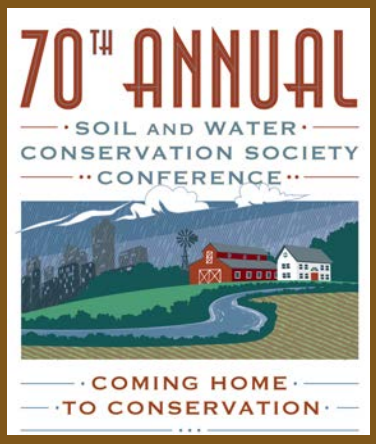
July 2015

SOIL AND WATER CONSERVATION SOCIETY

Healthy Land
Clean Water
For Life

CONSERVOGRAM

The newsletter of the Soil and Water Conservation Society



In This Issue

945 SW Ankeny Road, Ankeny, IA 50023
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Join **Give** **Journal**

70th SWCS International Annual Conference

Greeensboro Sheraton at Four Seasons
Greensboro, North Carolina
July 26-29, 2015
www.swcs.org/15ac

There Is Still Time to Register!

Online registration will remain open for the SWCS International Annual Conference through Thursday, July 16. After this date, participants are encouraged to download the paper registration form, complete the information beforehand, and bring it to the conference registration desk for onsite registration.

Tuesday Plenary Panel Announced

A Look at Precision Conservation: Putting Science into Practice
Tuesday, July 28, 8:00 – 10:00 a.m.

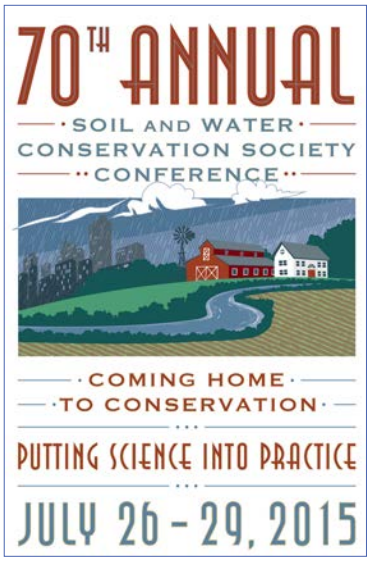
Presenters: *David Muth, AgSolver, Inc.; Linda Prokopy, Purdue University; and Mark Tomer, USDA Agricultural Research Service (ARS)*

Moderator: *Deanna Osmond, North Carolina State University*

David Muth is the Senior Vice President of Analytics at AgSolver, Inc. Prior to cofounding AgSolver in 2013, Muth led a research team at the Idaho National Laboratory, working on bioenergy feedstock production and logistics analysis. He led the development of open-source environmental process modeling tools to support the design and assessment of bioenergy landscapes. These open-source tools are used by the US Department of Energy and its research partners to design sustainable and economically viable bioenergy feedstock production systems. Muth was raised on a farm in north-central Iowa and applies his practical experience with agribusiness decision making to identify innovative data management and simulation approaches that increase profitability, reduce risk, and improve environmental performance in production agriculture. He received his PhD in mechanical engineering from Iowa State University in 2012.

Linda Prokopy collaborates extensively with scientists across Purdue University and co-leads a regional project to develop social indicators to measure the effectiveness of projects that try to minimize nonpoint source pollution. She conducts social evaluations of watershed projects in Indiana and also has a number of competitive grants that use social indicators to improve the outcomes of water projects. Natural resources in Indiana and elsewhere are increasingly threatened by human pressures such as land use change, climate change, and water pollution. Prokopy's research, teaching, and engagement cumulatively address these human threats with a particular focus on understanding how to encourage more people to become engaged in environmentally friendly behaviors. She uses both qualitative and quantitative methods in her research and frequently uses techniques such as surveys, interviews, and focus groups.

