

# CONSERVOGRAM

The newsletter of the Soil and Water Conservation Society

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## 2015 Annual Giving Campaign

For over 70 years, SWCS has been working to protect and restore soil and water resources. Your donations and your volunteering efforts with the Society play a critical role in our work as an advocate for conservation practices and conservation professionals.

As 2015 comes to a close, we ask that you make a meaningful contribution to SWCS, your society working to impact and educate conservationists, law makers, natural resource education leaders, and soil and water scientists globally. Through your donations, we are able to produce events, publications, and projects that bring these individuals together to make progress on our shared conservation goals.

Although natural resource conservation struggles seem to grow, together we have a large impact. Please donate by December 31 to the SWCS Annual Giving Campaign by logging onto [www.swcs.org/give](http://www.swcs.org/give).

Thank you for your continued support and for promoting another 70 years of conservation!



## Nutrient Management and Edge of Field Monitoring Conference Recap

SWCS, in cooperation with the University of Arkansas, The Ohio State University, and Greenleaf Advisors, organized a three-day conference focused on nutrient management and edge of field monitoring. This event took place December 1-3, 2015, in Memphis, Tennessee, and brought together over 220 participants.



The goal of the conference was to provide an opportunity for researchers, conservation professionals, and farmers from across the nation to discuss edge of field monitoring research, nutrient reduction strategies and activities, and conservation programs that have been successful and innovative.

Day one of the event kicked off with a symposium focusing on the Healthy Soils for Healthy Waters initiative, and featured producers, researchers, crops consultants, and industry professionals who shared their knowledge and expertise with participants. Days two and three included nine concurrent breakout sessions focused on plot and farm scale monitoring, water quality protection policy and goals, farmer motivation and decision making to implement water quality protection practices, state nutrient reduction strategies, and watershed projects. The full program and presentations are available online at [www.swcs.org/nutrientmanagement](http://www.swcs.org/nutrientmanagement).

The conference was very well received and there has been a tremendous amount of positive feedback about bringing professionals together to discuss such a timely topic in an educational format.



Dennis Demick, *National Geographic Magazine*, discussing soil, “the richest ecological environment on earth.”

## 71st SWCS International Annual Conference News

Galt House Hotel • Louisville, Kentucky  
July 24-27, 2016

[www.swcs.org/16AC](http://www.swcs.org/16AC)

### Pritchard Lecture Speaker Announced

SWCS is pleased to announce that Chad Pregracke, CNN’s 2013 Hero of the Year, will be kicking off the 71st SWCS International Annual Conference!

Chad Pregracke, founder and president of Living Lands and Waters—a nonprofit river cleanup organization—author, and professional public speaker, is proof one person can make a difference.



Best known for starting out as a young man in East Moline, Illinois, wanting a cleaner waterway, Chad has become the champion for the Mississippi River. Growing up on its banks, he worked as a commercial shell diver during his early years, experiencing the river from the bottom up. Sometimes spending 10 hours a day in the depths and

current of the pitch black waters, he crawled nearly 150 miles of the river bottom over six years. Chad saw its beauty and was frustrated by the neglect. At the age of 17, he decided to clean it up. Twenty-two years later, Chad and his Living Lands and Waters crew have organized and led over 800 cleanups on 23 rivers in 20 states and removed an estimated eight million pounds of garbage. Chad had an idea that evolved into a movement that has helped to restore one of America’s greatest icons, the Mississippi River.

Chad has been recognized by former President, George W. Bush, as a national “Point of Light.” He received a standing ovation at the Kennedy Center from all four living former US presidents for his inspirational message on dreaming big, taking action, persevering, leading, and collaborating. He has been the keynote speaker for college graduations, business conferences and events, classrooms, nonprofit organizations, and more. Named “America’s Hardest Working Person” by Mitchum, Chad’s enthusiasm, sense of humor, and passion amplifies his story and entertains audiences. Ultimately, his message inspires people to believe they can make a difference.

Chad currently lives and works with his wife Tammy dividing their time between life on the Teamwork barge and their home in East Moline, Illinois.

## Call for Presentations Deadline: January 7, 2016

With the holidays quickly approaching, the deadline for the 2016 Annual Conference will be here before you know it. As a reminder, symposia and oral presentations will be accepted through January 7, 2016. Poster presentations will be accepted through March 15, 2016.

