solar energy, but it is driven by the interactions between the soil, the plants, and the soil biology. The basics of carbonomics include economics principles such as supply and demand; producers and consumers; currency, cash flow, and capital; infrastructure; and defense. When inputs, soil biology, and production processes are explained in the context of a healthy economic system, farmers can better understand how their management contributes to productive, stable, resilient and efficient croplands.



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TUESDAY, JULY 31

SCHEDULE AND EVENTS

SCHEDULE

7:30 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
7:30 AM	Morning Coffee <i>Ballroom C on Upper Level West Building</i>
8:00 AM	Plenary Sessions <i>Ballroom A/B on Upper Level West Building</i>
10:00 AM	Morning Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
10:30 AM	Concurrent Sessions <i>See pages 35-37</i>
12:00 PM	Awards Luncheon <i>Ballroom A/B on Upper Level West Building</i>
1:30 PM	Concurrent Sessions <i>See pages 35-37</i>
3:00 PM	Afternoon Break: Exhibit Hall and Poster Presentations Open <i>Ballroom C on Upper Level West Building</i>
3:30 PM	Concurrent Sessions <i>See pages 35-37</i>



EVENTS

Plenary Session Panel: Valuing Our Land: Where Agriculture, Environment, and Ethics Connect

8:00 AM - 9:15 AM, *Ballroom A/B on Upper Level West Building*

Panel Presentation: Farms Under Threat: The State of America's Farmland

Presenter: *Ann Sorensen, American Farmland Trust*

Last year, American Farmland Trust (AFT) provided a sneak peak of its ambitious effort to quantify 30 years of farmland conversion. However, the 30-year retrospective was too variable to be useful at finer resolutions. Now, AFT has released its national report, *Farms Under Threat*, analyzing agricultural land in the continental United States lost to farmland conversion between 1992 and 2012. It improves our national inventory of agricultural lands by mapping (1) a new class of agricultural lands that estimates woodlands associated with farm enterprise; (2) grazing on federal lands; (3) low-density residential development on agricultural lands; (4) spatial patterns of agricultural land uses and conversion to development in a consistent way over time so that people can see the patterns of change; and (5) agricultural lands based on their productivity, versatility, and resiliency to support intensive food and crop production. *Farms Under Threat* shows farmers and ranchers make use of 55% of the land area in the continental United States. By incorporating new data, AFT found nearly double the amount previously documented by the National Resources Inventory—a loss of almost 31 million acres between 1992 and 2012. Over 70% of urban development and about 54% of low density residential development occurred on agricultural land. These development patterns put higher quality agricultural lands at risk. By 2012, the best land to support intensive food and crop production comprised less than 17% of the total land area. The findings support the need for a bold and comprehensive national strategy to save the land that sustains us. Now, AFT is analyzing the data within each state and evaluating state policies to protect farms and farmland from unnecessary development. They are also modeling development and climate change threats



out to 2040 to inform the policy and conservation actions of communities so that they are positioned to produce an adequate supply of food, fiber, and energy for an expanding population.

Continue the conversation and join Ann during the "Using the New Farms Under Threat Comprehensive Agricultural Inventory to Inform Policy" oral presentation at 11:30 AM in Santa Ana, Lower Level West Building.



Ann Sorensen provides academic research that underlies the policy work of American Farmland Trust. Since joining the staff in 1992, the research she oversees has guided work on four farm bills and supported numerous other legislative efforts. She previously

directed American Farmland Trust's Center for Agriculture in the Environment.

She has managed a series of assistance agreements with the Environmental Protection Agency (EPA) to promote adoption of Integrated Pest Management (IPM) and contributed to Farming on the Edge mapping projects that used geographic information systems analysis to document developmental sprawl. Sorensen is a member of the team that is designing and implementing a first-of-its-kind interstate water quality trading program aimed at protecting and improving water quality in the Ohio River basin. She has also conducted numerous listening sessions to collect farmers' viewpoints for use in improving agricultural policies. She was recently appointed to EPA's Farm, Ranch, and Rural Communities Federal Advisory Committee.

Sorensen holds a BA from the University of California at Santa Cruz and a PhD from the University of California at Berkeley. She worked in IPM for the Texas Department of Agriculture and as assistant director, Natural Resources Division, for American Farm Bureau before joining American Farmland Trust.

Panel Presentation: Measuring Soil Health for Environmental, Economic, and Human Well-Being

Presenter: *Wayne Honeycutt, Soil Health Institute*

With a mission to safeguard and enhance the vitality and productivity of soil through scientific research and advancement, the Soil Health Institute (SHI) has

undertaken several conservation initiatives. Since the last SWCS annual conference, SHI unveiled tier one and tier two indicators of soil health, and a roundtable of experts have come to a consensus on how to measure them. The Institute also secured an investment of nearly \$20 million from the Foundation for Food and Agriculture Research and partnering organizations to help the industry adopt standard soil health measurements and enhance economic and environmental benefits for farmers. Additionally, SHI has brought together a diverse community to kick off a discussion about the connections of soil health and human health. Wayne Honeycutt will speak about measuring soil health for the wellbeing of our environment, economy, and ourselves.

Continue the conversation and join Wayne during the "Assessing and Expanding Soil Health for Production, Economic, and Environmental Benefits" symposium at 1:30 PM in Cochiti, Lower Level West Building.



Wayne Honeycutt leads the Soil Health Institute's programs to safeguard and enhance the vitality and productivity of soils. He previously served for 5 years as the Deputy Chief for Science and Technology with USDA-NRCS in Washington, DC, where he led programs in technology acquisition, development, and transfer to ensure NRCS conservation practices reflect the latest scientific advances for conserving our nation's soil, water, air, plant, animal, and energy resources. He served as a Research Soil Scientist for 14 years and a Research Leader for 10 years with the USDA-ARS New England Plant, Soil, and Water Laboratory, where he led and conducted interdisciplinary research on carbon, nitrogen, and phosphorus cycling and sustainable cropping systems development. In those roles he led national research teams for predicting nutrient availability, developed procedures adopted by ARS for enhancing national research coordination, and received regional and national awards for technology transfer.

He is a graduate of the "Mastering the Art of Public Leadership" executive development program at the Brookings Institution in Washington, DC, and USDA's "Performance Excellence and Knowledge" executive development program. He has served on assignments to the US Senate's Homeland Security and Governmental Affairs Committee, USDA-ARS National Program Staff, and USDA-ARS Area Office Staff.



Honeycutt's commitment to agriculture is rooted in his experiences with raising tobacco, corn, and other crops on his family's 120-acre farm in Metcalfe County, Kentucky. He holds a bachelor's degree in forestry and master's degree in soil science from the University of Kentucky, and a PhD in soil genesis from Colorado State University.

Panel Presentation: Enhancing Value-Based Adoption of Soil and Water Conservation Practices

Presenter: *Tom Sauer, USDA-ARS*

Adoption of soil conservation practices is often considered to be dominated by economic factors. Sauer will present an alternate view that noneconomic considerations are an important factor in conservation decisions. His presentation will explore the role of personal values and their development on an individual's commitment to soil and water conservation.

Continue the conversation and join Tom for a dialogue session at 10:30 AM in Sandia, Lower Level West Building.



Tom Sauer was raised on a diversified crop and livestock farm in southwestern Minnesota. After obtaining three degrees in soil science from the University of Wisconsin-Stevens Point and University of Wisconsin-Madison, he joined the Agricultural Research Service as a Research Soil Scientist. He currently serves

as Research Leader of the Soil, Water, and Air Resources Research Unit at the National Laboratory for Agriculture and the Environment in Ames, Iowa. Sauer is a longtime member of the Soil and Water Conservation Society.

Plenary Session: Regional Approaches to Climate Adaption in a Research Context

9:15 AM - 10:00 AM, *Ballroom A/B on Upper Level West Building*

Presenter: *Emile Elias, USDA-ARS*

As the Acting Director of the Southwest Climate Hub, Emile Elias has been part of the Climate Hubs since they began in 2014. The hubs deliver science-based knowledge, practical information, and program support to farmers, ranchers, forest landowners, and resource managers to support climate-informed decision making in light of the increased

risks and vulnerabilities associated with a changing climate. Elias will share with the audience the latest research and resources available through the hubs nationally and regionally to support conservation professionals and those they serve to connect conservation and climate.



Emile Elias is the Acting Director at the USDA Southwest Climate Hub and a Research Hydrologist with the USDA Agricultural Research Service. She holds a MS in watershed science from Colorado State University and a

PhD in hydrology from Auburn University. Her research interests include land use and climate change impacts on hydrology, water quality, and agricultural communities in the southwestern United States. Emile collaborates with partners to study and report on the impacts of regional changes on water resources, agriculture, and interconnected communities reliant on these resources to support both resilient landscapes and resilient communities. This includes publishing in traditional peer-reviewed scientific journals, developing tools for informed decision making, and managing science synthesis projects and stakeholder outreach. She has reported on the cumulative impacts of climate change on snowmelt runoff in western streams and is serving on the Southwestern Chapter of the 4th National Climate Assessment.

