



CONSERVOGRAM > The newsletter of the Soil and Water Conservation Society



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Annual Conference News

The 2015 SWCS International Annual Conference will be held July 26-29, 2015, at the Sheraton Hotel in Greensboro, North Carolina. To keep up to date on all annual conference news, visit our website at www.swcs.org/15AC.

Call for Poster Presentations Still Open!

Posters may be submitted for the 70th International Annual Conference through March 2, 2015. For the full call for presentations and to submit a poster, visit the [conference website](#).

70TH ANNUAL
 — SOIL AND WATER —
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SWCS Awards Application Deadline March 16, 2015!

The SWCS award nomination deadline has been extended to March 16, 2015, to coincide with the SWCS chapter awards and chapter report deadlines. Want to honor an individual or organization for their conservation efforts? Go to www.swcs.org/awards for details on all awards available!

La Crosse Seed Solidifies Soil Health Focus with Formation of SWCS Corporate Partnership

La Crosse Seed, a recognized leader in forage, turf, pasture seed, and related specialties for agriculture, turf, and landscaping, has recently become a corporate silver partner with the Soil and Water Conservation Society (SWCS), a valuable relationship focused on furthering environmental sustainability efforts.



"La Crosse Seed is continually striving to foster long-lasting partnerships with organizations that share our focus on soil health, sustainable agriculture, as well as the research, education, and promotion of cover crops," says Scott Wohltman, cover crop lead for La Crosse Seed. "Partnering with SWCS better equips us to provide the information our dealers in the Midwest expect from us, keeping them in front of upcoming opportunities related to cover crops and subsequently growing their business. Working with SWCS helps to further these growth initiatives while increasing awareness about the importance of soil and water conservation."

SWCS serves as an advocate for science-based conservation practices, programs, and policy. As a partner in these efforts, La Crosse Seed is committed to support and expand the Society's efforts to improve conservation through research, promotion, and education. To learn more about this new sponsor, visit <http://www.lacrosseseed.com/>.

February Reader Question:

What conservation practices should we employ to best mitigate drought effects in rural and/or urban areas?

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!

Conservation Conversation

Our recent reader question asked members and social media followers to consider options for preserving water quality. You can read select responses below, or to see more of the conversation, head to the SWCS group pages on LinkedIn and Facebook.

What do you think is the most effective way to reduce nutrients entering our waterways?

- Let plants grow, slow the flow, watch where the animals go, filtration is a must know! –Shirley Henderson
- There is not a single, pat answer. In fact, in many cases (for example, the Chesapeake Bay) the fixation on general answers to the question leads in the wrong direction, especially when proscriptive measures come from political science, not soil science! My answer to your question: always depend on solid, peer-reviewed and tested science for your area and tailor to each farm's methods of operation, soils, crop/animal mix, etc. Put the money and effort into measures, BMPs, practices which will have the greatest LONG-RANGE positive impacts on water quality. Soil quality and water quality are LONG-TERM problems and cannot be solved overnight with "silver bullets." Finally, make sure that any steps taken ensure the long range economic sustainability of commercial farming operations (i.e. "stay in business"). –Mike McGrath
- Try Lew Licht's approach of planting "ecotree" buffers along drainage ways. This reduce surface runoff and apparently reduces nutrient movement through soil water. Reducing fertilizer and manure application to levels that can be retained by the soil and crops also has a lot of merit. –William Elliot
- The most effective way is to apply nutrients exactly in the same quantities that are required and at the time when wanted by the plants. Split application is the best at appropriate times. Further safeguarding can be achieved by increasing nutrient holding capacity of the soil through application of organic matter, if it is already insufficient. Over-application at the wrong time is the major cause of leaching nutrients into waterways. Other practices, like slow release of fertilizers, are also recommended. –Nazir Hussain
- No till with cover crops. –Laura Stearley
- What about urban suburbs? First build a creek. Concrete drains are great for moving pollutants from point A to point B very quickly. When drains discharge pollutants into beautiful waterways people become annoyed if the fish die and it is unhealthy to go swimming. Concrete drains should be ripped up and nature should be encouraged to grow in and around the artificial creek. Wetlands are a great way to remove pollutants from creeks and well-managed wetlands are good carbon sinks. Plant trees surrounding the artificial creek, and the flowing water and shady trees will cool you down and sooth the nerves. –Ted Floyd
- Denitrifying bioreactors (woodchip bioreactors). –Sagar Vibhute

2014 Kenneth E. Grant Research Scholarship Research Report

By Colin Brown and Chrissy Rhodes

The Kenneth E. Grant Research Scholarship provides financial aid to members of SWCS for graduate-level research on conservation topics. In 2014, Colin Brown, SWCS student member from Yale University's School of Forestry and Environmental Studies, was honored with the Grant Research Scholarship for his project, conducted through the National Science Foundation's East Asia and Pacific Summer Institutes for U.S. Graduate Students (EAPSI), "EAPSI: Interactions between precipitation and grazing conditions in affecting plant nitrogen availability."