[Click here](#) to download the full Call for Presentations, and visit [www.swcs.org/16ac](http://www.swcs.org/16ac) for instructions on how to submit your proposal.



## Thank You, Hugh Hammond Bennett Chapter!

Mark Berkland, SWCS president



I recently had the honor of presenting a check to Dale Threatt-Taylor, president of the SWCS North Carolina Hugh Hammond Bennett Chapter, for the chapter's efforts in helping to make the 70th International Annual Conference a huge success. More than 475 conservationists, representing 14 countries and 46 states attended, largely thanks to the Hugh Hammond Bennett Chapter's extraordinary outreach efforts. On behalf of

the Soil and Water Conservation Society, thank you!

Make sure to join us on July 24-27, 2016, for the 71st International Annual Conference, Managing Great River Landscapes, in Louisville, Kentucky. It is sure to be another successful and educational event. The call for presentations is open, and details can be found at [www.swcs.org/16ac](http://www.swcs.org/16ac). See you then!

## News from DC

Courtesy of SWCS DC Representative John Peterson

- On November 9, 2015, USDA Secretary Tom Vilsack announced that the USDA will invest \$8 million in the Ogallala Aquifer Initiative (OAI) in Fiscal Year 2016 to help farmers and ranchers conserve billions of gallons of water annually while strengthening agricultural operations.
- The US Environmental Protection Agency (USEPA) is partnering with pork and dairy producers, USDA, and environmental and scientific experts to host a competition, The Nutrient Recycling Challenge, to find technologies that can recycle nutrients from livestock waste and create valuable products. A total of up to \$20,000 in cash prizes will be split among up to four winning submissions. [Click here](#) for details.
- The general enrollment period for the USDA's Conservation Reserve Program (CRP) kicked off Tuesday, December 1, 2015, and will remain open until February 26, 2016. CRP is one of the nation's largest voluntary conservation programs and is celebrating its 30th year this month.
- The USEPA has been ordered by the Ninth Circuit Court of Appeals to respond by the end of 2016 to a petition seeking a total ban on uses of the insecticide chlorpyrifos.

## Recognize Your Colleagues Today!

Recognize your colleagues through an award from the Soil and Water Conservation Society. The SWCS awards program recognizes those who have made efforts in the world of conservation through research, education, outreach, and more. There is no better way to honor someone for their commitment and dedication to the future of soil and water resources than nominating them for an award through a prestigious, professional society like SWCS!

Make sure to log onto [www.swcs.org/awards](http://www.swcs.org/awards) today to find an award that best fits your candidate. There are award opportunities for both Society members and nonmembers. All nominations are due by February 29, 2016.

Chapter awards will be coming soon!

## National SWCS Scholarships Are Open to Student Members

Student members, make sure to apply for a national SWCS scholarship today! There are three scholarships available for student members who have been with the Society for at least one year. Don't miss this opportunity to receive funding for your future! Log onto [www.swcs.org/scholarships](http://www.swcs.org/scholarships) for more details.

## SWCS Nebraska Chapter Supports University of Nebraska-Lincoln Soil Judging Team Excellence Fund

A Soil Judging Team Excellence Fund has been setup within the University of Nebraska Foundation. The fund will be used to cover team expenses such as contest registration fees, production of contest training guides, equipment, and travel expenses. Through fundraising activities, the Nebraska SWCS Foundation was able to donate \$1,000 to the fund. Donations can be made by going to [nufoundation.org](http://nufoundation.org) and entering "Soil Judging Team" in the "Give to a Specific Fund" search function.

## International Erosion Control Association Environmental Connect 2016—Free Expo Passes for SWCS Members!



The International Erosion Control Association (IECA) is hosting their annual conference, Environmental Connection 2016, in San Antonio, Texas, February 16-19, 2016.

This is their premier educational conference for the erosion, sediment control, and stormwater industries. [Click here](#) for details.

IECA, our partners in the soil and water conservation field, are graciously offering all SWCS members who register before February 1, 2016, a complimentary expo hall pass! To claim your free expo hall pass, email [laura@ieca.org](mailto:laura@ieca.org) with the subject line "SWCS Expo Hall Pass."