Awards Luncheon

12:00 PM – 1:30 PM, *Ballroom A/B on Upper Level West Building*

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

Tuesday, July 31, 2018					
7:30 AM - 5:00 PM	Registration Desk Open				Lobby Main Level 3rd Street Entrance
7:30 AM - 8:00 AM	Morning Coffee				Ballroom C Upper Level West Building
8:00 AM - 9:15 AM	Valuing Our Land: Where Agriculture, Environment, and Ethics Connect Panel - Ann Sorensen, American Farmland Trust; Wayne Honeycutt, Soil Health Institute; Tom Sauer, USDA-ARS				Ballroom A/B Upper Level West Building
9:15 AM - 10:00 AM	Regional Approaches to Climate Adaption in a Research Context - Emile Elias, USDA-ARS				Ballroom A/B Upper Level West Building
10:00 AM - 10:30 AM	Morning Break: Exhibit Hall and Poster Presentations Open				Ballroom C Upper Level West Building
10:30 AM - 12:00 PM	Oral Presentations				
Isleta/Jemez Lower Level West Building Adaptive Management of Conservation Efforts	10:30 AM Methods to Enhance Irrigation Water Conservation for Vegetable Production in Florida Lincoln Zotarelli, University of Florida	10:50 AM Non-Traditional Partnerships for Watershed-Based Agricultural Conservation David Gruznski, The Conservation Fund	11:10 AM Water Use Efficiency of Winter Canola under Different Limited Irrigation Approaches Paramveer Singh, New Mexico State University	11:30 AM CEAP: Effects of Conservation Practices on Soil and Water Resources in the Upper Washita Basin Daniel Moriasi, USDA-ARS	
Nambe/Navajo Lower Level West Building Conservation Models, Tools, and Technologies	Compaction Susceptibility of Select Alabama Kanhapludults Abigail Lane, Auburn University	Conservation Tillage Effects in the Atlantic Coastal Plain: An APEX Examination David Bosch, USDA-ARS	Meeting Goals and Tracking Quantified Progress: An Update on the Hypoxia Task Force Katie Flahive, US Environmental Protection Agency		
Picuris Lower Level West Building Social Sciences Informing Conservation	A Warning from Vanished Civilizations: The History and Continuing Impact of Walter Lowdermilk's "Conquest of the Land through 7,000 Years" Shelby Callaway, USDA-NRCS	Building Farmer Efficacy to Promote Conservation Adoption Robyn Wilson, Ohio State University	Factors Affecting Adoption of Cover Crops in US Soybean Production Laura McCann, University of Missouri	Who Has the Power?: Implications for Conservation Behavior on Rented Farmland Pranay Ranjan, Purdue University	
Santa Ana Lower Level West Building Using Technology to Advance Conservation	Application of Multiple Approaches to Enhance Conservation at the Mahantango Creek and Choptank CEAP Sites Curtis Dell, USDA-ARS	Sediment and Nutrient Load Modeling: Quantifying the Effects of Conservation Practices, an Interactive Web-Based Management System to Prioritize Practice Placement and Maximize Pollutant Load Reductions Jeff Boeckler, Northwater Consulting	Targeting Conservation Practices in an International Watershed Using PTMAApp Jason Vanrobaeys, Agriculture and Agri-Food Canada	Using the New Farms Under Threat Comprehensive Agricultural Inventory to Inform Policy Ann Sorensen, American Farmland Trust	
12:00 PM - 1:30 PM	Awards Luncheon (ticket included with full conference and Tuesday-only registrations)				Ballroom A/B Upper Level West Building

Symposia Sessions				
1:30 PM - 3:00 PM	CEAP: Measuring and Understanding the Effects of Conservation Practices within Watersheds - <i>Daniel Moriasj, USDA-ARS; Lisa Duriancik, USDA-NRCS</i>			
Acoma/Zuni Lower Level West Building Adaptive Management of Conservation Efforts				
Cochiti Lower Level West Building Soil Health Resources, Indicators, Assessment, and Management	Assessing and Expanding Soil Health for Production, Economic, and Environmental Benefits - <i>Wayne Honeycutt, Soil Health Institute</i>			
1:30 PM - 3:00 PM	Oral Presentations			
	1:30 PM	1:50 PM	2:10 PM	2:30 PM
Isleta/Jemez Lower Level West Building Conservation Models, Tools, and Technologies	Identifying Best Management Practices to Reduce Nutrient and Sediment Load Exports: Watershed vs. Field-Scale <i>Remegio Confesor, Heidelberg University</i>	Nutrient Tracking Tool: A User-Friendly Tool for Evaluation of Water Quality and Quantity as Affected by Various Agricultural Management Practices <i>Ali Saleh, Tarleton State University</i>	Watershed Assessment Modelling to Identify Critical Sources of Pollution and Evaluate Effectiveness of Conservation Management Practices <i>Nichole Embertson, Whatcom Conservation District</i>	WebSim: Cloud-Based Tools for Estimation of Soil Loss for Conservation Planning <i>Dalmo Vieira, USDA-ARS</i>
Nambe/Navajo Lower Level West Building Outreach, Education, and Community Engagement	Common Ground, Common Water: Film as a Tool for Shared Understanding of Water Resource Protection <i>Sarah Church, Purdue University</i>	Securing Water for and from Agriculture through Effective Community and Stakeholder Engagement <i>Kathryn Brasier, Penn State University</i>		Smart Solar Siting: Combatting Climate Change while Protecting Farmland <i>James Daukas, American Farmland Trust</i>
Picuris Lower Level West Building Soil Health Resources, Indicators, Assessment, and Management	Evaluating Compaction BMP Effects on Soil Properties and Demonstration of Soil Moisture Monitoring for Compaction Prevention in Heavy Clay Soils of the Northeast <i>Joshua Faulkner, University of Vermont</i>	Using Ecological Sites and State and Transition Models on a Nebraska Farm <i>Michael Kucera, USDA-NRCS</i>	Using Low Organic Matter Soils to Compare Conventional Soil Organic Carbon Measurements <i>Wayne Roper, North Carolina State University</i>	

3:00 PM - 3:30 PM	Afternoon Break: Exhibit Hall and Poster Presentations Open			Ballroom C Upper Level West Building
3:30 PM - 5:00 PM	Symposia Sessions			
Acoma/Zuni Lower Level West Building Adaptive Management of Conservation Efforts	CEAP: Measuring and Understanding the Effects of Conservation Practices within Watersheds (Continued) - Daniel Moriasi, USDA-ARS; Lisa Duriancik, USDA-NRCS			
Cochiti Lower Level West Building Conservation Economics and Policy	Conservation and the 2018 Farm Bill - Alyssa Charney, National Sustainable Agriculture Coalition			
3:30 PM - 5:00 PM	Oral Presentations			
Isleta/Jemez Lower Level West Building Conservation Models, Tools, and Technologies	3:30 PM	3:50 PM	4:10 PM	4:30 PM
	Effects of Setback Distance on the Removal of Manure Constituents in Runoff <i>John Gilley, USDA-ARS</i>	New Pasture Condition Scoring Tool <i>Kevin Ogles, USDA-NRCS</i>	Nitrogen and Phosphorus Accounting in US Food Supply Chain and Potential for Improvement <i>Rajesh Chintala, Innovation Center for US Dairy</i>	Strategic Rotational Grazing for Improving Soil Health, Water Quality, and Forage Productivity in Beef Pastures <i>Subash Dahal, University of Georgia</i>
Nambe/Navajo Lower Level West Building Rangeland Restoration, Health, and Grazing Management"	Assessing the Impacts of Conservation Practices on Rangeland Health and Ecosystem Services in the Rio Puerco Watershed <i>Jeremy Schallner, New Mexico State University</i>	Modeling the Nitrogen Balance of Beef Cattle Production <i>Narayanan Kannan, Tarleton State University</i>	Native Warm Season Grasses for Adapting to Climate Change, Improving the Sustainability of Grazing Systems, and Improving Water Quality in Tennessee <i>Forbes Walker, University of Tennessee</i>	The Unintended Consequences of Rangeland Water-Conservation Structures <i>Mary Nichols, USDA-ARS Southwest Watershed Research</i>
Picuris Lower Level West Building Water Resource Assessment and Management	Comparison of Some Reference Evapotranspiration Equations under Semiarid Conditions with Limited Climatic Data <i>Samuel Allen, New Mexico State University</i>	Modeling the Economic Benefit of Water Conservation in Irrigated Agriculture: A Regional Impact Analysis <i>Sarah Acquah, New Mexico State University</i>	Reducing Sediment and Nutrient Loadings through River and Streambank Restoration <i>Matt Van Eps, Watershed Conservation Resource Center</i>	Updating the Curve Number Method for Rainfall Runoff Estimation <i>Tim Ward, Manhattan College</i>
5:00 PM	Evening on Your Own			



