



# MEETING PROGRAM

11<sup>th</sup> SER MIDWEST-GREAT LAKES CHAPTER MEETING

April 12 to April 14, 2019

Central College, Pella, Iowa



Pella, Iowa

## **WELCOME**

Welcome to America's Dutch Treasure and the Eleventh Annual Meeting of the Society for Ecological Restoration's Midwest-Great Lakes Chapter. This meeting holds a special significance for the Chapter because it marks the first time we have held a meeting in Iowa. Our primary meeting goal is to explore how to foster the development of innovative restoration connections ecologically, culturally, and professionally to enable the field of restoration to meet future challenges. Our secondary meeting goal is to bring together all who are interested in ecological restoration and contribute to advancing the field of ecological restoration. Our scientific agenda for this three day meeting features a keynote presentation, a plenary session, four symposia, three workshops, 29 contributed poster presentations, 29 contributed oral presentations, and four offsite field trips, on a range of topics that reflect our meeting theme. This is the fourth year we are able to offer meeting attendees continuing education credits. Additionally, Our Meeting Hosts (Central College) will offer a special plenary session that will provide an overview of the first seven years research of results of the Prairies for Agriculture Project that is evaluating the benefits of prairie within the agricultural landscape. Our meeting hosts will also highlight how this ambitious research project is providing an excellent educational opportunity for undergraduate students at Central College. We hope you will enjoy another outstanding chapter meeting.

## **2019 ANNUAL MEETING COMMITTEE**

The Chapter extends its sincere appreciation to the members of the Annual Meeting Committee for their time and effort in coordinating and developing the Eleventh Annual Chapter Meeting: *Rocky Smiley (Chairperson), Todd Aschenbach, Russ Benedict, Hua Chen, Mary Damm, Mathew Dornbush, Steve Glass, Martha Holzheuer, Chris May, Jessica Miller, Keith Summerville, and Paul Weihe.*

## **ACKNOWLEDGEMENTS**

We are very grateful for the generous support provided by our meeting hosts and sponsors that enabled us to hold a sponsorship reception, support student participation, defray food costs, and make our Annual Meeting as environmentally friendly as possible. We greatly appreciate the contributions of the members of the Local Planning Committee (Russ Benedict (Chairperson), Susan Canfield, and Paul Weihe) who assisted with planning the meeting and provided onsite help. We thank Rebecca Shoer for her help with setting up the online registration page. We thank Martha Holzheuer for her work in enabling us to offer continuing education credits through SER, the Society of American Foresters, and the International Society of Arboriculture. We also thank Cindy Crosby, #ForestProud, Paul Gobster, Island Press, Mike Lemke, and Chris Lenhart for their donations in support of our student grant program. We are thankful for the participation of the meeting presenters, moderators, tour leaders, field trip leaders, volunteers, and attendees at our Eleventh Annual Meeting.

**MEETING HOST**



Pella, Iowa

**RUE ANEMONE SPONSOR**

**TALLGRASS PRAIRIE AND OAK SAVANNA FIRE  
SCIENCE CONSORTIUM**

**PRAIRIE-TRILLIUM SPONSORS**

**ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.**

**ERNST SEEDS**

**PRAIRIE RESTORATIONS, INC.**

**STANTEC**

**THE NATURE CONSERVANCY**

**BLOODROOT SPONSORS**

**ALLENDAN SEED COMPANY**

**BLANK PARK ZOO**

**IOWA NATIVE PLANT SOCIETY**

**IOWA NATURAL HERITAGE FOUNDATION**

**IOWA PRAIRIE NETWORK**

**MYCOBLOOM**

**UNIVERSITY OF NORTHERN IOWA TALLGRASS PRAIRIE  
CENTER**

**STANLEY CONSULTANTS, INC.**

## 2019 MEETING SCHEDULE OVERVIEW

### Thursday April 11

6:30 - 9:30 pm	Student Social (George's Pizza and Steakhouse)
----------------	--

### Friday April 12

9:00 am - 6:30 pm	Registration (hallway of Graham Conference Center)
8:00 am - 10:00 am	Bee Identification Workshop (Vermeer Science Center 288)
9:30 am - 11:30 am	Pollinator Habitat Restoration and Quality Assurance Strategies Workshops (Maytag Student Center Boat Room and Weller Room)
11:45 am - 1:45 pm	Lunch, Business Meeting, and Keynote Presentation (Graham Conference Center Banquet Hall)
1:45 pm - 1:55 pm	Break
1:55 pm - 3:55 pm	Symposia (Maytag Student Center Boat Room, Weller Room, Moore Room, Van Emmerik Theatre)
3:55 pm - 4:05 pm	Break
4:05 pm - 5:25 pm	Concurrent Oral Presentation Sessions (Maytag Student Center Boat Room, Weller Room, Moore Room, Van Emmerik Theatre)
6:00 pm - 7:00 pm	Chapter Board of Directors Meeting (Graham Two)
5:30 pm - 7:30 pm	Poster Session & Sponsorship Reception (Graham Conference Center Banquet Hall)

### Saturday April 13

7:00 am - 11:00 am	Registration (hallway of Graham Conference Center)
7:30 am - 8:30 am	Continental Breakfast (Graham Conference Center Banquet Hall)
7:30 am - 5:45 pm	Posters and Sponsorship Exhibits (Graham Conference Center Banquet Hall)
8:30 am - 11:45 am	Meeting Host Plenary Session (offsite)
11:45 am - 1:00 pm	Lunch and Awards Ceremony (Graham Conference Center Banquet Hall)
1:00 pm - 1:10 pm	Break
1:10 pm - 3:10 pm	Pollinator Habitat Restoration Plenary Session (Graham Conference Center Banquet Hall)
3:10 pm - 3:40 pm	Break (Maytag Student Center Lobby)
3:40 pm - 5:00 pm	Concurrent Oral Presentation Sessions (Maytag Student Center Boat Room, Weller Room, Moore Room, Van Emmerik Theatre)
6:00 pm - 9:00 pm	No-Host Social (Cellar Peanut Pub)

### Sunday April 14

8:00 am - 11:30 am	Neal Smith National Wildlife Refuge and DeCook Bison Ranch Field Trips
12:15 pm - 3:30 pm	Snyder Heritage Farm and STRIPS Project Site Field Trips

*Additional details related to offsite field trips are provided in their abstracts below*

**All times are central daylight time**

## **WORKSHOPS – FRIDAY APRIL 12, 2019**

### **Introduction to Identification of Bees Found Within the Midwest (Vermeer Science Center 288)**

**Time: 8:00 am to 10:00 am**

**Instructor:** Mena, Paulina A. Central College, Pella, Iowa. Email: menap@central.edu

This workshop will provide participants with an introduction to identifying bees to genus. It will consist of two parts. The first part of the workshop will consist of a general overview of bee families and highlighting distinguishing characteristics. The second part of the workshop will consist of learning how to identify bees using the Michener, McGinley, and Danforth genera of the North and Central America key. Participants will become familiar with diagnostic characters used in the key. Participants will be using bees collected from central Iowa and therefore it will be particularly useful for those interested in bees of the Midwest.