Mark Tomer is a research soil scientist with the National Laboratory for Agriculture and the Environment (NLAE) of the USDA's Agricultural Research Service (ARS) in Ames, Iowa. His background includes a BS in forestry from the University of Montana, an MS in soil physics from Montana State University, and a PhD in soil and water resources from the University of Minnesota. Prior to joining ARS in the year 2000, Tomer gained research and technology transfer experience working on agricultural salinity in eastern Montana and on municipal wastewater irrigation in forest plantations in New Zealand. Tomer is currently the lead scientist for watershed research at NLAE, and he has served on ARS's Leadership Team for the Croplands Conservation Effects Assessment Project (CEAP).



Conference Sponsors and Exhibitors

Thank you to our growing list of Annual Conference sponsors and exhibitors!

Presenting sponsor: syngenta®

Elite Environmentalists: Soil Health Partnership, Monsanto

Soil Sustainer: American Farmland Trust — Saving the Land that Sustains Us

Water Warriors: Southern SARE Sustainable Agriculture Research & Education, Watershed Materials, ENVIROCERT International, Inc.

Come visit these conservation oriented groups and businesses at the SWCS trade show and make sure to have them stamp your "trade show bingo card" for your chance to win a prize!

Agren
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EnviroCert International, Inc.
Ernst Conservation Seeds
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National Center for Appropriate Technology (NCAT)
Soil Health Partnership
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USDA-NRCS Central National Technology Support Center
USGS South Atlantic Water Science Center
Verdesian Life Sciences
Voss Signs
Ward Labs Inc.
Watershed Materials, LLC
XYLEM / YSI

July/August Issue of the Journal

The July/August issue of the *Journal of Soil and Water Conservation* is now in the mail! This issue includes the second installment of two companion articles by Lal with a focus on the potential of conservation agriculture (CA) to contribute to a sustainable future. In the article, CA success stories from Brazil as well as a list of "bright spots" for future CA implementation are highlighted. Also in this issue, a Viewpoint by Powell argues that terms and measures of nitrogen use efficiency should be standardized to reduce researcher and practitioner confusion. The Research Section contains an article by Van Dijl et al. that analyzes the findings of a producer survey to determine factors that influence the adoption of drought adaptations by vegetable growers in Florida as well as an article by Dosskey et al. that tests the AgBufferBuilder program, a precision conservation tool that allows land managers to vary filter strip dimensions to match runoff patterns and trap greater amounts of sediment. Read these and many more articles in the online Journal.

Newest At-Large Director

SWCS would like to welcome Rex Martin, Head, External Relations for Syngenta, as the newest incoming at-large board director. For the past 23 years, Rex has worked in various positions related to environmental regulation and legislation at the state and federal levels. He has also served in many leadership and board positions inside and outside the industry. Rex has received a number of awards recognizing his leadership commitment to agricultural organizations, including the William Larue award from the Southern Crop Production Association, the 2009 Croplife America Workhorse Award, and the Missouri Corn Growers Association and American Agri-Women Presidents'Award. He also was the first-ever recipient of the Kansas Ag Retailers Association's "Standing TALL" award.

Rex will be joining the Board after the July International Annual Conference.

News from DC

Courtesy of SWCS DC Representative John Peterson

- The National Working Group on Cover Crops and Soil Health released a set of recommendations pertaining to USDA agencies and programs to support the mutual goal of making agriculture more sustainable through soil health. Click here to view the report.
- Friday, June 19th, the US Forest Service (USFS) announced its withdrawal of its proposed directive for groundwater management.
- "Building a Water Quality Trading Program: Options and Considerations," is available for downloading here.
- USDA recently announced the availability of $17.5 million in financial and technical assistance to help eligible conservation partners voluntarily protect, restore, and enhance critical wetlands on private and tribal agricultural lands. Click here for more information.
- DamWatch, a new web-based application that provides real-time monitoring of rainfall, snowmelt, stream flow, and seismic events that could pose potential threats to dam safety, was recently launched.
- In July, the House will resume floor considerations of the FY16 Interior appropriations bill. The bill proposes decreases to USFS state and private forestry funding, provides $159.252 million for US Environmental Protection Agency's (EPA's) section 319 nonpoint source grants, and includes language that would prevent the US Fish and Wildlife Service from listing the greater sage grouse under the Endangered Species Act until October of 2016.
- In July, the House is scheduled to mark up the FY16 agriculture spending bill, which currently provides $832.928 million for Conservation Technical Assistance (CTA).
- Congress will have a month-long recess in August. This is the time to educate your elected officials through meetings, conservation tours, and town hall meetings.
- Exemptions under the Clean Water Act for agricultural runoff could be in jeopardy following ruling by the US Court of Appeals for the 3rd Circuit in American Farm Bureau Federation et al. v. EPA.