TUESDAY, JULY 31

SYMPOSIA SESSIONS

CEAP: Measuring and Understanding the Effects of Conservation Practices within Watersheds

1:30 PM – 3:00 PM, *Acoma/Zuni on Lower Level West Building*

Moderators: *Daniel Moriasi, USDA-ARS; Lisa Duriancik, USDA-NRCS*

The USDA spends about \$5 billion per year on agricultural conservation programs in order to help producers and land owners implement good conservation practices (CPs) and systems on their land. In 2003, the USDA Natural Resources Conservation Service entered into partnership with USDA Agricultural Research Service (ARS) and many other partners to create the Conservations Effects Assessment Project (CEAP) to quantify the environmental effects of CPs and programs and develop the science base for managing the agricultural landscape for environmental quality. Over the last 15 years, research and assessments have been conducted to test the effectiveness of CPs at various spatial scales based on data collected, archived, and analyzed from CEAP watershed studies. Efforts to communicate with scientists, practitioners, and policymakers the findings of CEAP Watersheds on what CPs work and the temporal and spatial scales at which they work in various climatic and land management sites across the country are ongoing. Major findings of the ARS Benchmark CEAP-Watershed Assessment Studies and other watersheds will be presented. The findings will focus on highlighting the measured effects of conservation at different scales, with a particular interest in watershed or sub-watershed effects but to include edge-of-field (EOF) effects. Where measured effects are not able to be highlighted, particularly at larger scales, the results of a review of previously published effects of CPs or modeled results in a given study site will be presented. An evaluation of conservation tools that have been developed by CEAP or validated with CEAP data will also be presented. Other special topics to be presented include papers on (1) quantifying the impact of STEWARDS database data; (2) describing model improvements as a result of CEAP; and (3) discussing the future direction of CEAP in the next decade.

Presentation 1: Introduction: Overview of CEAP Efforts – *Teferi Tsegaye, USDA-ARS*

Presentation 2: Impact of STEWARDS Database Data – *John Sadler, USDA-ARS*

Presentation 3: Improvements of Hydrologic and Water Quality Models Motivated by CEAP – *Ron Bingner, USDA-ARS*

Presentation 4: Conservation Tools – *Linda Prokopy, Purdue University; Pranay Ranjan, Purdue University*

Presentation 5: Lessons Learned from the NIFA-CEAP Synthesis and Other Watershed Studies – *Deanna Osmond, North Carolina State University*

(Continued) 3:30 PM – 5:00 PM, *Acoma/Zuni on Lower Level West Building*

Presentation 6: Summary of Measured Effects at EOF – *Martin Locke, USDA-ARS*

Presentation 7: Summary of Measured Effects at Sub-Watershed/Farm Scale – *Jean Steiner, USDA-ARS*

Presentation 8: Summary of Measured Effects at Watershed-Scale – *Tim Strickland, USDA-ARS*

Presentation 9: Future CEAP Directions – *Lisa Duriancik, USDA-NRCS*

Assessing and Expanding Soil Health for Production, Economic, and Environmental Benefits

1:30 PM – 3:00 PM, *Cochiti on Lower Level West Building*

Moderator: *Wayne Honeycutt, Soil Health Institute*

Soil health is the capacity of a soil to function as a vital, living ecosystem that sustains plants, animals, and humans. Soil health-promoting practices have many benefits to agriculture and the environment, e.g., increase soil organic carbon, which increases a soil's available water holding capacity; reduce soil and nutrient losses to waterways; and reduce greenhouse gas emissions. Lasting improvements in soil health require partnerships with farmers, landowners, food/retail companies, farm organizations, academic institutions, government



agencies, water utilities, communities, and environmental groups. However, a holistic approach to enhancing soil health has been elusive because (a) there is no scientific consensus around protocols for assessing soil health and relating measurements to management practices; (b) there are limited data from research and demonstrations to prove the benefits to agricultural production, natural resources, and economic returns, compared to the risks of economic loss in shifting to soil health-enhancing practices; and (c) there have been few assemblies of diverse stakeholders to inform agricultural strategies that support soil health. To overcome these limitations, the Soil Health Institute, the Soil Health Partnership, and The Nature Conservancy are leveraging their missions and capacities, along with resources from the Foundation for Food and Agricultural Research and other organizations. Together, we will overcome barriers to assessments and implementation through a definitive soil health evaluation protocol for different geographic scales, based on quantitative relationships with productivity, economic, and ecosystem service outcomes; by encouraging adoption through on-farm demonstrations and by developing effective communication and outreach strategies for farmers, consultants, educators, government agencies, and public leaders; thus promoting incentives for enhancing soil health and the natural resources upon which we all depend.

Presentation 1: Strategic Approach for Evaluating Soil Health Indicators – *Steve Shafer, Soil Health Institute*

Presentation 2: Scaling Soil Health Research and Farmer Engagement – *Nick Goeser, National Corn Growers Association and Soil Health Partnership*

Presentation 3: Harnessing the Value of Soil Health for Multiple Stakeholders – *Pipa Elias, The Nature Conservancy*

Conservation and the 2018 Farm Bill

3:30 PM – 5:00 PM, *Cochiti on Lower Level West Building*

Presenter: *Alyssa Charney, National Sustainable Agriculture Coalition*

Through programs covering everything from crop insurance for farmers to healthy food access for low income families, from beginning farmer trainings to support for sustainable farming practices, the farm bill sets the course of our food and farming system.

Approximately every five years, the farm bill expires and is updated: proposed, debated, and passed by Congress, and then signed into law by the President. The current farm bill, The Agricultural Act of 2014, was signed into law in February of 2014, and is set to expire in September of 2018. The 2018 SWCS meeting falls just before that deadline. Inevitably, there is a lot of uncertainty as to the farm bill status at that point, but this session will provide an important opportunity to update attendees on the process and where things stand for critical conservation priorities. Regardless of whether we already have a new farm bill, or are looking at an extension of the 2014 Farm Bill, there is a lot at stake for conservation in 2019. The National Sustainable Agriculture Coalition (NSAC) will provide an update on the 2018 Farm Bill process and proposals, including a panel that will focus in on the Conservation Title of the farm bill. As part of this symposium, NSAC will provide an update on the process from Washington, DC, as well as an update on conservation program implementation under the 2014 Farm Bill—including programs such as the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), the Agricultural Conservation Easement Program (ACEP), the Conservation Reserve Program (CRP), and the Regional Conservation Partnership Program (RCP). The session will frame potential changes in the next farm bill within this analysis and context. NSAC provided well-received farm bill reports and led discussions at the last SWCS meeting, and this presents an opportunity for an update and rigorous discussion on the conservation title of the farm bill.





WEDNESDAY, AUGUST 1

SCHEDULE AND EVENTS

SCHEDULE

7:00 AM	Registration Desk Open <i>Lobby on Main Level 3rd Street Entrance</i>
7:45 AM	*Tour #1: Manzano Mountains Watershed Restoration Tour <i>Meet at Lobby Doors on Main Level 2nd Street Entrance at 7:25 AM</i>
8:30 AM	Concurrent Sessions <i>See pages 42-43</i>
10:00 AM	Morning Break <i>Foyer on Lower Level West Building</i>
10:30 AM	Concurrent Sessions <i>See pages 42-43</i>
12:00 PM	Conference Adjourns
1:00 PM	*Tour #2: Tijeras Creek Remediation, Demonstration, and Education Project <i>Meet at Lobby Doors on Main Level 2nd Street Entrance at 12:40 PM</i>
1:00 PM	*Tour #3: Acequias Tour of Agricultural Systems <i>Meet at Lobby Doors on Main Level 2nd Street Entrance at 12:40 PM</i>
1:00 PM	CEAP Watershed Assessment Studies Annual Meeting <i>Santa Ana/Sandia Meeting Room on Lower Level West Building</i>

*Additional fees apply.

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

Tour #1: Manzano Mountains Watershed Restoration Tour

7:45 AM – 5:50 PM

This tour, sponsored by the Edgewood and Claunch-Pinto Soil and Water Conservation Districts, US Forest Service, and SWCA Environmental Consultants will follow the Salt Mission Scenic Byway along the east front of the Manzano Mountains. Attendees will visit multiple sites within Manzano Mountain watershed and observe restoration activities that highlight emergency stabilization and rehabilitation practices implemented after high severity wildfire. Representatives from the Chilili Land Grant, Cibola National Forest, and private property residents will discuss the impact of the wildfires on the local communities and how various partnerships were formed to assess and implement land treatments needed to mitigate accelerated runoff, soil erosion, and debris flows from the burned area. The tour will conclude at the Salinas Pueblo Missions National Monument-Quarai Ruins, which encompasses the archaeological remains of prehistoric Native American settlements, historic remains of a pueblo abandoned in the 1670s during the Spanish colonial period, the ruins of a 17th century Spanish mission compound, and 19th century Spanish ranching artifacts. The site was designated a National Historic Landmark in 1962 and was added to the Salinas Pueblo Missions National Monument in 1980. Lunch will be provided during this tour.