### **On-farm Pollinator Habitat Restoration Using Organic Site Preparation Methods (Maytag Student Center Boat Room)**

**Time: 9:30 am to 11:30 am**

**Instructors:** Foltz Jordan, Sarah and Sarah Nizzi. Xerces Society, Duluth, Minnesota. SJF Email: sarah.foltz@xerces.org; SN Email: sarah.nizzi@xerces.org

There is growing interest from both farmers and restorationists in wildflower establishment using organic (herbicide-free) site preparation methods. This workshop will provide an overview of seven organic site prep approaches (solarization, smother cropping, sheet mulching, repeated shallow cultivation, soil inversion, organic herbicides, and sod removal), including our successes and failures from a series of trials across the Midwest that were conducted mostly on farmlands. We will also cover a wide variety of exciting on-farm habitat installation options for farmers and conservation planners, including beetle banks, insectary strips, native flowering hedgerows, and more. Strategies for protecting pollinator habitat from pesticide drift will also be shared in the form of stories from farmers we have worked with in Minnesota and elsewhere. We will conclude the workshop with an overview of farm-bill and other relevant programs for pollinator conservation.

# **Employing Innovative Quality Assurance Strategies in Ecological Restoration – a Workshop on Best Practices in Conducting Quality Control Field Checks During Restoration Monitoring (Maytag Student Center Weller Room)**

**Time: 9:30 am to 11:30 am**

**Instructors:** Fevold, Brick M.<sup>1</sup>, Craig Palmer<sup>1</sup>, Adam Bucher<sup>1</sup>, and Louis Blume<sup>2</sup>.  
<sup>1</sup>CSRA, a GDIT Company, Alexandria, Virginia, <sup>2</sup>U.S. Environmental Protection Agency, Chicago, Illinois. BF Email: brick.fevold@gdit.com; CP Email: craig.j.palmer@gdit.com; AB Email: adam.bucher@gdit.com; LB Email: blume.louis@epa.gov

Have you ever questioned the reliability of your monitoring data? (Be honest!). In ecological restoration projects, reliable data are needed to accurately assess ecosystem conditions, track progress toward stated restoration goals, determine the effectiveness of restoration practices, and provide evidence of restoration success. However, restoration projects often lack sufficient quality control (QC) assessment necessary to estimate uncertainty and facilitate the collection of data of acceptable quality to support sound decision making. In this workshop, we will share applied QC strategies for assessing, improving, and documenting the quality of ecological data. Participants will be invited to engage with the speakers, and each other, in creative exercises demonstrating the concepts and applications of QC field-check procedures. Quality control field checks are an essential component to any monitoring program and can provide the empirical data necessary to estimate uncertainty and evaluate conformance with established data quality acceptance criteria. Participants will gain an understanding of quality assurance best practices relevant to restoration project monitoring. A compendium of the presentations, exercises, and recommended resources will be made available to all participants. Guidance presented in this training opportunity is based on the results of interagency collaboration and published resources. Funding is provided by the U.S. EPA Great Lakes National Program Office and the Great Lakes Restoration Initiative.

# KEYNOTE PRESENTATION – FRIDAY APRIL 12, 2019

**Laura Jackson**  
Tallgrass Prairie Center  
University of Northern Iowa  
Cedar Falls, Iowa

## ***ECOLOGICAL RESTORATION AND RAPID ANTHROPOGENIC CHANGE: THE TALLGRASS PRAIRIE OF THE FUTURE***

Abstract: The Midwest tallgrass prairie ecosystem is possibly the most highly altered landscape on the planet. It also holds a special significance for ecological restoration because it is considered the birthplace of this professional discipline. The field of ecological restoration is at a crossroads as we cope with the accelerating consequences of climate change and other widespread anthropogenic forces. Can ecological restoration remain a relevant goal in a warming world, and what would the restored tallgrass prairie of the future look like? To protect and restore some authentic version of this ecosystem for current and future generations, we will need more practitioners, scientists, students, and passionate volunteers. Additionally, future restoration efforts will be dependent on recruiting more allies from outside our traditional spheres.



Biography: Laura Jackson is the Director of the Tallgrass Prairie Center and a Professor of Biology at the University of Northern Iowa. She received a bachelor's degree in Biology from Grinnell College and a Ph.D. in Ecology from Cornell University. Her research has focused on the restoration of biological diversity in agriculture landscapes and processes governing seedling establishment

in tallgrass prairie restoration. She is a coeditor with Dana Jackson of *The Farm as Natural Habitat: Reconnecting Food Systems with Ecosystems* (2002, Island Press). She has served on advisory boards for the Leopold Center for Sustainable Agriculture, the Iowa State Preserves, and Monarch Joint Venture.

## SYMPOSIA - FRIDAY APRIL 12, 2019

### Innovative Science Communication to Build Connections in Restorations (Maytag Student Center Van Emmerik Theatre)

**Organizer:** Quiram, Gina. Minnesota Department of Natural Resources, St. Paul, Minnesota. Email: [Gina.Quiram@state.mn.us](mailto:Gina.Quiram@state.mn.us)

**Presenters:** Benage, Megan M., Minnesota Department of Natural Resources, New Ulm, Minnesota. Russ Benedict, Central College, Pella, Iowa. Louis J. Blume, U.S. Environmental Protection Agency, Chicago, Illinois. Craig Maier, Tallgrass Prairie & Oak Savanna Fire Science Consortium, Madison, Wisconsin.

In a world with growing populations, changing climates, and increasing pressures on our natural landscapes, maintaining and increasing support for ecological restoration is critical. Every year we learn more about the science behind restoring and enhancing natural systems to help us face these challenges. The problem is, restoration is truly an interdisciplinary endeavor that requires support from a lot of people and scientists have a reputation for being really bad communicators. While peer-reviewed publications and conference presentations are invaluable and necessary ways for scientists to share their findings with others, more and more restoration scientists are finding value in innovative science communication. The community of stakeholders involved in, and benefited by, ecological restorations is diverse and not everyone has a science background. As restoration scientists, the ball is in our court to work to communicate the value of our work and the science behind it. By effectively engaging a variety of audiences we can build connections among everyone who impacts or is impacted by ecological restorations. The speakers in this session have been using targeted and creative communication to reach the broad audiences including policy makers, funders, regulatory agencies, public land users, partners, and future practitioners. The speakers will share the successes and challenges they have experienced in pushing boundaries to communicate science as a way to build connections and support for restorations.

Time	Presenters	Title
1:55 – 2:00 pm	<b>Quiram, Gina</b>	Symposium Introduction
2:00 – 2:20 pm	<b>Quiram, Gina</b>	Communicating restoration outcomes to diverse audiences: thinking beyond practitioners
2:20 – 2:40 pm	<b>Maier, Craig</b>	Designing a field day to be more than a day in the field
2:40 – 3:00 pm	<b>Benage, Megan</b>	The prairie pod bears fruit: challenges and successes of communicating science through podcasts
3:00 – 3:20 pm	<b>Blume, Louis</b>	Communication and collaboration supporting restoration outcomes of the U.S. EPA's Great Lakes Restoration Initiative
3:20 – 3:40 pm	<b>Benedict, Russ</b>	Preparing undergraduate students for careers in restoration and conservation: the necessity of a multi-faceted approach
3:40 – 3:55 pm		Question and answer session



## **Working Lands: An Innovative Framework to Expand and Improve Ecological Restoration in the Midwest (Maytag Student Center Boat Room)**

**Organizer:** Thomforde, Stephen. Prairie Restorations Inc., Northfield, Minnesota. Email: sthomforde@prairieresto.com

**Presenters:** Damm, Mary C., Prairie Quest Farm, McGregor, Iowa. Karl Hawkanson, University of Minnesota Extension, Minneapolis, Minnesota. Kyle Johnson, Diversity Landworks LLC., Freeburg, Minnesota. Dan MacSwain, Washington County Natural Resources, Stillwater, Minnesota. Sean Wickhem, Landbridge Ecological, St. Paul, Minnesota.