In June and July of 2014, Brown began his study in the grasslands of Inner Mongolia on a heavily studied, long-term experimental grazing research area. Brown's hypothesis states, "Heavy rain events will result in higher rates of nitrogen leaching from heavily grazed grasslands due to coarsely textured soils combined with low organic matter and reduced plant cover. Lightly grazed grasslands may not experience such an effect, due to increased ground cover and higher levels of soil organic matter. The loss of soil N may manifest itself in the form of lower plant N content, and subsequently serve as better forage for locust development."



Top: Example of a block on a heavily grazed area. Bottom: Unfenced block on one of the ungrazed parcels.

Throughout his study, Brown measured soil bulk density, soil moisture, soil temperature, rainfall data, water chemistry, and nitrogen availability. The project utilized three stocking rates of sheep (0, 4.5, and 9 sheep per hectare) over six grazed parcels of land. Water was applied to the plots and continuously tested for nitrate-nitrogen ($\text{NO}_3\text{-N}$), nitrite-nitrogen ($\text{NO}_2\text{-N}$), and ammonium-nitrogen ($\text{NH}_4\text{-N}$).

Preliminary findings include significant interactions between grazing intensity, water availability, and $\text{NO}_3\text{-N}$ availability, and a significant difference in $\text{NH}_4\text{-N}$ availability between the ungrazed and the most intensively grazed plots.

In March of 2015, plant C:N ratio, soil texture analysis, and soil organic analysis will take place at Arizona State University. Importantly, plant C:N ratios will reveal whether changes in soil N availability were manifested in plant tissue. Brown expects soil samples from more heavily grazed sites to have lower amounts of organic matter and that organic matter will likely correlate negatively with bulk density. Soil particle size distribution is not expected to differ widely between plots, due to their close proximity.

Through the Kenneth E. Grant Research Scholarship Fund provided by SWCS, Brown was able to purchase critical materials needed for his study, including raw materials for prototyping and assembly of soil moisture data loggers, Buchner funnel assembly, water testing supplies, and metal soil containers. SWCS is proud to support our future scientists and conservationists.

Upcoming Events

Wisconsin SWCS Chapter Annual Conference
University of Wisconsin-Green Bay, Wisconsin
February 27, 2015

A Matter of Balance: Feeding Our Crops and
Protecting Our Water in a Changing Climate
East Lansing, Michigan
March 6, 2015

SWCS International Conference
Greensboro, North Carolina
July 26-29, 2015

Chapter Spotlight: Environmental Conservation Club, Student Chapter

Chapter location: University of Connecticut, Storrs, Connecticut

Current chapter president: Kelly Niland

History of the chapter: The University of Connecticut student chapter (UConn-SWCS) was founded in 1979, bringing students together to participate in activities to promote conservation and sustainability and to raise awareness of soil and water conservation issues. Past achievements include several years of sampling water from Mirror Lake, a campus drainage pond, to assist with a water quality analysis project. The samples were used to determine the causes of the lake's poor water quality. Both in-lake and stormwater treatment improvements were proposed to address the issue. In 2001, the club sponsored a symposium where experts spoke about issues regarding the lake, including hypereutrophication. Under the club's previous advisor, Dr. Jack Clausen, UConn-SWCS initiated a project to construct a green roof for a building on campus. The Gant Plaza Green Roof was completed in 2009 with a grant from the Environmental Protection Agency. In 2010, UConn-SWCS sponsored a workshop in conjunction with the Southern New England Chapter (SNEC) entitled "From Rainfall to Runoff." Participants were taught how to implement sustainable environmental practices on urban and agricultural landscapes. Other chapter accomplishments include the initiation of a printer ink cartridge recycling program on campus and the development of a GIS trail map for the UConn Forest. Trail maintenance activities to curb erosion and sedimentation caused by recreational use involved rerouting trails around high problem areas, installing water bars, and trailblazing.