EVENTS

Conservation Tours

All participants of tours should meet at the lobby doors on the main level near the 2nd Street entrance at least 20 minutes prior to the departure times listed.

Tour #2: Tijeras Creek Remediation, Demonstration, and Education Project

1:00 PM – 5:05 PM

This tour, sponsored by the Cuidad Soil and Water Conservation District and Solutions Inc., will visit the



Tijeras Creek remediation project. Tijeras Canyon and the remediation project are located east of Albuquerque where urban runoff creates flooding, erosion, and pollution problems. The Tijeras Creek project demonstrates methods that can be used to reduce the impacts of urbanization on the streamside environment and water quality. These methods include reshaping of eroded areas, installation of swales and stilling basins, and plantings. Slower runoff velocities, enhanced site stability, water infiltration, and filtration now allow Tijeras Creek to flow cleaner again, much like it did before urbanization.

Tour #3: Acequias Tour of Agricultural Systems

1:00 PM – 5:45 PM

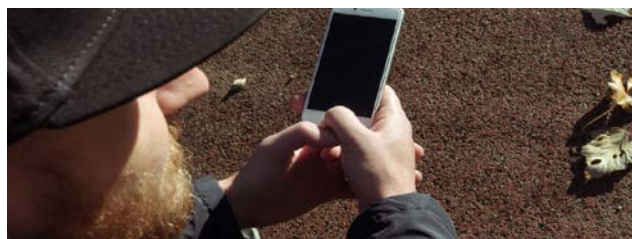
This tour, supported by the Natural Resources Conservation Service, Santa Ana Pueblo, and private land owners, will visit agricultural systems north of Albuquerque in the Rio Grande valley. Attendees will observe how acequias are used for irrigation. Acequias are historic and community-operated watercourses adopted from Spain and former Spanish colonies, and have been used in New Mexico for approximately 400 years. Farms on Santa Ana Pueblo and along the Rio Grande will be visited to observe the

maintenance, improvement, and conservation of acequias and how these historic and cultural irrigation systems are supporting conventional and organic production systems.

CEAP Watershed Assessment Studies Annual Meeting

1:00 PM – 5:00 PM, *Santa Ana/Sandia Meeting Room on Lower Level West Building*

Please join Natural Resources Conservation Service (NRCS) and Agricultural Research Service (ARS) Conservation Effects Assessment Project (CEAP) scientists to learn about and discuss the CEAP Watershed Assessments, the small watershed studies within CEAP. This year's meeting will follow a symposium on the general program, featuring a synthesis of key findings and next steps for CEAP watersheds. Presentations in this meeting will feature ongoing ARS CEAP Watershed Assessments (including one new project to learn about), review of the effects of conservation practices that have been measured, and major take-home messages of projects. Group discussions will follow to get input on future directions for CEAP Watershed Assessments. Come learn about the work and share your feedback!



The Soil and Water Conservation Society Career Center is an online resource to help job seekers and employers make career connections in the conservation community.

Visit www.swcs.org/careers to post a job or your resume today!

**33% OFF
JOB POSTINGS
USE CODE SWJOBS18**

Wednesday, August 1, 2018				
7:00 AM - 12:00 PM	Registration Desk Open		Lobby Main Level 3rd Street Entrance	
7:45 AM	Tour #1: Manzano Mountains Watershed Restoration Tour (meet at 7:25 AM)		Meet at Lobby Doors Main Level 2nd Street Entrance	
8:30 AM - 10:00 AM	Symposia Sessions			
Acoma/Zuni Lower Level West Building Outreach, Education, and Community Engagement	Southwest US Dust Monitoring and Mitigation - David P. Brown, Southern Plains Climate Hub			
Cochiti Lower Level West Building Conservation Models, Tools, and Technologies	Wetlands Conservation in Agricultural Landscapes: Significant Findings and Recent Modeling Advances in CEAP Wetlands - David Mushet, US Geological Survey; William Effland, USDA-NRCS			
Taos Lower Level West Building Soil Health Resources, Indicators, Assessment, and Management	Food and Environmental Security: Developing Joint Solutions - Chris Gross, USDA-NRCS			
8:30 AM - 10:00 AM	Oral Presentations			
Anasazi Lower Level West Building Forest Restoration/Rangeland Restoration, Health, and Grazing Management	8:30 AM US Military Exemptions from Environmental Permitting and Regulation Kurt Smith, Methodist University	8:50 AM Toward Operational Remote Sensing of Public Land in Southeastern Arizona Philip Heilman, USDA-ARS Southwest Watershed Research Center	9:10 AM Grazing in New Mexico, Then and Now - A Rancher's Perspective Tom Sidwell, New Mexico Cattle Growers' Association	9:30 AM Grazing in New Mexico, Then and Now - A Rancher's Perspective (Continued) Tom Sidwell, New Mexico Cattle Growers' Association
Isleta/Jemez Lower Level West Building Adaptive Management of Conservation Efforts	Circular Buffer Strips (CBS): An Innovative Way to Add Ecosystem Services to Irrigated Agriculture Sangamesh Angadi, New Mexico State University	Farmer Networks and Nitrogen Management Trials in North Carolina Deanna Osmond, North Carolina State University	Phosphorus Stratification and Edge- of-Field Phosphorus Losses in the Western Lake Erie Basin Emily Duncan, USDA-ARS	Rebuilding Soil Ecosystems for Improved Productivity in Biosolarized Soils Laura Ney, University of Georgia
Picuris Lower Level West Building Conservation Economics and Policy	Adoption Model Analyzing Conservation Policy for Mitigation of Soil and Nutrient Loss in the Red River and Mississippi River Basin Naveen Adusumilli, Louisiana State University	Conservation Up and Down: Watersheds, Natural Hazards, Cities, and Green Infrastructure John Wiener, University of Colorado	Effects of Precision Agriculture, Soil Conservation, Nitrogen Rate, and Temporal Trends at Farm and Watershed Scale Mohammad Khakbazan, Agriculture and Agri-Food Canada	
10:00 AM - 10:30 AM	Morning Break			Foyer Lower Level West Building

10:30 AM - 12:00 PM		Symposia Sessions			
Acoma/Zuni Lower Level West Building Outreach, Education, and Community Engagement		Southwest US Dust Monitoring and Mitigation (Continued) - David P. Brown, Southern Plains Climate Hub			
10:30 AM - 12:00 PM		Oral Presentations			
Anasazi Lower Level West Building Conservation Models, Tools, and Technologies		10:30 AM	10:50 AM	11:10 AM	11:30 AM
		Evaluation of Conservation Practices within the Choptank River Watershed in Maryland Using AnnAGNPS <i>Ron Bingner, USDA-ARS</i>	Identifying and Comparing Climate and Water Quality Quantification Tools to Drive Conservation Practice Adoption <i>Michelle Perez, American Farmland Trust</i>	Slow-Release and Environmentally Friendly Compost Production with Magnesium and Poultry Waste for Improving Soil Health and Sustainable Crop Production <i>Girish Panicker, Alcorn State University</i>	The Potential of Cover Crops to Alleviate Extreme Weather Events in Agriculture <i>Francisco Arriaga, University of Wisconsin-Madison</i>
Isleta/Jemez Lower Level West Building Rangeland Restoration, Health, and Grazing Management		Determining Successional Response of Sonoran Desert Rangeland Communities to Increased Fire Disturbance <i>Kristen Meier, US Forest Service</i>	Enhancing Soil Sustainability and Soil Health in an Integrated Crop-Grazing System <i>Larry Cihacek, North Dakota State University</i>	Soil Health Evaluation in Three Texas Rangelands <i>Jennifer Moore-Kucera, USDA-NRCS</i>	
Picuris Lower Level West Building Soil Health Resources, Indicators, Assessment, and Management		Interpreting Soil Health Dynamics via Improved Quantification of Soil Aggregate Stability <i>Ayush Joshi Gyawali, Virginia Tech</i>	Soil Health Testing and Biological Indicators of Cover Crops in Northeast Kansas <i>Thomas Roth, USDA-NRCS</i>	Tillage and Nitrogen Rates Influenced Soil Chemical Properties and Productivity <i>Maysoon Mikha, USDA-ARS</i>	
1:00 PM		Tour #2: Tijeras Creek Remediation, Demonstration, and Education Project (meet at 12:40 PM)			
1:00 PM		Tour #3: Acequias Tour of Agricultural Systems (meet at 12:40 PM)			
		Meet at Lobby Doors Main Level 2nd Street Entrance			
		Meet at Lobby Doors Main Level 2nd Street Entrance			



WEDNESDAY, AUGUST 1

SYMPOSIA SESSIONS

Southwest US Dust Monitoring and Mitigation Symposium

8:30 AM – 10:00 AM, *Acoma/Zuni on Lower Level West Building*

Moderator: *David P. Brown, Southern Plains Climate Hub*

This symposium will address dust monitoring and mitigation in semiarid agricultural settings, with a focus on the southwestern United States. Participants representing the Natural Resources Conservation Service, the Agricultural Research Service, the USDA Southwest and Southern Plains Climate Hubs, land-grant universities, and other key partners will discuss various aspects of dust monitoring (e.g., National Wind Erosion Research Network establishment) and mitigation (e.g., best practices for land management). The impacts of climate variability and change on existing and projected regional dust generation and air quality will provide the foundation for discussion of interdisciplinary and interconnected impacts, such as changes in water availability, soil quality, and management practice implications for long-term sustainability and resilience. Presentation of dust mitigation recommendations and an update on a new USDA-sponsored draft dust mitigation handbook, organized by production type, will be followed by audience participation and feedback focused on practicable solutions and discussion of future field research and demonstration projects. Relevant audience recommendations and feedback will be incorporated into the final version of the USDA dust monitoring and mitigation handbook.