Chapter Awards

SWCS would like to congratulate chapters receiving awards at the 2015 annual conference. Awards and scholarships will be presented at an awards luncheon on Tuesday, July 28, 2015, at noon during the 70th International Annual Conference in Greensboro, North Carolina.

Chapter Achievement Awards
The SWCS Chapter Achievement Award recognizes up to five chapters for significant achievement through a single activity conducted during the year. This year's Chapter Achievement Awards go to the All Ohio Chapter, Hoosier Chapter, and North Dakota Chapter.

Outstanding Chapter Awards
The Hoosier Chapter is recognized as an Outstanding Chapter for their work in 2014 to educate legislators, increase membership, create outstanding professional development programs, provide outreach to students, and improve communications with members, partners, and the general public using tools such as social media and the web.

The North Dakota Chapter is recognized as one of the Society's outstanding chapters for their effective professional development programs, increased membership growth, outreach to students, and communications efforts with members.

Professional Development Awards
The All Ohio Chapter is recognized for the Professional Development Award for providing two outstanding training opportunities in 2014 for members and conservation partners on timely conservation topics.

The West Virginia Chapter is recognized with a Professional Development award for their excellent educational programs for both members and nonmembers in 2014.

Sustained Performance Award
The West Virginia Chapter is recognized with a Sustained Performance Award for their consistency in providing programs on timely conservation topics, their involvement in local initiatives that are of interest to members, and their strong connection to youth conservation programs.

Individual Awards*

Commendation Award
Jason Dalrymple
Kathya Hattaway
David Moore
Mike Morris
Andrew Oxford
Katherine Rudolphy
Susan Samson-Liebig
Walter Valasek

**In the May issue of the Conservogram, an award recipient's name was accidentally omitted from the Individual Awards. The correct awardee list appears here.*

Chapter Spotlight: Alabama Chapter

Current chapter president: Monday Mbila

History of the chapter: The Alabama Chapter was founded in 1978 when North Alabama and South Alabama Chapters of SWCS united as one chapter. Over the years the Chapter has had several major accomplishments. The Chapter has and continues to offer technical training with professional development hours (PDHs) or continuing education units (CEUs) at its regular annual meeting for engineers, geologists, certified crop advisors, and others. The Chapter also regularly sponsors workshops and seminars. The Chapter has signed agreements with consultants to provide oversight and guidance to the state's erosion and sediment control partnership. The Chapter has developed its membership to be diverse and include a wide variety of members.

What was the most successful chapter event in the last year? The Chapter's Annual Meeting, which is rotated between four locations in the state (Mobile, Auburn, Birmingham, and Huntsville) continues to be its most successful event. The members gain insight into the most resent technology related to soil and water conservation. A news release and pictures from last year's annual meeting (2014) can be found at http://www.alchapterswcs.aces.edu/annual-meeting.php.

What is your membership's preferred method of communication? The Chapter has a Facebook page, but most communication is done through email.

What would you say are the most important current conservation concerns for your region?

- Erosion control and stormwater management on construction sites
- Invasive plants
- Expanding the soil and water conservation knowledge base

What is your favorite part of membership in SWCS? Most members would say, "The development of professional relationships with others interested in soil and water conservation in Alabama."

What advice would you give to a new chapter? Have a diverse membership and provide meetings, seminars, and workshops with professional development.