Ecological restoration has become exponentially more common over the past decade. However, continual expansion of restoration is limited by available land and financial resources. Concepts of “working lands” have recently emerged as a means to expand restoration, primarily by off-setting installation and management costs while at the same time providing quantifiable and qualitative ecological services such as food production and soil-building. In theory, working lands can increase ecological integrity, diversity, ecosystem function and service while providing incentives for both private and public restoration projects. This symposium begins by introducing scientific concepts that validate working land initiatives (i.e., disturbance, keystone species, connectivity, nutrient regulation, ecosystem function and service) in ways that suggest all large-scale grassland-savanna restorations require work, aka resistance, to maximize ecological integrity. These concepts are reinforced via case studies of Midwest working-land restoration projects involving haying, grazing, and silviculture. Practitioners discuss designing native pastures, hayfields and businesses that benefit a variety wildlife, provide numerous ecosystem services, and achieve agricultural objectives. Presenters will also share research results related to the positive impacts of working lands to increase diversity and ecosystem services. Practitioners will also discuss current economic realities and potentials for future market-based conservation. The symposium ends with an audience discussion on working lands, obstacles and opportunities to benefit land, water, biodiversity, and agriculture communities, while supplying consumers with high quality products produced in restoration projects.

<b>Time</b>	<b>Presenters</b>	<b>Title</b>
1:55 – 2:00 pm	<b>Thomforde, Stephen</b>	Introductory comments
2:00 – 2:20 pm	<b>Thomforde, Stephen</b>	Far from equilibrium dynamics and the science behind working lands
2:20 – 2:40 pm	<b>Damm, Mary C.</b>	Plant responses to cattle grazing in tallgrass prairie reconstructions
2:40 – 3:00 pm	<b>MacSwain, Dan &amp; Sean Wickhem</b>	Obstacles and opportunities for haying prairie on metro lands
3:00 – 3:20 pm	<b>Johnson, Kyle</b>	Obstacles and opportunities for goat grazing in afforesting lands
3:20 – 3:40 pm	<b>Hawkanson, Karl</b>	Building conservation grazing capacity: supply, demand, infrastructure and the business of ecological grazing
3:40 – 3:55 pm		Question and answer session

## Overcoming Barriers to Ecological Restoration on Farms for Soil, Water, and Wildlife in the Upper Midwest (Maytag Student Center Weller Room)

**Organizer:** Jackson, Laura L. University of Northern Iowa Tallgrass Prairie Center, Cedar Falls, Iowa. Email: [laura.jackson@uni.edu](mailto:laura.jackson@uni.edu)

**Presenters:** Meissen, Justin, University of Northern Iowa Tallgrass Prairie Center, Cedar Falls, Iowa. Matthew O'Neal, Iowa State University, Ames, Iowa. Richard Sloan, Corn and Soy Farmer, Rowley, Iowa. David Wolfe, Environmental Defense Fund, Austin, Texas.

The almost complete conversion of diverse, deep-rooted perennial prairie vegetation to monocultures of row crops in the upper Midwest has resulted in soil loss, degradation of soil health, degradation of surface waters and the Gulf of Mexico, and increasing vulnerability to flooding, exacerbated by climate change. Even wildlife once considered well adapted to modern agriculture, such as grassland birds, monarch butterflies and wild bees, have suffered extended population declines. Ecological restoration can address these issues in a meaningful way, but not at a large enough scale to reverse these declines. The speakers present current efforts at different scales and different perspectives. An Iowa farmer describes how and why he decided to convert a small portion of his row crops fields to contour prairie strips. Data from the Science-based Trials of Row crops Integrated with Prairie Strips (STRIPS) project quantifies benefits of this practice for soil, water and wildlife that are disproportionate to the land area required, and relatively inexpensive. Research in eastern Iowa assesses the success and tests the cost effectiveness of the widely-adopted Pollinator Initiative of the Conservation Reserve Program, in the context of a highly volatile native seed market. Finally, Environmental Defense Fund, a multinational environmental organization confronts the special difficulties of reversing habitat loss of the Monarch butterfly, resulting from land use trends that are more a reflection of the global food system, than the choices of individual farmers.

Time	Presenters	Title
1:55 – 2:00 pm	<b>Jackson, Laura L.</b>	Introductory comments
2:00 – 2:25 pm	<b>Sloan, Richard</b>	Adding diversity to Iowa cropland
2:25 – 2:50 pm	<b>O'Neal, Matthew</b>	Prairie STRIPS improve soil and nutrient retention as well as increase wildlife habitat
2:50 – 3:15 pm	<b>Meissen, Justin</b>	From plan to planting: assessing outcomes in a large agricultural conservation program
3:15 – 3:40 pm	<b>Wolfe, David</b>	Monarch recovery: moving beyond the paradigm of incentive-based conservation on private lands
3:40 – 3:55 pm		Question and answer session

## **Incorporating Fire Research Into Land Management and Restoration Work Across the Midwest (Maytag Student Center Moore Room)**

**Organizers:** Johnson, Yari, University of Wisconsin-Platteville, Platteville, Wisconsin. Craig Maier, Tallgrass Prairie and Oak Savanna Fire Science Consortium, Madison, Wisconsin. YJ Email: johnsony@uwplatt.edu; CM Email: cmaier.tpos.firescience@gmail.com

**Presenters:** Aschenbach, Todd A., Grand Valley State University, Allendale, Michigan. Elizabeth Hill, Grinnell College, Grinnell, Iowa. Jack McGowan-Stinski, Lake States Fire Science Consortium, Grand Marais, Minnesota.

Land managers and restoration ecology practitioners across the Midwest have unanswered burning questions about when to burn, how to burn, and what can be achieved with burning. There are many opportunities to answer these questions using existing prescribed fire practices. Please join four experts from across the Midwest-Great Lakes region to discuss how current prescribed fire work can be used to help answer: (1) What is the best season to burn invasive species?; (2) How can burning benefit threatened and endangered species?; (3) What considerations are needed to incorporate research into existing prescribed fire practices?; and (4) How do we get more fire on the landscape to help restore fire-dependent ecosystems? Presenters will share examples of successful research. Attendees are encouraged to ponder whether there are opportunities to answer broader questions across the region by pooling data from prescribed fire activities.