Presentation 1: Addressing Climate Impacts to Agricultural Production: How Dust Monitoring and Mitigation Aligns with Climate Adaptation Efforts in the United States – *Emile Elias, Southwest Climate Hub*

Presentation 2: Climate and Weather Patterns Associated to Wind Erosion – *David DuBois, New Mexico State Climatologist*

Presentation 3: Potential for Mitigating Wind Erosion in the Sonoran Desert Using Organic Amendments and Microbes to Build Soil Aggregates – *Joseph Blankinship, University of Arizona*

Presentation 4: AERO: A Wind Erosion Modeling Framework with Applications to Monitoring Data – *Brandon L. Edwards, New Mexico State University*

(Continued) 10:30 AM – 12:00 PM, *Acoma/Zuni on Lower Level West Building*

Presentation 5: Characterization of Surface Dust Emission Potential Using a Portable In-Situ Wind Erosion Laboratory (PI-SWERL) for Numerical Modeling Applications – *Nancy E. Parker, US Army Engineer Research and Development Center*

Presentation 6: Rangeland Restoration and Dust Mitigation on the Colorado Plateau – *Stephen E. Fick, USGS Southwest Biological Science Center*

Presentation 7: Wind Erosion Mitigation: A Guide to Understanding USDA's Efforts in Addressing the Concerns with Wind Erosion – *Stephen G. Smarik, NRCS Liaison to Southwest and Southern Plains Climate Hub*

Presentation 8: Feedback Session on Presented Materials, and How These and Other Wind Erosion Concerns Are Considered in Proposed Handbook or Web Page – *David P. Brown, Southern Plains Climate Hub*

Wetlands Conservation in Agricultural Landscapes: Significant Findings and Recent Modeling Advances in CEAP Wetlands

8:30 AM – 10:00 AM, *Cochiti on Lower Level West Building*

Moderator: *David Mushet, US Geological Survey Northern Prairie Wildlife Research Center; Willam Effland, USDA-NRCS*

Presenters: *Sharon Kahara, California Cooperative Fish Research Unit; Owen McKenna, US Geological Survey; James Kiniry, USDA-ARS; Allison Thompson, Oklahoma State University; Greg McCarty, USDA-ARS; Scott McMurry, Oklahoma State University*

The Wetlands Component of the USDA's Conservation Effects Assessment Project (CEAP-Wetlands) is a multiagency effort developing tools and methods to



quantify and interpret effects and effectiveness of USDA conservation practices and farm bill programs on services provided by wetland ecosystems in agricultural landscapes. To facilitate CEAP-Wetlands efforts, several regional assessments were conducted across the United States to address knowledge gaps with information needed to inform model development aimed at improving conservation implementation. Conservation decisions affect not just agricultural wetland ecosystems, but also the services that these important ecosystems provide for society. Presenters will highlight key findings from several CEAP-Wetlands regional assessments and discuss the significant contributions of each assessment to an ever-increasing understanding of wetland ecosystems and the provisioning of ecosystem services. CEAP-Wetlands' modeling efforts known as Integrated Landscape Modeling (ILM) provide for the simultaneous evaluation of multiple wetland ecosystem services and are an integral element of CEAP-Wetlands development. Results of CEAP-Wetlands' ILM simulations will be presented and conservation implications discussed. Representatives of land management agencies who implement or evaluate conservation programs or practices and others interested in conservation effects or the methods to quantify conservation program/practice effects on wetland ecosystems will benefit by attending this symposium.

Food and Environmental Security: Developing Joint Solutions

8:30 AM – 10:00 AM, *Taos on Lower Level West Building*

Moderator: *Chris Gross, USDA-NRCS*

The 19th Annual Joint Soil and Water Conservation Society–Soil Science Society of America (SWCS–SSSA) Symposium will be held at the 2018 SWCS Annual Conference in Albuquerque, New Mexico, and at the 2018 SSSA annual meeting in San Diego, California. Previous joint symposia have been very successful and contributed to the development of special issues, research editorials, features, books, and other significant technology transfer efforts. The title of the 19th joint SWCS–SSSA symposium is “Food and Environmental Security: Developing Joint Solutions.” Nutrient management and water quality are of very high interest to members of the SWCS and SSSA. Reduction of off-site transport of nutrients from agricultural landscapes via surface and leaching pathways for nutrient loss while maintaining crop production is a

great challenge. Row crop production requires regular additions of nitrogen and phosphorus, in addition to other nutrients, to achieve expected yield for maintaining food security. Those nutrients, if over-applied or subjected to heavy precipitation, may enter surface or groundwater and lead to unintended environmental impairment. Excess nutrients in water can lead to eutrophication and hypoxia. This joint symposium aims at bringing together farmers, scientists, conservation practitioners and agricultural industry representatives to discuss practical nutrient management for crop production while trying to meet environmental goals. This joint symposium will continue the tradition of cooperation between these professional societies to facilitate bringing scientists, conservation practitioners, and other national and international partners together.

Presentation 1: Nutrients: Food Security and/or Environmental Security? – *Jorge Delgado, USDA-ARS*

Presentation 2: The Fertilizer Industry Perspective on the Importance of Nutrient Management for Crop Production and Water Quality – *Lara Moody, The Fertilizer Institute*

Presentation 3: Farm Level Nutrient Management to Meet Production and Water Quality Goals – *Tim Radatz, Minnesota Agricultural Water Resource Center/Minnesota Discovery Farms*

Presentation 4: University Nutrient Management Guidelines: Crop Production vs Environmental Quality – *Fabian Fernandez, University of Minnesota*

73RD SWCS INTERNATIONAL ANNUAL CONFERENCE

CULTURE, CLIMATE, AND CONSERVATION





2018 SWCS AWARDS AND SCHOLARSHIPS

INDIVIDUAL AWARDS

Hugh Hammond Bennett Award

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

C. Wayne Honeycutt



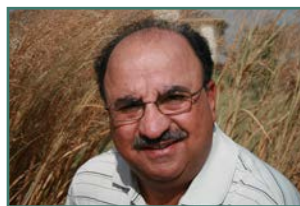
C. Wayne Honeycutt has been an extremely effective conservationist and scientist-leader who has advocated for soil and water protection and improvement at every level, from state to national to international. Currently Honeycutt is president and CEO for the Soil Health Institute, but his most widely known accomplishment was

perhaps the creation of the USDA Natural Resources Conservation Service Soil Health Division. Earlier in his career, with the USDA Agriculture Research Service, Honeycutt led efforts to develop crop and soil management approaches that could improve water quality and improve the efficiency of nitrogen and manure management for cropping systems of the Northeast. At the international level, he initiated and led development of decision support tools that involved communication efforts with scientists from 28 countries, leading to presentations at meetings and an award for Excellence in Technology Transfer. A testament to Honeycutt's ability to engage a wide cross-section of people is the development of the Soil Health Action Plan by the Institute that involved input from over 100 people from academia, agencies, agribusiness, conservation organizations, and perhaps most importantly, from farmers. He has further sought the successful engagement of over 150 volunteers to work with action teams on advancing soil health through improved soil health measurement, research, education, and policy change. For these and many more reasons, C. Wayne Honeycutt is highly deserving of the 2018 Hugh Hammond Bennett Award.

Fellow Award

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

Mahdi Al-Kaisi



Mahdi Al-Kaisi has spent over 30 years addressing soil conservation, soil quality, productivity, and protection of natural resources, through research and extension.