Is there any other information you'd like to share about your chapter? The Chapter Executive Committee meets on at least a quarterly basis to keep up with business and ensure meetings are being properly planned.

Conservation Conversation

Our recent reader question asked members and social media followers **"What tools and technology show the most promise for addressing soil erosion problems?"** You can read select responses below.

- For the tropics and subtropical areas around the entire globe, the use of vetiver grass hedges planted along topographic contours in any landscape stops erosion completely if planted correctly using *Chrysopogon zizanioides*. It is not suitable for temperate areas, as freezing weather will kill it. As a perennial, noninvasive species, it cannot spread laterally, does not have fertile seeds, does not have lateral rhizomes or stolons so that it stays exactly where you plant it, and after a hedge forms (after 6 to 8 months), it will remain a hedge for up to four decades. The key to vetiver hedges stopping erosion is that this stiff-stemmed grass has extensive vertical roots that can penetrate any soil and subsoil type and extend down to 5 meters. Think of the hedge being a perennial set of 5 meter nails holding the surface and subsoil in place. It stops erosion through its ability to absorb the massive hydraulic forces that accompany moving water loaded with sediment, and it slows the motion down such that sediments fall out of solution on the upside of any given hedge. Gully formation is reduced almost completely as flows are spread out along the contour hedge due to the dense nature of the aboveground vegetation. It can be easily combined with conventional engineered structures (reinforce concrete abutments, gabbing, drains, retaining walls, etc.) reinforcing these as well. Other nice characteristics are that it is resistant to insects and diseases, it becomes more vigorous after the hedge is burnt, it is inexpensive to install, and has virtually no recurrent maintenance costs. It is not only effective in rural settings, but in urban ones too, especially to stop urban erosion in rainy cities and towns of the world. I use it because it works, is easy to understand, is affordable to all, and above all, sustainable over long periods of time. You can never recoup soil once it is lost by erosion; the task is simply too massive. Save it while you can. – Dale Rachmeler

- I have used microbially induced calcite precipitation for foreshore erosion control. Literally it is akin to pouring urine and salt across eroded soil with *Sporosarcina pasteurii* existing in the soil. Technically, a solution of urea and calcium salt provides the opportunity for this soil microbe to cement the soil grains and strengthen soils against erosion and still leave pores for vegetation to thrive as well. A combination of this and the vegetation option suggested by Dale Rachmeler above will, in my opinion, provide a highly sustainable approach towards mitigating erosion, if studied optimally. – Emmanuel Salifu

July Reader Question:

In a video published earlier this summer by the Climate & Energy Project, farmer Bill Sproul discusses the differences between commodity and community conservation, as influenced by Aldo Leopold's "Land Ethic." Take a few minutes to watch the video and let us know your thoughts!

How can viewing land as a community versus a commodity affect natural resource conservation? Is a balance between the two perspectives possible?

We ask that our readers answer the question via email (to pubs@swcs.org) or respond through social media, and in the next issue, we will post some of the responses as well as ask a new question. We hope that this will provide a discussion forum for our readers and us!

Upcoming Events

California-Nevada Chapter Annual Conference and Workshop
Reno, Nevada
July 22-23, 2015

70th International Annual Conference
Greensboro, North Carolina
July 26-29, 2015

Southern New England Chapter Summer Meeting
Gillette Stadium, Foxborough, Massachusetts
August 6, 2015

SWCS Michigan Chapter Summer Tour
Kalamazoo, Michigan
August 28, 2015

New Members

Welcome members who joined in June!