What was the most successful chapter event in the last year? Our most successful chapter event of last semester was the conduction of local stream bioassessments as part of a water quality monitoring protocol administered by the CT Department of Energy and Environmental Protection (DEEP). Our members attended a training session and used nets to collect aquatic pollution-sensitive macroinvertebrates, or "river bugs," in streams near campus. The presence of these "river bugs" indicates excellent water quality. Our members learned about the aquatic life of local streams, gained a better understanding of our watershed system, and learned how to better serve as environmental stewards for our community.

What other activities has your chapter been involved in this year? Our first activity of the school year involved placing new laminated maps at trailheads in the UConn Forest. At UConn's annual fall Cornucopia Fest, we held a soil painting table. We provided soils from all over the world for visitors to paint with in order to gain a deeper appreciation for soil. We also participated in the 2014 Source to Sea Cleanup of the Connecticut River watershed. Our members hiked and kayaked to remove trash from Union Pond in Manchester, Connecticut, and its surrounding hiking trails.

What is your membership's preferred method of communication? Our preferred methods of communication are email (swcsuconnchapter@gmail.com) and Facebook (<https://www.facebook.com/uconnswcs>).

What would you say are the most important current conservation concerns for your region? I think the most important current conservation concerns for our region involve water pollution. In the past year, high levels of heavy metals including arsenic have been found in many private wells throughout Connecticut. Water pollution from agricultural runoff is also a significant problem in our state, especially within the Connecticut River and Long Island Sound. Hopefully funds from the USDA's new Regional Conservation Partnership Program will help toward the improvement of water quality in our state.

What is your favorite part of membership in SWCS? My favorite part of membership in SWCS is access to various resources such as the *Journal of Soil and Water Conservation*, the *Conservogram*, job search, forums, blogs, and groups within the SWCS network. I love that SWCS keeps me up to date on current events and advances involving natural resource conservation.

What advice would you give to a new chapter? I would encourage a new chapter to first establish your goals for the semester or year, and then work on getting your name out there and recruiting members. Delegating duties to each officer at the start really helps to improve efficiency and organization. Don't forget to keep meetings fun and interesting!

Is there any other information you'd like to share about your chapter? Our members recently voted to change our name to "Environmental Conservation Club, Student Chapter of the Soil and Water Conservation Society." This was done in hopes to increase membership by drawing in students with more diverse interests in environmental issues.

This semester we plan to show environmental films, hike nearby trails, and have guest speakers and discussions on natural resource issues at our meetings, with a focus on invasive species. We are collaborating with Joshua's Tract Conservation and Historic Trust to plan and implement invasive species removal on nearby properties. We will be conducting a vernal pool inventory for the Connecticut Audubon Society, participating in a local spring cleanup, and holding a soil painting table on campus for Earth Day. We also plan to take a tour of UConn's Water Reclamation Facility as well as UConn's Spring Valley Student Farm to learn about sustainable gardening and beekeeping. For fun we are taking a trip to Dinosaur State Park to explore Connecticut's paleontology and natural history, and to find a geocache. We look forward to having another fun and productive semester!

Contact name for more information about the chapter: Kelly Niland, President, kelly.niland@uconn.edu

New Members

Welcome members who joined in January!

Alabama

Alison Dunagan
Karnita Garner

Arizona

Thomas Giambra

California—Humboldt State University Student Chapter

Elektra Mathews-Novelli

California/Nevada

Phil Smith

Connecticut—University of Connecticut Student Chapter

Joshua Crittenden
Kendra Kilson

Florida

Michael Egbebike

Iowa

Richard Sloan
Barry Tlach

Idaho

Misty Tucker

Louisiana

Eric Duplantis
Shelby Isley

Minnesota

M. Scott Wells

North Carolina—HH Bennett

Mary Goldston

North Dakota

Elizabeth Burdolski

New Hampshire/Vermont

Randall Shuey

New Jersey—Firman E. Bear

Daniel Schlupp

New York—Cornell University Student Chapter

Rachel Breslauer

Ohio—All Ohio

Trumbull Soil and Water

Pennsylvania—Keystone

Clarissa Barton
Lisa Blazure

Lamonte Garber

Mark Goodson

Janette Leshner

Geri Mason

Frank Schneider

Gerard Troisi

South Dakota

Christopher Hay

Utah

Lynsey Nielson

Washington—Olympic View

Charles Shaw

Wisconsin

LaCrosse Seed
Michael Travis

West Virginia

Suzy Lucas

Corporate Members

Please contact corporate.info@swcs.org for more details.