### Upcoming Events

#### [Missouri Natural Resources Conference](#)

Osage Beach, Missouri  
February 3-5, 2016

#### [Michigan Chapter ANR Week Seminar](#)

Location TBD  
March 4, 2016

#### [SWAMP THINGS: Installation and Restoration of Temporary Wetland Crossings](#)

Sturbridge, Massachusetts  
March 11, 2016

## Corporate Member Spotlight: Dairy Management Inc.

As a corporate member of the Soil and Water Conservation Society (SWCS), Dairy Management Inc. (DMI) works to showcase the contributions of America's 45,000-plus dairy farm families and the US dairy industry to feeding our nation and the world while continuing to responsibly use and conserve our natural resources.

DMI manages the national dairy checkoff program, which represents America's dairy farmers and those who provide America's dairy products from around the world. The dairy checkoff aims to protect and grow sales—including efforts to help maintain and build public trust in dairy products, farmers, and the industry—through strategic partnerships, consumer confidence efforts, and nutrition and product research.

These efforts include supporting the work of the Innovation Center for US Dairy, which was launched in 2007 under the leadership of dairy farmers, to bring together US farmers and businesses to provide people with the nutritious dairy foods they want in a way that makes the dairy community, people, and planet economically, environmentally, and socially better.

This commitment underscores the vital role of milk and dairy foods within a global food system that supports healthy people, communities, economies, and ecosystems. Today, the US dairy industry is playing a leading role in building a more sustainable food system and modeling an effective, precompetitive approach that other food sectors can follow.

America's dairy farmers produce more milk than ever before due to innovations in cow comfort, cow nutrition health, and breeding. Between 1994 and 2007, milk production quadrupled in size, but today uses 90% less cropland, consumes 65% less water, and emits 63% fewer greenhouse gases.

"Dairy farmers have always applied the latest science, research, technology, and tools to do more with less," said Rex Martin, senior vice president of owner relations with DMI. "No-till farming, water recycling, and anaerobic digester systems are just a few of the many best practices being used on farms across the country today."

That's why the US dairy industry and DMI are pleased to join with SWCS to promote the positive impact the industry has on people's lives and its commitment to preserving our natural resources.

**DMI** DAIRY MANAGEMENT INC.™

## Chapter Spotlight: Southern New England Chapter (SNEC)

**Chapter location:** Connecticut, Massachusetts, and Rhode Island

**Current chapter president:** Tom Akin, state resource conservationist, USDA Natural Resources Conservation Services (NRCS)

**History of the chapter:** SNEC was incorporated in 1946 and hit its peak in the 1980s, but membership declined as changes in farming practices and at NRCS affected SWCS as a whole. The chapter fell into disarray in FY 2015, but we decided to rally last spring because the SWCS mission is too important to let the chapter dissolve. We recruited interim officers and elected a full Board for FY 2016. We're working on a short-term plan to rebuild the SNEC, focused on providing more professional development opportunities and supporting upcoming conservationists. The longer-term strategic plan will be more complicated; we need to revamp our focus to ensure that the SNEC will be relevant in the states we serve.

**Please describe an upcoming event your chapter is looking forward to holding. What will members gain from this experience?** We're excited about our 2016 Winter Conference, SWAMP THINGS: Installation and Restoration of Temporary Wetland Crossings (March 11, 2016, in Sturbridge, Massachusetts). Swamp mats have been used for several decades by forestry and linear energy projects to facilitate low-impact, temporary equipment access across wetlands and waterways, but proper permits are not always in place. SWAMP THINGS will include a regulatory round-up in which permitting requirements at the federal, state, and local level will be presented. We're looking for experienced professionals to present case studies and exhibitors who have a direct connection to swamp mats—product manufacturers and distributors, contractors who install swamp mats and restore sites after removal, and consultants who design and permit projects. Our goal is to educate attendees about applicable permitting requirements, provide guidance on avoidance and minimization criteria, and demonstrate that temporary wetland crossings can be installed without long-term adverse impacts through proper planning and restoration.

**What other activities has your chapter been involved in this year?** Our 2015 Summer Meeting—A RIVER RUNS THROUGH IT: Daylighting of the Neponset River at Gillette Stadium—was as fun as it was fascinating, and it was handed to us on a silver platter. We got a late start planning, so we reached out to the Ecological Landscape Alliance (ELA) for help. Proving that it never hurts to ask, ELA executive director Peggy Lewis and board member Tom Benjamin (the landscape architect on the daylighting project) made all the arrangements; on a gorgeous day in August, Tom took us for a tour of the restoration site and followed it up with a presentation on various project specifications.