He shares the results through extension publications, website-based tools, and education modules used at Iowa State University and nationally. He has developed and led innovative extension projects, integrating extension and research, such as the Iowa Learning Farm and Hub and Spokes, which teach soil conservation practices through research and on-farm demonstrations. Al-Kaisi has developed a strong collaboration with colleagues through the Midwest, and nationally, through projects such as the Four States Project, Heartland Water Quality Initiative, the Regional Soil Health Initiative, and the five-state Strip-Tillage Expo. He successfully mentored and supervised numerous graduate and undergraduate students addressing emerging issues in soil and cropping systems management and development of sound field and lab study procedures. Additionally, Al-Kaisi has provided leadership serving as an associate editor of the *Journal of Soil and Water Conservation*, among several other journals. His career seeks to influence change by increasing awareness and adoption of conservation systems by using a mixed approach of scientific-based evidence and public persuasion. For promoting a "culture of conservation," Mahdi Al-Kaisi is highly deserving of the designation of SWCS Fellow.



Rebecca Fletcher



Rebecca Fletcher has been a valuable member of SWCS Hoosier Chapter Since 1989 and for the past 29 years has served in several roles and capacities for the Society. She has served as secretary, president-elect, president, and past president of the Hoosier Chapter, along with roles on several different committees. Fletcher was named a

Berg Fellow in 1997 and completed a year-long leadership development program. She served as a member of the SWCS Board of Directors for two terms from 2001 to 2007 and was the Board's treasurer for 3 years. During this time, she received multiple recognitions from her chapter and received an Outstanding Service Award from the Society along with a President's Service Award. Fletcher has worked with the USDA Natural Resources Conservation Service (NRCS) for the past 38 years in various roles but most recently as the State Public Affairs Specialist. She has served on Indiana's Soil Health Team since 2011. As part of that team she has written/coauthored over 300 articles about the benefits of soil health, many featuring Hoosier farmers. Also in 2011, Fletcher was asked to serve on a team with the nation's top soil scientists, agronomists, communicators, and other specialists in NRCS to bring about a renewed recognition of soil as a living and life-giving natural resource that must be managed responsibly. She worked with the national soil health communications team to develop and implement a communications strategy, "Unlock the Secrets of the Soil." This has been the most successful campaign in NRCS history, and the movement continues to ripple out across the country. The campaign won the most prestigious award in the public relations world, the 2017 Public Relations Society of America's Silver Anvil Award, and Fletcher played a vital role in that success. In 2014 she was recognized with the USDA Legacy of Conservation Award. Fletcher has also played an important role in Conservation Cropping System Initiative, which is Indiana's soil health program. Her unprecedented collaboration of partners has made Indiana the national leader in soil health and has successfully informed and educated thousands of farmers, conservationists, and agri-business staff over the past few years. Fletcher has worked tirelessly educating, informing,

and promoting the cause of conservation. Fletcher is receiving the designation of fellow for her exceptional service in advocating and supporting the conservation of natural resources. It is with great pleasure that we award Rebecca Fletcher with the honor of SWCS Fellow.

William Hargrove



William Hargrove's professional career spans 38 years, beginning at the University of Georgia. Through his career, he has led in a broad range of soil and water conservation research and extension, particularly in the areas of no-tillage agriculture and cover crops, watershed management, and sustainable water resources management. Hargrove is a highly

productive researcher, having published extensively in peer-reviewed journals as well as through influential chapters and books. His pioneering leadership of the SANREM-CRSP program linked biophysical and socioeconomic researchers who addressed broad issues of sustainability in multiple nations in Africa, Asia, and Latin America. In Kansas, Hargrove established the highly effective Watershed Restoration and Protection Strategies (WRAPS) to address nonpoint pollution issues in the state. In his current position as Director of the Center for Environmental Resource Management, he has developed a strong team across agricultural and community sectors, and involving multistate and bi-national collaborators to address water sustainability, agriculture, and health in the face of climate change. In this, as in all his prior positions, he has engaged students and young faculty to strengthen the next-generation scientific cadre. Hargrove has served SWCS as a member of the *Journal of Soil and Water Conservation* Editorial Board, on task forces and committees, and as chairman of specialty conferences on cover crops and water quality (1991) and reservoir sedimentation (2009). For these and many more reasons, William Hargrove is highly deserving of the designation of SWCS Fellow.

Daniel Moriasi



Daniel Moriasi has been a member of the SWCS since 2006, serving the Oklahoma Chapter as well as the international Society at large. He is internationally recognized for hydrologic and water quality modeling

at field and watershed scales. Most significantly, he has developed evaluation guidelines to ensure that these models are calibrated and validated appropriately, and application of these models to assess the impacts of land management, land use change and climate variability, and agricultural conservation impacts on food production and water resources. Moriasi has published 68 papers, 48 of which are peer-reviewed. One of these papers, titled "Model evaluation guidelines for systematic quantification of accuracy in watershed simulations" is a seminal paper, which has been cited more than 4,600 times. For these reasons and many more, Daniel Moriasi is highly deserving of the designation of SWCS Fellow.

Susan Samson-Liebig



Susan Samson-Liebig has spent her career championing farmers and conservation. Her career experiences have taken her from Nebraska to North Dakota. Samson-Liebig began her career as a physical science technician in the National Soil Survey Laboratory working on testing the adaptability of nonstandard

soil tests used elsewhere in the world for use in the United States. She then transitioned to working for the USDA Soil Conservation Service (now Natural Resources Conservation Service [NRCS]) as a soil scientist where she contributed to projects related to soil quality. After moving to North Dakota, she worked at the Soil Quality Institute to develop methods for measuring labile soil carbon. Following a move back to Nebraska, Samson-Liebig continued her work on soil carbon. She is now stationed in Bismarck, North Dakota, where she serves as the USDA NRCS North Dakota Soil Quality Specialist. Samson-Liebig has published many articles in her varied career and is truly a champion of soil quality and

conservation. She is a strong advocate for agricultural sustainability and regenerative agriculture. Her mentoring activities and involvement in SWCS have been essential in passing on her love and knowledge of soils to future generations. These are only a few of the accomplishments that make Susan Samson-Liebig a worthy addition to the ranks of SWCS Fellow.

Harold and Kay Scholl Excellence in Conservation Award

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

Paul Jasa



Paul Jasa, extension engineer with the University of Nebraska-Lincoln, develops and conducts educational programs related to crop production that improve profitability, build soil health, and reduce risks to the environment. He received both his BS and MS degrees in agricultural engineering

from the University of Nebraska and has been conducting research and working with planting equipment and tillage system evaluation at the university since 1978. Jasa has traveled to several countries, including Canada, Ukraine, Turkey, China, Australia, Russia, Brazil, and Mexico, to share his no-till knowledge and experiences. He received the 1998 No-Till Innovator Award for Research and Education, co-sponsored by Zeneca Agricultural Products and *No-Till Farmer* magazine. Jasa was elected to membership in The Nebraska Hall of Agricultural Achievement in 2015 and received the Honor Award in 2013 from the SWCS Nebraska Chapter. He was named Engineer of the Year in 2012 by the Nebraska Section of the American Society of Agricultural and Biological Engineers for his continued no-till research and extension activities. To this end, Paul Jasa is well-deserving of this year's Scholl Award.

Merit Award

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



Green Cover Seed



Green Cover Seed, located in Nebraska, provides customized cover crop mixes and consulting to over 7,000 customers in all 50 states as well as multiple Canadian

provinces and several other countries. Twenty million pounds of seed was shipped in 2017, which covered approximately 600,000 acres. Green Cover Seed offers an inventory of over 120 different cover crop species to custom blend unique mixes for their customers. In addition, the company invests heavily in soil health education with a strong emphasis on soil regeneration and soil biology. Their representatives have spoken at more than 50 events to more than 5,000 farmers and ranchers about the importance of soil health.

Outstanding Service Award

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

Lance Loken



Lance Loken is being recognized for his outstanding service of natural resource advancement and education. Loken, through his passionate effort and service to SWCS, provided leadership through workshops that promoted research and education. Loken has been a dedicated and active member of

the SWCS North Dakota Chapter since 2008 and through the last decade has engaged and served in numerous capacities to support the chapter, including as president-elect, president, and past president, along with service on a number of different committees. In these roles, he advanced the efforts of the Society in promoting education and research through hosting summits focused on the interface between energy production and agriculture. Loken founded and is president of Western Plains Consulting Inc., where his technical responsibilities and expertise are

in regulatory compliance and permitting; soils/geology; wetlands; environmental and subsurface assessments; storage tank issues; spill response; landfills; storm water runoff; and a variety of hazardous material issues, including agricultural chemicals and industrial chemicals. Loken used this background to help develop the last two Soil and Water Summits held in North Dakota, which provided the attendees a close-up look at the reclamation of soils and the natural resources impacted by energy development on both agricultural and forested lands. The summit events also contributed to increased membership of the chapter.