<b>Time</b>	<b>Presenters</b>	<b>Title</b>
1:55 – 2:00 pm	<b>Maier, Craig and Yari Johnson</b>	Incorporating fire research into land management and restoration work across the Midwest
2:00 – 2:20 pm	<b>Hill, Elizabeth</b>	Lessons from prescribed fire research at the Conard Environmental Research Area
2:20 – 2:40 pm	<b>Aschenbach, Todd</b>	Restoration in Michigan: integrating teaching, research, and management
2:40 – 3:00 pm	<b>Johnson, Yari</b>	Incorporating prescribed fire research into land management at a regional comprehensive university
3:00 – 3:25 pm	<b>McGowan-Stinski, Jack</b>	Evaluating the success of restoration and management techniques for fire-dependent oak/pine barren sites in Michigan
3:25 – 3:55 pm		Question and answer session

## CONCURRENT ORAL PRESENTATION SESSIONS FRIDAY APRIL 12, 2019

### Understanding Our Restorations: Basic Research As a Link for Improved Restoration Practices. 4:05 pm – 5:25 pm. Maytag Student Union Boat Room. Moderator: Amy McEuen

4:05 – 4:25	<b>Lamar, Sarah K.*</b> & C.G. Partridge	Comparing germination success of invasive baby's breath ( <i>Gypsophila paniculata</i> ) found in distinct ecoregions
4:25 – 4:45	<b>Lowry, Jessie*</b> & A. Tague	Iowa hunters: leading the way
4:45 – 5:05	<b>Slater, Julie M.*</b> & G.M. Davies	Hydrochemical gradients in Ohio's <i>Sphagnum</i> -dominated peatlands
5:05 – 5:25	Lindholm, S. & <b>Amy McEuen</b>	Tallgrass prairie restoration at the Emiquon Preserve: diverging floristic quality outcomes

### Trophic Level Connections in Ecological Restoration. 4:05 pm – 5:05 pm. Maytag Student Union Weller Room. Moderator: Emily K. Mohl

4:05 – 4:25	<b>Mohl, Emily K.,</b> M.Q. Johnson, Z. Lor, K.E. Noel, J. Nuzzo, D. Vargas, & S.C. Povilaitis	Plasticity and population differentiation in common milkweed: implications for restoration
4:25 – 4:45	<b>Herakovich, Heather*</b> & H.P. Jones	The effects of bison reintroduction on the grassland bird community in tallgrass prairie
4:45 – 5:05	<b>Holthuijzen, Wieteke A*</b> , B.N. Flint, J.H. Plissner, K.J. Rosenberger, C.A. Wolf, & H.P. Jones	Fly on the wall: monitoring ecological impacts of invasive house mice ( <i>Mus musculus</i> ) on Midway Atoll NWR via arthropod diversity

***Student presentations are denoted with an \* following the name of the presenter***

# CONCURRENT ORAL PRESENTATION SESSIONS

## FRIDAY APRIL 12, 2019

### Restoration in Working Landscapes: Linking Conservation Approaches with High Need Areas. 4:05 pm – 5:05 pm. Maytag Student Union Van Emmerik Theatre. Moderator: Line Rochefort

4:05 – 4:25	<b>Mackert, Morgan M.*</b> & M.A. Harris	An oasis in the desert: evaluating contour buffer and filter strips within agricultural fields as habitat for native bees in Iowa
4:25 – 4:45	<b>Kingsbury, Jo*</b> , G.M. Davies, C. Tonra, & R. Macleod	Restoring tropical grasslands for biodiversity in Beni Bolivia - Understanding links between disturbance, habitats and birds across the cerrado-grassland gradient
4:45 – 5:05	<b>Rochefort, Line, S.</b> Lefebvre-Ruel, S. Jutras, D. Campbell, M. Leblanc, & P. Whittington	Ecohydrological connectivity gradients and their restoration on the periphery of extracted peatlands

### Restoration of Rivers and Streams: Nature's Natural Connectors. 4:05 pm – 5:25 pm. Maytag Student Union Moore Room. Moderator: Robert B. Gillespie

4:05 – 4:25	<b>Grieser, Kevin A., S.</b> Hoehne, & T. Denbow	Engineered log complexes: it's the wood that makes it good
4:25 – 4:45	Schilling, K., K. Kult, A. Seeman, <b>Karen Wilke,</b> & C. Jones	Quantifying the multiple benefits of restored oxbows
4:45 – 5:05	<b>Preville, Nicholas M.*</b>	The cart before the redhorse: examining habitat use of the threatened river redhorse ( <i>Moxostoma carinatum</i> ) to guide future management
5:05 – 5:25	<b>Smiley Jr., Peter C.,</b> T.C. Wood, R.B. Gillespie, J.M. Gonzalez, & K.W. King	Restoration implications of the role of physical, chemical, and biotic factors on crayfish injuries in channelized agricultural headwater streams

***Student presentations are denoted with an \* following the name of the presenter***

## POSTER SESSION - FRIDAY APRIL 12, 2019

**Graham Conference Center Banquet Hall 5:30 pm – 7:30 pm**

Poster#	Presenters	Title
1	<b>Zuelke, Amanda*</b> & R.K. Tonietto	The effects of phylogenetic and functional diversity of eastern tallgrass prairie species on bee abundance and diversity
2	<b>Gastreich, Karin R.</b> & L. Presler	Diversity and abundance of wild bees in organic gardens versus restored and remnant prairies embedded in an urban matrix
3	<b>Willoughby, Olivia*</b> & A. Wen	Correlation between wild bee populations and vegetative resources in the Conservation Reserve Program pollinator habitat initiative plantings
4	<b>Stratman, Anna Jean*</b> , J. Rabe, & <b>Cris G. Hochwender*</b>	Oviposition preferences of southern Indiana <i>Danaus plexipus</i> on local species of <i>Asclepias</i>
5	<b>Brokaw, Julia*</b> , <b>Michelle Vohs*</b> , B. Bruninga-Socolar, & D. Cariveau	Maximizing the potential and minimizing the cost of prairie seed mix design for wild bees
6	<b>Schulte, Rainie*</b> & K. Summerville	Effects of prairie enrichment on pollinator communities in Chichaqua Bottoms Greenbelt, Iowa
7	<b>Hogan, Katharine F.E.*</b> , D.A. Wedin, & C.R. Allen	Tallgrass prairie restorations and remnants: comparing communities and perceptions in southeast Nebraska
8	<b>Ernst, Adrienne R.*</b> , A.L. Hipp, R. Poulton-Kamakura, & A. Kramer	Going beyond richness: the effect of phylogenetic and functional diversity on invasion resistance
9	<b>Ramos, Robert J.*</b> & J. Bever	Plant-soil feedbacks and their role in the maintenance of biodiversity
10	<b>Michaels, Theo*</b>	On the edge of opportunity: understanding the role of soil microbes in structuring ecosystem edges in fragmented landscapes
11	<b>Aby, Tessa M.*</b> , A.R. Warrix, & J.M. Marshall	Soil transfer from a mesic prairie to conserve a native seed bank and control non-native plants
12	<b>Nzombo, Jonathan N.*</b> , <b>Kate A. Sinnott*</b> , & L.E. Fischer Walter	Germination rates of <i>Carex</i> spp. seed after long-term storage
13	Charland, P., JA. Harrington, <b>Craig Maier</b> , J. McGowan-Stinski, & J.R. Miesel	Can we improve the potential for fire research to inform management decisions?
14	<b>Bano, Anila*</b> , <b>Nikita Daly*</b> , J. Enos-Berlage, & M. McNicoll	Land Care! Making new connections to natural areas through summer camps for girls and college community outreach
15	<b>Fevold, Brick M.</b> , C. Palmer, L. Walters, J. Cuddeback, M. Middlebrook, J. Schofield, & L. Blume	Application of quality assurance and quality control principles to ecological restoration monitoring