**What is your membership's preferred method of communication?** We do a little of everything. Election ballots via USPS, as well as Save the Date postcards for SWAMP THINGS, but most event information is sent via e-mail. We intend to make more use of our website. We haven't made the leap into the world of social media yet, but we'll probably look into it as a way to promote SWAMP THINGS.

**What would you say are the most important current conservation concerns for your region?** That's the \$64,000 question! Farming has changed, and the way farmers educate themselves has as well. We can still provide valuable information to that community, but the time has come for the SNEC to shift some of the emphasis from SOIL to WATER. With all the development around here, protecting the quality and quantity of our water supply is an increasingly significant issue.

**What advice would you give to a new chapter?** I feel like we are a new chapter! We should contact a more stable chapter and pick their brains.

**For questions about the chapter/membership, please contact:** Christine Odiaga, SNEC executive director, [info@swcssnec.org](mailto:info@swcssnec.org).

*Save the Date:*

**FRIDAY 11 MARCH 2016**

**SWCS Southern New England Chapter  
Winter Conference:**

**"SWAMP THINGS"**



**INSTALLATION and RESTORATION of TEMPORARY  
WETLAND CROSSINGS**

**Public House Historic Inn - Sturbridge, MA**

## New Members

Welcome members who joined in November!

### Arkansas—Razorback

Dan Prevost  
Trenton Roberts

### Canada—Ontario

Amy Langford  
J. Thompson

### Connecticut/Massachusetts/Rhode

Island—Southern New England Chapter  
Tom Brummett

### Iowa

Emily Lawler  
Kaitlin Schott

### Illinois—University of Illinois-Champaign

Student Chapter  
Sabrina Kelch

### Indiana—Hoosier

Mark Anson  
Archie Sauerheber  
Emily Smith

### Kentucky—Bluegrass

Megan Baker

### Louisiana—University of Louisiana Lafayette

Student Chapter  
Miles Guidry  
Ray Reich

### Michigan

Rachael Horn

### Minnesota

Heidi Peterson  
Kyle Steele

### Montana

Kurt Reinhart

### New Hampshire/Vermont

Michael Mezzacapo

### New Jersey—Firman E. Bear

John Parke

### New York—Empire State

Jason Cuddeback  
Paul Lausell

### Oregon

Thomas Salzer

### South Dakota

Shannon Osborne

### Virginia

Charles Mitchem Jr.  
Chad Wentz

### Wisconsin

Melissa Keenan

### Wyoming

Kelsey Beck

## Corporate Members

Please contact [corporate.info@swcs.org](mailto:corporate.info@swcs.org) for more details.

### Gold



### Silver



### Bronze



## From the Leadership

### Green Infrastructure: Better Decisions for Enhanced Sustainability and Climate Resilience

By *Wendi Goldsmith, Northeastern Director*



Green infrastructure merits further evaluation and expanded use to accomplish sustainability and climate resilience goals. Green infrastructure design has been practiced for millennia, and documentation includes textbooks, journal articles, and even Natural Resources Conservation Service design manuals. It consists of using vegetation in purposeful construction for intended functions including slope

stabilization, river restoration, nutrient removal, and more. Rooted in traditional methods dating back thousands of years around the globe, it has evolved to include advances in science, analysis, and design, and today includes a diverse and flexible set of practices.

As I write this, the largest-ever delegation of international leaders, top scientists, and policy-makers are in the Paris global climate meetings. I can't help but wonder, while remaining hopeful, whether the meetings will produce practical and effective actions. As with most SWCS members, my professional training and experience provide me special insight, and perhaps bias. My professional insight leaves me with some questions:

- Can conservation practitioners assist with the complex set of decisions related to managing soil and water to better address sustainability and resilience in the face of changing climate conditions?
- Who better than us?

Indeed, it seems that those of us who hold a deep understanding of the social and economic, as well as technical, factors that influence agronomy are indispensable to practical solutions. Policy-makers have interest in climate change solutions to improve atmospheric greenhouse gas levels and to promote physical resilience of vulnerable river corridors, not to mention reliability of food supply and production capacity, yet progress remains slow. Issues such as agricultural conservation, urban infrastructure compliance, and sustainable development are generally understood to share core values, but are weakly linked to current climate policy. Conservation practices (including riparian buffers, cover crops, and edge-of-field measures) are praised for reducing nutrient and sediment discharge, but their benefits in light of climate change have not played heavily in strategy for negotiating or investing in climate-related solutions. Policy-makers may have overlooked large potential solutions related to how meaningful shifts in land management practices can produce climate-adapted

results, namely through plants' capacity to capture and process energy inputs from the sun and convert them to soil organic matter, stabilizing roots and providing good surface cover. Notably, these solutions appear able to simultaneously remove atmospheric carbon while improving resilience to climate impacts including floods, droughts, and erosion.