Krista Reed



Krista Reed is being recognized for her outstanding support of natural resources and maintained SWCS support through chapter involvement. Reed grew up on a small farm and has a strong appreciation for the need to preserve the soils that are used to grow crops

and livestock. She takes advantage of every opportunity to present and encourage those she encounters to care for and preserve natural resources. Reed currently works for the State of Nebraska Department of Natural Resources and plays a vital role in maintaining the soil and water resources of the state. Being involved in SWCS has provided excellent networking opportunities within her job across the state. Reed has been a dedicated and active member of her chapter of SWCS since 1986 and has served for the past 32 years in some capacity to support the chapter and advance the efforts of the Society, whether it be in the roles of secretary, president, past president, or committee member supporting the Annual Legislative Breakfast or fundraising events. She has also actively served on the Nebraska's Soil and Water Conservation Foundation for over a decade. Krista Reed's passion for and commitment to advancing natural resources conservation have greatly contributed to her chapter's success and to the international organization's efforts.

Commendation Award

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



Elizabeth Burdolski

Elizabeth Burdolski is an essential leader in the North Dakota SWCS Chapter. In 2017, Burdolski was the lead facilitator in planning for the Chapter's state-wide SWCS meeting. It should be noted that she accomplished this after only two years of professional membership. This conference

hosted over 119 guests who interacted with farmers, students, and professionals from across the state. Burdolski spent countless hours working with venues and speakers to ensure that the event was carefully planned and executed. This event was responsible for sparking an interest in starting a student chapter of SWCS at Bismarck State College, and new members were added to the North Dakota Chapter. For these and other reasons, Elizabeth Burdolski is deserving of the SWCS Commendation Award.

Suzy Campbell



Suzy Campbell has held leadership roles within the West Virginia SWCS Chapter including president-elect, president and past president. She has helped coordinate five trainings; four college

scholarships; one chapter member award; and a new online registration process for workshops, scholarships, and membership voting. She has also written multiple articles for the chapter newsletter and led an initiative to electronically archive all chapter historical records. Campbell's many efforts have contributed to the success of the West Virginia Chapter's communications and programs.

Scott Bohaty



Scott Bohaty has been very active in the Nebraska Chapter of SWCS for many years. During his time with SWCS, Bohaty has served the Nebraska Chapter as a northeast director, vice president, and president. His commitment and leadership to

the Nebraska Chapter is exemplified by his nearly single-handed organization of the highly successful 2010 Annual State SWCS Meeting. He chose unique and beautiful venue with excellent meeting facilities and lined up outstanding speakers, including a long-time resource conservation and development coordinator and game wardens who spoke about efforts to protect the threatened piping plover. The tour also included test plots for the control of noxious leafy spurge led by the county weed board. This event was well-attended and favorably received by the membership. For these reasons and many others, Scott Bohaty is well-deserving of the SWCS Commendation Award.

Conservation Research Award

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

Gretchen Sassenrath



Gretchen Sassenrath has spent more than 30 years working to preserve and improve the water and soil natural resource base in agricultural ecosystems. In her research, she develops and implements conservation practices to reduce soil erosion and nutrient losses, and improve water quality and water use. In addition, her

research program explores underlying causes of soil and nutrient loss in claypan soils, and models water quality. Sassenrath has developed conservation management practices, including reduced tillage and use of cover crops, to improve soil health. Her previous research resulted in the development of models to assist farmers in management decisions, including irrigation scheduling. Sassenrath has developed an extensive educational and outreach program to guide farmers in implementing conservation management practices. Through her direction, farmers have adopted reduced tillage and implemented cover crops into their production systems. Finally, Sassenrath also works to encourage the next generation of researchers and conservationists in conservation management by including them in her research program, ensuring the future of conservation science.

Stephen Merrill



Over the course of his career, Stephen Merrill has been a leader or essential team member for a broad array of research projects on topics of mined land reclamation, soil erosion, soil quality, crop water use, and cropping systems design, with research spanning from the 1960s to the present. Merrill has provided critical information needed

to sustainably apply conservation practices to agricultural landscapes. In addition to leading a productive research program, Merrill has served in multiple advisory roles at state and national levels related to mined land reclamation, water resource management, and wind erosion research. Moreover, he has given countless presentations to clientele in support of using science-based guidance to apply conservation on the land. Collectively, Merrill's research contributions over the course of his career align nicely with the SWCS mission of fostering the science and art of natural resource conservation and make him unequivocally worthy of this year's Conservation Research Award.

Chair's Leadership Award

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

Wisconsin Chapter

The Wisconsin Chapter was instrumental in hosting the 2017 Annual Conference in Madison, Wisconsin. From the Regional Forum and Flavor Reception through the Conservation Tours, the chapter provided innovative ideas and unique learning opportunities that showcased the state of Wisconsin and enhanced participant experiences. Their contribution to the Society and the success of the 2017 International Annual Conference is sincerely appreciated.

Rob Myers



Rob Myers is regional director of Extension Programs for the USDA National Institute of Food and Agriculture (NIFA) North Central Region Sustainable Agriculture Research and Education (SARE) program. He administers competitive grants and state funding for sustainable agriculture projects in 12 states. He also holds

an appointment as an adjunct faculty member in the Plant Sciences Division at University of Missouri. His professional expertise encompasses sustainable agriculture and conservation, with a particular focus on cover crops and soil health. Myers is being honored for his work in advancing cover crops and soil health, specifically for the key leadership he provided in planning, implementing, and sharing information at the National Cover Crops and Soil Health Conferences. Last year's event alone hosted over 500 attendees from 44 states. Of the over 40 presenters, nearly half were farmers coming from 9 different states to share experiences growing cover crops in their regions. Conference headliners included state leaders, published authors, a panel of expert farmers, and practitioners who provided information on soil erosion and soil health. Without Myers' vision and unification of key partners, this national conversation would not have happened. The name Rob Myers has become synonymous to cover crops and soil health, and for this reason we are pleased to honor him with a 2018 SWCS Chair's Leadership Award.



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Birl Lowery



Birl Lowery, a longtime Society and Wisconsin Chapter member, served on the *Journal of Soil and Water Conservation* Editorial Board from 2003 to 2017. During this time, Lowery managed

the peer review of dozens of manuscripts, volunteered to assist other editors with expedited reviews, and contributed to shaping Journal policy for the future. Upon finishing his service as an associate editor in 2017, Lowery was instrumental in the creation of the new Associate Editor Excellence Award. This award will annually recognize top performing editors for the time and thought they devote to the Journal, to manuscript authors, and to the advancement of conservation research. We are pleased to recognize Birl Lowery's own excellent service to the Journal with the 2018 Chair's Leadership Award.

JOURNAL OF SOIL AND WATER CONSERVATION AWARDS

Best Research Paper for Impact and Quality Award

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

2018 Best Research Paper for Impact and Quality Award

Arbuckle, J.G., Jr., J. Hobbs, A. Loy, L.W. Morton, L.S. Prokopy, and J. Tyndall. 2014. Understanding Corn Belt farmer perspectives on climate change to inform engagement strategies for adaptation and mitigation. *Journal of Soil and Water Conservation* 69(6):505-516.

2018 Best Research Paper for Impact and Quality Honorable Mention

Zhou, X., M.J. Helmers, H. Asbjornsen, R. Kolka, M.D. Tomer, and R.M. Cruse. 2014. Nutrient removal by prairie filter strips in agricultural landscapes. *Journal of Soil and Water Conservation* 69(1):54-64.

2018 Best Research Paper for Impact and Quality Honorable Mention

Kladivko, E.J., T.C. Kaspar, D.B. Jaynes, R.W. Malone, J. Singer, X.K. Morin, and T. Searchinger. 2014. Cover crops in the upper midwestern United States: Potential adoption and reduction of nitrate leaching in the Mississippi River Basin. *Journal of Soil and Water Conservation* 69(4):279-291.

Editor's Choice Award

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

2018 Editor's Choice Award

Laws, L. 2017. Agricultural sustainability: Five midwestern row crop farmers share their views. *Journal of Soil and Water Conservation* 72(3):53A-58A.

2018 Editor's Choice Honorable Mention

Stewart, B.A., and R. Lal. 2017. The nitrogen dilemma: Food or the environment. *Journal of Soil and Water Conservation* 72(6):124A-128A.

Associate Editor Excellence Award

The Associate Editor Excellence Award recognizes associate editors for their contributions to the success and development of the Journal of Soil and Water Conservation.

Claire Baffaut



Claire Baffaut joined the Editorial Board in 2013. In addition to managing review of more than 20 manuscripts over the last five years, she has also reviewed several articles in service to other editors and recently chaired an editorial board subcommittee to develop a policy for the

submission of dataset articles to the journal. Her work to advance the Journal's scope and relevance is recognized with a 2018 Associate Editor Excellence Award.



Scott Van Pelt



Scott Van Pelt has served as an associate editor since 2008. In this role, he has earned recognition for both the exceptional number of manuscripts handled and for the high quality and timeliness of his reviews.

Van Pelt's service also

includes reviews for papers handled by other editors and assistance when special requests are made by the research editor and Journal staff. He has also served on the Editorial Policy Committee and organized submission of manuscripts from the International Soil Conservation Organization's 2015 meeting to the JSWC. We are pleased to present him with the Associate Editor Excellence Award.