***Student presentations are denoted with an \* following the name of the presenter***

## Poster Presentations Continued

Poster#	Presenters	Title
16	<b>Palmer, Craig J.</b> , L. Walters, B. Fevold, J. Cuddeback, M.M. Amos, & L.J. Blume	Quality control checklist for ecological restoration data collection activities
17	<b>Struckhoff, Matthew A.</b> , L.K. Lueckenhoff, J.S. Weber, & M.J. Hooper	Facilitating post-contamination ecological restoration by integrating project planning, implementation, and monitoring
18	<b>Roseman, Edward F.</b> , J. Boase, J.A. Chiotti, R. DeBruyne, R. Drouin, R.L. Knight, & T. Wills	Developing a science and monitoring strategy to guide recovery of fisheries habitats and populations in the St. Clair-Detroit River System
19	<b>Curtis, Gabriel L.*</b> , <b>Darren J. Shoemaker*</b> , & R.B. Gillespie	Influence of land use change on fish assemblages within channelized streams
20	<b>Troy, Jennifer L.*</b> & R.B. Gillespie	Suspended solids, turbidity, instream habitat, and fishes in headwater streams
21	<b>Shuman, Tyler C.*</b> , R.B. Gillespie, & P.C. Smiley Jr.	What is the relative influence of bed sediment composition and water chemistry on aquatic macroinvertebrate metrics in agricultural headwater streams?
22	<b>Jensen, Deanne E.*</b> & R.B. Gillespie	Influence of a lowhead dam on macroinvertebrate assemblages of an Indiana stream
23	<b>Wold, Susie*</b> , E. Glennon, & M. McNicoll	Proposed restoration: Replacing a reed canary grass meadow with a sedge grass meadow. What are the possibilities?
24	<b>McCarthy, Ryan L*</b> , J.M. Slater, & D. Radcliffe	Buckeyes restore: challenges and design solutions for university-community collaborative restoration projects in urban environments
25	<b>Reding, Jordan M.*</b> , G.M. Davies, & R. Klips	The effects of rock climbing on bryophyte and lichen communities on exposed rock within the Red River Gorge, Kentucky
26	<b>Grau-Andrés, Roger</b> , G.M. Davies, C. Rey-Sánchez, & J. Slater	Bryophyte communities vary along environmental gradients in Ohio peat bogs
27	<b>Slater, Julie M.*</b> & G.M. Davies	Historical land use changes of Ohio's <i>Sphagnum</i> -dominated peatlands
28	<b>Davis, Charles D.*</b> & G.M. Davies	A physical and chemical stratigraphy of peat deposits in Flatiron Bog in northeast Ohio
29	<b>Arneson, Jade R.*</b> , M.E. Dornbush, K. Fermanich, & A. Carrozzino-Lyon	Restoration of wild rice ( <i>Zizania palustris</i> L.) at coastal wetlands in the Bay of Green Bay, Lake Michigan

***Student presentations are denoted with an \* following the name of the presenter***

**MEETING HOST PLENARY SESSION – SATURDAY APRIL 13, 2019**  
**SMALL COLLEGE – BIG PROJECT: THE FIRST SEVEN YEARS OF**  
**THE PRAIRIES FOR AGRICULTURE PROJECT**

Tallgrass Prairie is a critically endangered ecosystem in the United States. It is so rare that most Midwesterners have no emotional connection to it. The Prairies for Agriculture Project is a long-term endeavor that is examining potential benefits of prairie in the human landscape. Using over 350 plots planted with different mixes of vegetation, we are testing whether prairie plants provide more benefits than the non-native species commonly grown on un-farmable sites in the agricultural landscape. We also are testing whether increasing the diversity of prairie plantings increases the benefits provided by planting native prairie plants. Lastly, our research project also provides an unparalleled educational opportunity for undergraduate students at Central College. In this plenary session, conducted (weather permitting) at our site between Pella and Knoxville, Iowa, we will have a “posters in the prairie” presentation to describe research conducted during the first seven years of the project. This research, conducted by one or two faculty members together with teams of undergraduates, has covered topics ranging from prairie planting techniques, the impact of drought, the importance of individual plant species for monarchs and native bees, and the likelihood of establishment of commonly used prairie plants in new plantings.

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30 – 9:00 am		Board buses and travel to project site
9:00 - 11:15 am	<b><i>Posters In the Prairie</i></b>	
	<b>Riebkes Clough, Jessica &amp; Sean Robbins</b>	Impact of early mowing on prairie reconstruction in drought conditions
	<b>Oblander, Ashley &amp; Gabrielle Wilson</b>	Impact of season of planting on prairie reconstruction in drought conditions
	<b>Roush, Stephanie &amp; Olivia Schouten</b>	Winners and losers: plant establishment during prairie reconstruction in drought conditions
	<b>Moss, Zachary</b>	The impact of increasing plant richness on pollinator use in tallgrass prairie
	<b>Pfaltzgraff, Tyler</b>	Impact of drought on a newly planted prairie
	<b>Benedict, Russ</b>	Prairie plants used for foraging by monarch butterflies
	<b>Mena, Paulina</b>	Voted most popular: which prairie plants attract the greatest number and diversity of native bees
11:15 – 11:45 am		Board buses and return to conference site





## PLENARY SESSION – SATURDAY APRIL 13, 2019

### ***POLLINATOR HABITAT RESTORATION AT MULTIPLE SPATIAL SCALES***

Global populations of many invertebrate pollinators are in serious decline, and scientists and stakeholders alike are calling for an “All Hands on Deck” approach to restoring habitat for these taxa. Our objective for this plenary session is to highlight pollinator habitat restoration efforts at spatial scales ranging from regionally across the Midwestern United States to locally within Iowa communities. Professionals with extensive experience designing, implementing, and managing pollinator habitats in working agricultural, active transportation, and multiuse recreational landscapes will share their perspectives on important pollinator life history traits, design and best management practices, and initiatives and funding sources related to pollinator habitat restoration.

1:10 – 1:15 pm: Holzheuer, Martha. ***Introduction.*** Environmental Consulting & Technology, Inc., Bay City, Michigan. Email: mholzheuer@ectinc.com

1:15 – 1:45 pm: Foltz Jordan, Sarah. ***Using Pollinator Life History to Inform Habitat Design and Management.*** The Xerces Society, Duluth, Minnesota. Email: sarah.foltz@xerces.org

I will summarize the current status and life history of a variety of native bees and other pollinators, with an emphasis on translating the specific foraging, nesting, and overwintering needs of these animals into larger scale habitat creation and management. Pollinator monitoring using non-lethal (observation-based) methods will also be discussed, and regional project examples will be used during the presentation to further illustrate the main concepts.

1:45 – 2:15 pm: Godbold, Seana. ***Pollinator Habitat Restoration and Creation Along Iowa’s Highways and Roadsides.*** Iowa Department of Transportation, Ames, Iowa. Email: Seana.Godbold@iowadot.us

I will outline the three-decade history of pollinator habitat restoration and creation within road rights-of-way across Iowa. Additionally, I will also discuss the concept of Integrated Roadside Vegetation Management (IRVM) and how this innovative program is implemented along federal and state highways through the coordination of the Iowa Department of Transportation (IDOT), and IDOT’s Living Roadway Trust Fund, which is a competitive grant program for IRVM projects in Iowa. More than 202 km<sup>2</sup> of federal, state, county, and city roadsides in Iowa have been planted to native grasses, wildflowers, and other select vegetation types. I will also share challenges unique to pollinator habitat restoration in roadsides and the important lessons learned from IDOT’s efforts within Iowa.