Improved understanding of climate mitigation, adaptation, and resilience-beneficial functions, followed by practitioner uptake, is needed to better align current investments in urban and rural areas. Environmental, social, and economic values appear to align well, and there is potential for significant (and rapid) performance improvement in terms of sustainability and climate resilience.

Many studies have recognized the value of vegetative construction measures to aid in nutrient management within riparian corridors. Wetland areas, especially large-scale systems along rivers and coasts, are recognized for their carbon sequestration roles throughout geologic time. Green infrastructure is used increasingly for urban stormwater management, river and coastal corridor stabilization and enhancement, and flood risk reduction. Energy inputs simultaneously contribute to maintenance and self-repair through mechanical energy dissipation and regrowth, while also providing ecosystem services.

Green infrastructure is capable of both harnessing photosynthesis and dissipating energy from moving water. Through photosynthesis, plants harvest energy from the sun for growth, allowing them to function as primary producers in the food web, and to alter the biomechanical properties of soil and landforms. The implications of photosynthesis are not routinely considered by decision-makers, though they are self-evident to anyone with a green thumb. The energy involved in natural systems and processes can be harnessed as a "cost-free" resource if approached wisely. For example, each rainstorm represents an interaction of kinetic energy interacting with the land surface, with each raindrop striking the soil surface like a hammer, sending soil particles into the air and carrying them downhill via running water, forming rivulets and gullies as intensity increases. Intervening in this process is vegetation, which intercepts raindrops and dissipates much of their impact energy through elastic deformation of plant leaves and stems, while roots reinforce soils against erosion from surface runoff.

Every land area (where vegetation can be found) is simultaneously exposed to energetic forces, but also the energy processing by which plants, through photosynthesis, function to balance and mitigate their impacts. Facing threats from changing climates, a practical strategy could involve purposeful management of vegetation and its ability to tap local photosynthetic potential for chemical energy conversion: plants take atmospheric carbon and store it for free.

Managing mechanical energy is important in addressing instability that may be locally exacerbated by climate change effects. Vegetated areas harness solar inputs daily, using it to recover from physical impacts: plants use solar energy to offset mechanical disturbances. Additionally, plant community interactions with physical processes on site reduce erosion, increase rainfall infiltration, promote soil organic matter accumulation, and improve nutrient storage and exchange, thereby supporting and promoting increased productivity of an appropriate food web. All the while, increasingly efficient energy capture, conversion, and dissipation can be observed, and systems that are resilient to abrupt or catastrophic change tend to develop. These positive feedback cycles can ideally be managed to satisfy policy objectives related to sustainability and resilience.

Perhaps most importantly, green infrastructure approaches to meeting existing needs (using available funding) can potentially address the financial requirements for solving climate problems. Many recent studies and remote sensing-based models suggest that removing marginal land from cultivation can save farmers money while slashing nutrient runoff. In urban areas, green infrastructure can handle increasingly intense rainfall volumes, adding capacity to floodprone drainage systems. Such measures could additionally provide many cobenefits for climate and disaster resilience and broader ecosystem services. A carbon capture and sequestration approach based on green infrastructure could pay for itself by delivering benefits such as stabilization and resilience, as well as pollutant removal from air and water. Financing for such efforts could be derived from evaluation of avoided disaster losses in order to structure investments, potentially linking private and government funding mechanisms through public-private partnerships. Insurance costs (potentially to include crop insurance premiums paid by farmers and/or flood insurance premiums paid by owners of vulnerable property benefiting directly or indirectly) reflecting reduced risk and/or improved resilience could provide substantial economic incentives.

Green infrastructure benefits in terms of energy processing and carbon storage are categorically overlooked in many policy and practitioner decisions. Economic resources applied to prevent (or recover from) climate change impacts, or to address other infrastructure needs (such as stormwater management) could simultaneously

resolve greenhouse gas levels. Widespread use of green infrastructure in rural and urban areas could essentially pay for itself, while preparing communities to better endure and recover from future climate change impacts and other inevitable natural disasters, all while storing atmospheric carbon in soils and plants.