International
Mario Perez

Alabama
Chris Anderson
Michael Moore
Sharon Thompson

Arkansas—Razorback
Kassandra Riley

California/Nevada
Daniel Montelbetti
Julianne Rolf

Canada—Alberta
Marcus Becker

Canada—Ontario
Rajesh Bejankiwar

Colorado
Michael Hutt
Brandon Tolle

Washington, DC—National Capital Chapter
Allison Thomson

Delaware/Maryland—Pokomoke
Sarah Bowman

Florida
Azadeh Alizadeh

Iowa
Angie Carter
Bob Cink

Illinois
Dean Craine

Kansas
Candy Thomas

Louisiana
Naveen Adusumilli

Michigan
Justin Burchett
Glenn O'Neil

Missouri—Show Me
Kris Rebstock

North Carolina—Hugh Hammond Bennett Chapter
Tewodros Assefe
Richard Farris
Valerie Harris
Kori Higgs
Danon Lawson
Kieu Le
Caela O'Connell
Jessica Pope
Mark River

North Carolina—North Carolina State University
John Lewis
Dat Tran

New York—Empire State
Darryl Butkos
Aaron Ristow

Ohio—All Ohio
Laura Johnson
Garrett Rhyne Watershed Materials

Tennessee
Wolf Naegeli
Stephanie Owen

Texas—North Texas
Diane Boellstorff
Erick Butler
Nathan Howell
Galen Roberts

Texas A&M University Chapter
Drew Gholson

Corporate Members

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Agri Drain Corporation

Dow AgroSciences

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

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AGREN

The Fertilizer Institute
Nourish, Replenish, Grow

Bronze

CTIC Conservation Technology Information Center

Watershed Materials

White River Irrigation District

DuPont Pioneer

The Nature Conservancy
Saving the last great places on earth

Ecosystem Services Exchange
Valuing Conservation

From the Leadership

Unintended Consequences

By Dan Towery, At-Large Director

What will agriculture look like in 10 years? Based on the changes that have occurred in the past 10 years, it will be much different. There has been a lot of talk about the need to double current yields in order to feed over 9 billion people by 2040. Furthermore, the doubling of yields needs to be done in a sustainable manner. Based on current issues with hypoxia in the Gulf of Mexico; Chesapeake Bay water quality issues; toxic algae in Lake Erie; high nitrates in the drinking water of Des Moines, Iowa, and Columbus, Ohio; drawdown of the Ogallala Aquifer; and drought conditions in California, it appears that US agriculture is facing some serious challenges. Additionally, one of the wettest Junes on record in the Midwest this year will result in significant nitrogen (N), phosphorus (P), and soil losses into streams. No farmer wants nutrients and soil to leave his farm, but there is a direct link between management used and the amount of N, P, and soil leaving the farm. One might say that these are "unintended consequences." The soils and climate in the Midwest result in a leaky system; however, the magnitude of N, P, and soil leaving the farm can be reduced with proper management.

If a certain practice or action has been done for years, it becomes a matter of habit and is repeated without much thought. And habits do not easily change. As a teenager in the 1960s, I helped on my grandfather's farm, and trash (including empty five-gallon herbicide containers) was taken to a woody draw and combined with all other trash, used oil was put on a gravel parking area to help keep the dust down, and steep hills were moldboard plowed. This was the norm; everyone did it without even thinking. Times have changed, and most people would never consider doing these things now.

Conservation (which includes soil health) is complicated, has numerous components, and may look different in different regions. But at the end of the day, it is about people who care—people who care about today, care about the next generation, and care about future generations. An effective agent of change needs a good scientific foundation, but also needs good people skills and passion in order to be effective. Although soil health efforts have gotten a lot of press, the adoption rate is still extremely low when one considers the percentage of land being farmed in this way. Farmers often look to their crop consultant, co-op agronomist, and/or seed dealer as their most trusted source for agronomic information. In order to increase yields in a sustainable manner (and avoid potential regulation), it is critical that conservationists work jointly with local ag consultants and farmers in developing a production system that addresses sustainability and soil health. It then needs to be reinforced by others, many others. This is called changing the social norms. Is the Soil and Water Conservation Society doing what it needs to do to facilitate this change? Are you doing what you can?

We haven't done a very good job of eliminating the unintended consequences some farming practices currently create. With better communication and a willingness to change old habits, agriculture—and related conservation adoption—can look very different in the next 10 years.