2:15 – 2:45 pm: Kellogg, Dana. ***Creating a Successful Public/Private Partnership to Establish Pollinator Habitat.*** Linn County Conservation Department, Toddville, Iowa. Email: Dana.Kellogg@linncounty.org

My presentation will discuss how to create successful public/private partnerships to establish pollinator habitat, while navigating related politics. I will highlight within the presentation an overview of how Linn County and the Cities of Cedar Rapids and Marion worked with the Monarch Research Project to create and implement the 1,000 Acre Pollinator Initiative. I will also present an overview of how to creatively integrate native plant design within public parks and landscapes and how this program could be used as a model that others could replicate or scale to their own communities. Additionally, I will summarize the challenges and lessons learned on implementation of the 1,000 Acre Pollinator Initiative program and key planting and maintenance aspects that need to be considered in creating pollinator habitat.

2:45 – 3:10 pm: ***Panel Discussion.*** All speakers will take questions from the audience and further discuss their thoughts on the key factors for successful pollinator habitat restoration at multiple spatial scale across the Midwest.

## CONCURRENT ORAL PRESENTATION SESSIONS SATURDAY APRIL 13, 2019

### Management to Achieve Results: Matching Ongoing Practices with Long-term Goals. Research As a Link for Improved Restoration Practices. 3:40 pm – 5:00 pm. Maytag Student Union Van Emmerik Theatre. Moderator: Adam R. Thada

3:40 – 4:00	<b>Francino, Sarah*</b> , G.M. Davies, R. Powell, & B. Bergefurd	Pawpaw patch management as a tool to facilitate woodland restoration: effects of forest structure on fruit yield
4:00 – 4:20	<b>McNicoll, Molly</b>	Herbaceous vegetation and European buckthorn ( <i>Rhamnus cathartica</i> ) response to prescribed fire in the early years of an oak woodland restoration
4:20 – 4:40	<b>Thada, Adam R.</b> & R.T. Reber	Interseeding forbs in a grass-dominated prairie restoration in northeast Indiana: year six results
4:40 – 5:00	Clough, J.L., <b>Mark E. Sherrard</b> , & L.L. Jackson	Supplemental seed increases native seedling establishment in roadside prairie restoration

### Reducing Variability in Restoration Outcomes: Connecting *a priori* Information to End Results. 3:40 pm – 4:40 pm. Maytag Student Union Boat Room. Moderator: G. Matt Davies

3:40 – 4:00	<b>Drobney, Pauline</b> , R. Esser, A. McColpin, M. Ahlering, M. Benage, D. Cariveau, P. Charland, C. Dixon, J. Dowler, J. Ellis, W. Johnson, D. Larson, C. Maier, J. Meissen, T. Skilling, B. Walker, S.Vacek, & K. Viste-Sparkman	Information is power to get from seeds to successful prairie: the Prairie Reconstruction Initiative
4:00 – 4:20	<b>Davies, G. Matt</b>	There's nothing standard about data standardization – asking the right questions when analyzing ecosystem change
4:20 – 4:40	<b>Glover, Rachael E.*</b> , G. M. Davies, & R.M. Swab	Trait selection as a tool for restoration success on degraded prairie in southeastern Ohio

*Student presentations are denoted with an \* following the name of the presenter*

## CONCURRENT ORAL PRESENTATION SESSIONS SATURDAY APRIL 13, 2019

### Preparing the Canvas: Linking Pre-restoration Efforts to Desired Outcomes. 3:40 pm – 4:40 pm. Maytag Student Union Weller Room. Moderator: David P. Benson

3:40 – 4:00	<b>Appelgate, Seth R.</b>	Results of converting non-native cool season grasslands to native pollinator habitat two years post planting in Iowa
4:00 – 4:20	<b>Schneider, Rebecca, S.</b> Morreale, K. Kurtz, E. Menzies, H. van Es, L. Changxiao, & L. Jian	Using coarse woody amendments to jump-start the restoration of severely degraded and desertified grassland soils
4:20 – 4:40	<b>Koziol, Liz,</b> J.D. Bever, & T.E. Crews	Native plant establishment and richness increases progressively with density of native AM fungal inocula in a Kansas prairie restoration

### Re-connecting Nature Amidst Human Change. 3:40 pm – 4:40 pm. Maytag Student Union Moore Room. Moderator: Stuart K. Allison

3:40 – 4:00	<b>Albro, Sandra L.</b>	Social considerations for use of native plants and nature-based design elements on urban vacant lots
4:00 – 4:20	<b>Allison, Stuart K.</b>	Ecological restoration during a time of rapid environmental change: how do we keep up with a runaway train?
4:20 – 4:40	<b>Thomforde, Stephen L.</b>	Terrestrial eutrophication and afforestation: innovative modeling of catastrophic transitions from open grassland-savanna to closed canopy woodlands

*Student presentations are denoted with an \* following the name of the presenter*

## OFFSITE FIELD TRIPS - SUNDAY APRIL 14, 2019

8:00 am to 11:30 am: ***Prairie and Savana Restoration at the Neal Smith National Wildlife Refuge.*** Karen Viste-Sparkman. Neal Smith National Wildlife Refuge, Prairie City, Iowa. Email: karen\_vistesparkman@fws.gov

***Participants will be responsible for their own transportation and maps will be provided. This guided tour will depart from Central College's Graham Conference Center at 8:00 am and the on-site field trip begins at the refuge headquarters at 8:40 am. We encourage participants to meet just before the departure time to car pool.*** This field trip will provide a guided tour of the Neal Smith National Wildlife Refuge, which is located about 32 km east of Des Moines, Iowa. The U.S. Fish and Wildlife Service has been authorized to acquire 35 km<sup>2</sup> of land within the Walnut Creek watershed to reconstruct the tallgrass prairie ecosystem on former farmland. To date about 23 km<sup>2</sup> have been acquired. The refuge staff's management methods include prescribed fire, grazing, haying, tree removal, mowing, and invasive species treatment. Participants will have the opportunity to view prairie and savanna restoration and reconstructions that have been conducted in the past 28 years on this site. This field trip will be outdoors, so dress accordingly for weather and anticipated conditions.

8:00 am to 11:30 am: ***Restoration at the DeCook Bison Ranch.*** Mike DeCook, DeCook Ranch, Lovilia, Iowa. Email: mdecook8@gmail.com

***Participants will be responsible for their own transportation and maps will be provided. This guided tour will depart from Central College's Graham Conference Center at 8:00 am and the on-site field trip begins at the wetland restoration site at 8:40 am. We encourage participants to meet just before the departure time to car pool.*** This field trip will provide a guided tour of the restoration efforts at the DeCook Bison Ranch, which is located about 41 km south of Pella, Iowa. The mission of the DeCook Ranch is to protect and restore wild nature and wildness, ecologically and aesthetically, on a profitable working ranch. Our goals are: 1) to provide permanent protection of our wild and natural land from development; 2) protect dark skies and natural quiet; 3) to protect native biodiversity, ecosystems, and ecological land health; and 4) produce native, healthy food with a perennial year-round natural grazing system. We will be talking about and looking at oak savannas, wetlands, prairie remnants, prairie reconstructions, and bison. We will demonstrate to participants that one does not have to change or destroy the natural world to make a living off the land and produce food which will benefit the complete web of life including us. This field trip will be outdoors, so dress accordingly for weather and anticipated conditions.