John Williams



John Williams has been a member of the *Journal of Soil and Water Conservation* Editorial Board since 2001. In the past five years alone, he has handled the review

of 34 manuscripts and consistently provides authors with prompt and thorough reviews. In addition, Williams served on the Editorial Policy Committee from 2012 to 2015 and has contributed to the Journal's increasing impact and reputation as a leading publisher of soil and water conservation research. He is well-deserving of the Associate Editor Excellence Award.

CHAPTER AWARDS

Chapter Achievement Award

The Chapter Achievement Award recognizes chapters for significant achievements through a single activity conducted during the year.

Hugh Hammond Bennett Chapter

The Hugh Hammond Bennett Chapter in North Carolina is recognized with the Chapter Achievement Award for working jointly with the North Carolina Association of Soil

and Water Conservation Districts (NCASWCD) to host an expo during the NCASWCD 2017 Annual Meeting. The Chapter provided leadership to organize and staff the event. This event is a fundraising event for both the Chapter and the NCASWCD, and the funds raised go into conservation education.

Kansas Chapter

The Kansas Chapter is being awarded the Chapter Achievement Award for the Kansas Natural Resource Conference. This conference was cosponsored with six other professional societies and nonprofits to present natural resource issues. This was the conference's 10th year, and the topic was "Rivers and Streams: Reflections of Landscape Management." The conference is the Chapter's main activity during the year and provides members a great way to stay informed on research issues and interact with the authors. Congratulations to the Kansas Chapter.

National Capital Chapter

The National Capital Chapter in Washington, DC, is recognized with the Chapter Achievement Award for hosting the "Communicating Science" event with presentations from Erica Goldman, Director of Policy Engagement for COMPASS, and Bobby Cochran, Executive Director for the Willamette Partnership, both nonprofit organizations. The event was for discussion and engagement with SWCS members and nonmembers interested in communicating science to diverse audiences. Congratulations to the National Capital Chapter.

North Dakota Chapter

The North Dakota Chapter has been awarded the Chapter Achievement Award for their "Good Bugs" workshop, which had the goal of disseminating more information in regard to the biological component of Integrated Pest Management Plans and to train local conservation planners and land managers across North Dakota so they can learn methods to include beneficial insects (not just pollinators) in their planning efforts. The success of the initial workshop has led to develop a series of these workshops to now move across the state, with six more workshops already in the planning process. Congratulations to the North Dakota Chapter.



Hoosier Chapter

The Hoosier Chapter in Indiana is recognized with the Chapter Achievement Award for their "Healthy Soil, Happy Pollinator" event. The objective of this training event was to educate attendees about soil health and its connection to pollinators. The event had the best attendance from the Indiana Conservation Partnership employees for any training event that the Hoosier Chapter has conducted in recent years. Congratulations to the Hoosier Chapter on a successful event.

Outstanding Chapter Award

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

Razorback Chapter

The Razorback Chapter in Arkansas is recognized as an outstanding chapter for carrying out a successful year. The Chapter's fall meeting and tour was a professional development opportunity that offered continuing education units. The Chapter increased their membership by over 10%. The Chapter also conducted outreach to multiple soil and water education events throughout the year. Congratulations to the Razorback Chapter.

Kansas Chapter

The Kansas Chapter is recognized as an outstanding chapter for their professional and educational activities throughout the year. The Chapter not only hosted the Kansas Natural Resource Conference, but held their fall meeting and tour, which focused on the latest research on cover crops, conservation plants, and other plots. Members also participated in the Envirothon program. Congratulations to the Kansas Chapter.

Firman E. Bear Chapter

The Firman E. Bear Chapter in New Jersey is recognized with the Outstanding Chapter Award for carrying out the SWCS mission throughout the year. The Chapter hosted a spring meeting and tour of Walnut Brook Stream Restoration Project, organized a fall meeting and tour of Cattus Island Nature Preserve where they presented their annual College Scholarship and Environmental Excellence

Awards, and assisted the Envirothon program by volunteering and donating. Congratulations to the Firman E. Bear Chapter.

North Dakota Chapter

The North Dakota Chapter is recognized as an outstanding chapter for offering and participating in multiple educational events throughout the year. The Chapter not only hosted the "Good Bugs" workshop, but held their annual meeting, which was themed "Farming for Sustainability: Back to the Roots" and included a diverse network of conservationists and students in attendance. Chapter members also participated in multiple educational events, including Train the Teacher, Envirothon, Earth Day, and much more. Congratulations to the North Dakota Chapter.

Wisconsin Chapter

The Wisconsin Chapter has been awarded the Outstanding Chapter Award for their assistance in hosting the 2017 Annual Conference in Madison, Wisconsin. The 2017 Annual Conference set the modern era attendance record with 519 attendees.



SPECIAL THANKS

SWCS would like to thank Datu Research for sponsoring Amanda Locker to attend the 2018 International Annual Conference. Amanda was selected from applicants for the student moderator submissions and received a full scholarship to attend.





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SWCS CONFERENCE SITES AND CHAIRS

1946	Chicago, IL, Ralph H. Musser	1983	Hartford, CT, Chris J. Johannsen
1947	Omaha, NE, Ralph H. Musser	1984	Oklahoma City, OK, Floyd E. Heft
1948	Cincinnati, OH, T.S. Buie	1985	St. Louis, MO, Roland R. Willis
1949	St. Louis, MO, Lloyd E. Partain	1986	Winston-Salem, NC, Joe D. Nichols
1950	Detroit, MI, Firman E. Bear	1987	Billings, MT, Maurice G. Cook
1951	Memphis, TN, Morris E. Fonda	1988	Columbus, OH, Donald Van Meter
1952	Buffalo, NY, Morris E. Fonda	1989	Edmonton, AB, David R. Cressman
1953	Colorado Springs, CO, H.H. Bennett	1990	Salt Lake City, UT, Richard Duesterhaus
1954	Jacksonville, FL, R.Y. Bailey	1991	Lexington, KY, Richard Duesterhaus
1955	Green Lake, WI, Austin L. Patrick	1992	Baltimore, MD, Ronald J. Hicks
1956	Tulsa, OK, Edward H. Graham	1993	Fort Worth, TX, Ronald J. Hicks
1957	Pacific Grove, CA, J.S. Russell	1994	Norfolk, VA, Calvin J. Perkins
1958	Asheville, NC, Russell G. Hill	1995	Des Moines, IA, Gary Steinhardt
1959	Rapid City, SD, Alvin C. Watson	1996	Keystone Resort, CO, John A. Knapp
1960	Guelph, ON, Elmer L. Sauer	1997	Toronto, ON, Aniko Szojka-Parnell
1961	Lafayette, IN, Walter C. Gumbel	1998	San Diego, CA, Aniko Szojka-Parnell
1962	Washington, DC, Roy D. Hockensmith	1999	Biloxi, MS, Dennis Pate
1963	Logan, UT, George M. Browning	2000	St. Louis, MO, Dennis Pate
1964	Jackson, MS, Herbert A. Hopper	2001	Myrtle Beach, SC, Dana Chapman
1965	Philadelphia, PA, Minott Silliman, Jr.	2002	Indianapolis, IN, Bob Eddleman
1966	Albuquerque, NM, John R. J. Bradshaw	2003	Spokane, WA, Myron Senechal
1967	Des Moines, IA, Cecil W. Chapman	2004	St. Paul, MN, Deborah Cavanaugh-Grant
1968	Athens, GA, Frank H. Mendell	2005	Rochester, NY, Jean Steiner
1969	Fort Collins, CO, Ray Hunter	2006	Keystone, CO, Jean Steiner
1970	Toronto, ON, Robert W. Eikleberry	2007	Tampa, FL, Theo Dillaha
1971	Columbus, OH, Einer L. Roget	2008	Tucson, AZ, Peggie James
1972	Portland, OR, J.R. Johnston	2009	Dearborn, MI, Peggie James
1973	Hot Springs, AR, A.B. Linford	2010	St. Louis, MO, Gary Steinhardt
1974	Syracuse, NY, William L. Vaught	2011	Washington, DC, Bill Boyer
1975	San Antonio, TX, Frank W. Schaller	2012	Fort Worth, TX, Bill Boyer
1976	Minneapolis, MN, Chester E. Evans	2013	Reno, NV, Dan Towery
1977	Richmond, VA, J. Vernon Martin	2014	Chicago, IL, Dan Towery
1978	Denver, CO, Arthur D. Latornell	2015	Greensboro, NC, Mark Berkland
1979	Ottawa, ON, William Moldenhauer	2016	Louisville, KY, Mark Berkland
1980	Dearborn, MI, Gerald R. Calhoun	2017	Madison, WI, Jon Scholl
1981	Spokane, WA, Jesse L. Hicks	2018	Albuquerque, NM, Rex Martin
1982	New Orleans, LA, Robert C. Baum	2019	Pittsburgh, PA, Rex Martin