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Valuing Conservation

Reader Response: Production Is Not the Problem

By Andrew Manale, SWCS Science and Policy Committee Member

Much as I appreciate and respect my fellow SWCS member and colleague, Bruce Knight, I disagree totally with his editorial in the January 16th, 2015, *Conservogram*, “From the Leadership: Tapping Innovation to Increase Productivity and Conservation.” The focus of national conservation efforts should not be getting more agricultural production from our lands and soils. Rather, it should remain protecting the diverse values and services of agricultural lands that are not traded or well-served in the marketplace. Increasing production is the job of the agricultural industry; the mission of the Natural Resources Conservation Service (NRCS) should remain the protection of soil, water, wildlife, and air.

The mantra “feeding a nine billion world” sounds like a righteous challenge to all of us to produce more food on the limited amount of arable land in this country and throughout the world. Who would disagree that three billion more people will need more food? But it is a false challenge, at least in this country. We have seen over the past 30 years that increasing productivity on agricultural land has not, despite Bruce’s statistics, necessarily translated into more food for starving masses throughout the world, nor even for the poor in this country. It has, however, led to political crises from falling crop prices that resulted in ever more federal initiatives—to wit, federal farm bills and their commodity titles—to maintain the revenue that accrues to some in the farm sector, particularly the agricultural industry that supplies ever fewer big farm producers. The taxpayer is asked to subsidize the sector or otherwise support prices through programs that have helped put more sugar into our foods and now ethanol (from commodity crops) into the tanks of our cars.

Lest we forget, remember that much of the increase in what we produce on our agricultural land goes towards non-food uses or is exported. Most of what we produce on our land is for feed or fuel, not food. Not to say that exports or corn for fuel is not a good thing for farmers and the domestic economy. It helps keep world commodity prices low. Given growing wealth in the developing world, this means that we help make possible more meat and milk products (or luxury goods) for budding middle classes in these countries, as well as more ethanol to fuel their cars. The poor in every country compete with the wealthier for the commodities that produce these luxury goods. Too often, the poor lose in this exchange because they simply do not have the financial clout to sway the markets to provide more affordable food. That is the way the global market works. Raising incomes of the hungry is an economic and political issue. We cannot solve that problem simply by boosting productivity here.

And why should we sacrifice the other values that we enjoy from our agricultural lands for the purpose of creating luxury goods for those who can afford them? At the present time, we are not doing a great job managing our lands—witness the growing nutrient over-enrichment crisis in our near coastal waters, the declines in biodiversity, the need for a national soil health initiative, and the ever intractable job of reducing our greenhouse gas emissions. The Conservation Effects Assessment Project (CEAP), initiated under the leadership of Bruce Knight at NRCS, documents the shortcomings of our past and current conservation efforts and identifies new challenges that we have scarcely begun to address.

And then there is climate change. The Soil and Water Conservation Society has identified the impacts of a rapidly growing climate on agriculture and agricultural conservation and the actions that must be undertaken to address these problems (<http://www.swcs.org/en/policy/>). Avoiding more resource degradation will mean *less* of a focus on production by federal agencies and *more* of a focus on protecting and restoring the products and services that are not rewarded in the marketplace, such as the ecosystem services of temporary water storage for flood mitigation, soil health, wildlife, and nutrient recycling. These are services that do not necessarily translate into greater agricultural productivity and more income for producers in the short run.

I say “necessarily” because more and better conservation should not come as a cost to producers. Farmers, and the federal agencies that support agriculture, should not face the dilemma of “either I produce more product or I practice sustainable agriculture.” This is not a question of technology but rather one of economic structure and incentives. We know the technology that produces more conservation. We also know that these and other sustainable technologies come at a cost to producers, often upfront or short-term. We have not done a good job at tweaking our economic structure to reward farmers for producing those other values that are not assigned by the global market. We have not done a great job linking those in our economy who can benefit from more conservation with the producers and owners of the land who can supply these ecosystem goods and services. This is the real challenge to a nine billion world. And the challenge for the next farm bill.

At-Large Director Bruce Knight replies:

I believe effective conservation practices and higher productivity go hand in hand, and farmers and our society benefit from both. The point is that NRCS must help farmers embrace new conservation technologies as they tackle future needs and opportunities if the organization is to stay true to its motto of “Helping People Help the Land.” As a farmer, I believe there is no higher or more important calling than to provide food for people to eat. Andrew Manale is correct that we haven’t always been successful in getting this food to those who need it most, both here and abroad, but I believe we as farmers are still called to be good stewards of the land we’ve been entrusted with as we do our part in meeting the challenges ahead.