12:15 pm to 3:30 pm: **Twenty-five Years of Oak Savanna Restoration at the Snyder Heritage Farm.** Ryan Schmidt, Iowa Natural Heritage Foundation, Des Moines, Iowa. Email: [rschmidt@inhf.org](mailto:rschmidt@inhf.org)



***Participants will be responsible for their own transportation and maps will be provided. This guided tour will depart from Central College's Graham Conference Center at 12:15 pm, the on-site field trip begins at the farm headquarters at 1:15 pm, and then will conclude onsite at 3:30 pm. We encourage participants to meet just before the departure time to car pool.***

For over 25 years, Snyder Heritage Farm has been slowly transitioning from a traditional farm to a beautiful blend of prairie, oak savanna, woodland and wetlands. It is now a 0.6 km<sup>2</sup> natural area just north of the Des Moines metropolitan area. Snyder Heritage Farm, donated in 1991, is currently owned and stewarded by Iowa Natural Heritage Foundation. Since 1991, all but 0.03 km<sup>2</sup> of the former rowcrop fields and cattle pasture have been restored to native vegetation. The oak savanna area, which was perennially grazed by the former owners, now boasts a plethora of native grasses and wildflowers to complement the existing open-grown bur oak, white oak, red oak, and shagbark hickory. The savanna, although degraded at the time of the donation, does exhibit remnant plant species and nearly three decades of restoration has increased plant diversity across the site. Restoration practices have included removal of invasive woody vegetation, prescribed fire, and interseeding of native seed. Iowa Natural Heritage Foundation has learned that oak savanna restoration demands tremendous time and effort, as well as time to recover. The savanna at Snyder Heritage Farm continues to show signs of recovery and increased conservation value even after 25 years. Iowa Natural Heritage Foundation staff will provide participants with a guided tour of this site and will discuss the journey of this site's savanna restoration, lessons learned along the way, and their future restoration goals. This field trip will be outdoors, so dress accordingly for weather and anticipated conditions.

12:15 pm to 3:30 pm: **Marshall County Conservation Board Prairie STRIPS Project Site.**  
Tim Youngquist, Iowa State University, Ames, Iowa. Email: timyoung@iastate.edu

***Participants will be responsible for their own transportation and maps will be provided. This guided tour will depart from Central College's Graham Conference Center at 12:15 pm, the on-site field trip begins at the prairie strips at 1:15 pm, and will conclude onsite at 3:30 pm. We encourage participants to meet just before the departure time to car pool.*** This field trip will provide a guided tour of the STRIPS (Science-based Trials of Rowcrops Integrated with Prairie Strips) project site in Marshall County, Iowa. The STRIPS project is composed of a team of scientists, educators, farmers, and extension specialists working on the prairie strips farmland conservation practice. Over a decade of research shows that prairie strips are an affordable option for farmers and farm landowners seeking to garner multiple benefits. By strategically converting 10% of a crop field to diverse, native perennials farmers and farmland owners can reduce the amount of soil leaving their fields by 90% and the amount of nitrogen leaving their fields through surface runoff by up to 85%. Prairie strips also provide potential habitat for wildlife, including pollinators and other beneficial insects. This field trip will give attendees the opportunity to walk through first year prairie strips in a central Iowa crop field. Participants will be able to ask questions and discuss prairie strip management, design, benefits, current research findings, and more. Identification of prairie species, wildlife viewing, and a hike through the prairie strips will also be available to attendees. This field trip will be outdoors, so dress accordingly for weather and anticipated conditions.



# A BETTER TOMORROW

Central College is committed to the environment. In fact, we offered the first environmental studies major in Iowa.

Our students take a sustainability course as part of their core classes and get the chance to learn at Carlson-Kuyper Field Station, Central's 80-acre nature preserve and "outdoor laboratory."

Our faculty and staff lead forward-thinking initiatives, setting you – and the world – up for a better tomorrow.

Schedule your visit today: [central.com/visit](http://central.com/visit)

**Central**  
College  
— 1853 —

# Fire Science That Matters



We engage practitioners  
to deliver fire science you  
can use

- ⇒ **Field Tours**
- ⇒ **Webinars**
- ⇒ **Research Briefs**

[www.tposfirescience.org](http://www.tposfirescience.org)

Air Quality

Natural Resources

Performance Assurance & Compliance

Site Assessment & Remediation

Water Resources

855-737-0444  
www.ectinc.com

**ECT** Environmental Consulting & Technology, Inc.  
Complex Challenges ... Practical Solutions

Restoring the  
*native* balance

**ERNST SEEDS**

ernstseed.com  
sales@ernstseed.com  
800-873-3321

COLLABORATE APPROVE




**Prairie Restorations, Inc.** 

Ecologically based restoration services  
across the Upper Midwest since 1977



Seven Minnesota Locations  
Local Genotype Seed and Plants

 **800-837-5986**  
[www.prairieresto.com](http://www.prairieresto.com)







There Is No  
**Second Nature**


© Taryn Samuels

**Since 1963**, The Nature Conservancy  
in Iowa has worked to protect the lands  
and waters on which all life depends.


Learn more at [nature.org/iowa](http://nature.org/iowa)

 facebook/TNCIowa  
 @nature\_IA  
 @nature\_la

The Nature Conservancy 



Restoring the  
**balance** of natural  
environments at  
landscape scales

 **Stantec**

Design with community in mind  
[stantec.com/ecosystems](http://stantec.com/ecosystems)



## Allendan Seed Company

Growing Native  
Grasses and Wildflowers  
for Pollinator Habitat and  
Natural Stormwater  
Solutions Since 1980



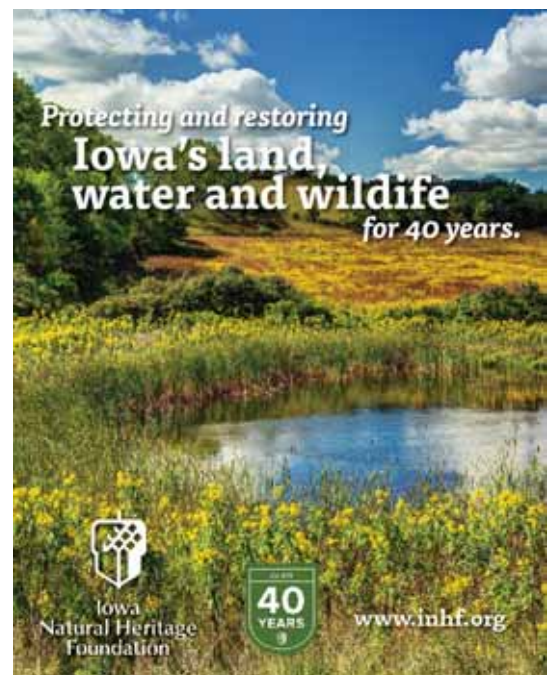
Monarch and Clean Water  
Revival Seeds and Plugs




Since 1995, INPS has worked to protect, preserve, and restore Iowa's native flora. Annually awarded grants are dedicated to land acquisition, inventory, restoration, and management of native remnants, native plant research, training, and education.

Restore Iowa! grants support involving youth in ecological restoration efforts, aiming to get more young people working to restore nature in Iowa.

<http://iowanativeplants.org>





**IPN**


Dedicated to the preservation  
of Iowa's prairie heritage  
[IowaPrairieNetwork.Org](http://IowaPrairieNetwork.Org)




*Living Soil Inocula from Grasslands, For Grasslands*

- ❖ Beneficial fungi can improve plant survival, growth & drought tolerance
- ❖ Soil amendment for restoration, nursery, native landscaping

Contact us at [mycobloom@gmail.com](mailto:mycobloom@gmail.com)

**Water Resource Experts in:**  
 Stream and Floodplain Restoration » Wetlands  
 Erosion Control » Sediment Capture » Nutrient Reduction  
 Dams and Levees » Flood Risk Reduction



**Stanley Consultants**

800.553.9694  
[stanleyconsultants.com](http://stanleyconsultants.com)



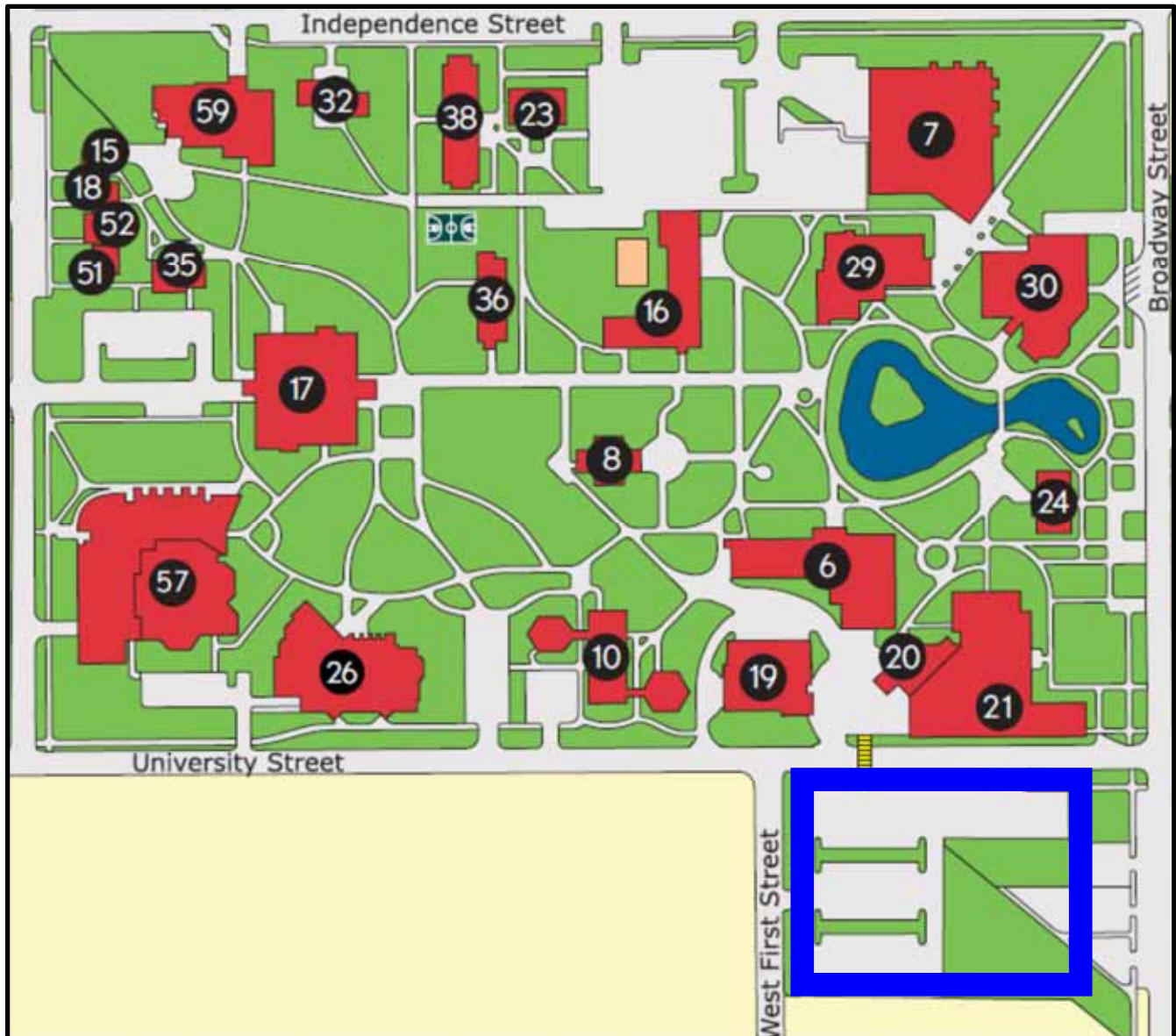
**Your Connection to Innovative  
 Prairie Restoration**

*Discover these resources and  
 more on our website:*

- Iowa Prairie Seed Calculator
- Technical Guides
- Prairie Reconstruction—  
 How-To Videos

[www.tallgrassprairiecenter.org](http://www.tallgrassprairiecenter.org)

## MAP OF CENTRAL COLLEGE CAMPUS



- Registration will be located in the Graham Banquet Hall within the **Graham Conference Center (Building 20)**. The address for this building is 301 Broadway Street, Pella, Iowa and the building entrance is on University Street.
- The majority of the meeting events on Friday and Saturday will be held in the **Graham Conference Center (Building 20)** or the **Maytag Student Center (Building 30)**. The one exception is the Friday morning Bee Identification Workshop held in the **Vermeer Science Center (Building 57)**.
- Free parking for meeting attendees is available in the parking lot delineated by the blue square located south of the **Graham Conference Center (Building 20)**. Free street parking is an option in the neighborhoods near the Maytag Student Center.
- More detailed maps of Pella, Iowa are available at the Pella Area Community & Economic Alliance website below:  
<http://www.pella.org/visit-pella/navigate/>



8<sup>TH</sup> WORLD CONFERENCE ON  
ECOLOGICAL RESTORATION

SER)2019 | CAPE TOWN  
SOUTH AFRICA

24-28 SEPTEMBER 2019

*Restoring Land, Water & Community Resilience*

- **Exchange** knowledge about emerging restoration issues through over 100 oral sessions and other activities
  - **Connect** with researchers, practitioners, policymakers, and students from around the world
  - **Participate** in pre-conference training courses and technical field trips
- Explore** topics like:
- Economics of ecological restoration
  - Social and cultural dimensions of restoration
  - Restoration in a rapidly changing environment
  - Monitoring and assessing restoration outcomes
  - Scaling up restoration goals

SER2019.ORG

*Register now for early-bird rates  
and member discounts!*



Québec RE<sup>3</sup> Conference  
RECLAIM RESTORE REWILD

June 7-11, 2020  
Québec City Convention Centre  
Canada



[WWW.RE3-QUEBEC2020.ORG](http://WWW.RE3-QUEBEC2020.ORG)

The proposed theme of the conference for 2020  
is "From Reclaiming to Restoring and Rewilding".

It aims to stimulate discussions about the range of environmental management approaches advocated by the three hosting societies. Reclaiming is recognized and practiced by many industries, including mining and petrol extraction. Restoring is recognized most broadly around the world, and has been the main focus of SER. Rewilding, or bringing back to nature, allows us to dream. These terms also imply ideas of industry, science, practice, society and imagination. They run from the practical to the creative.

[www.clra.ca](http://www.clra.ca) · [www.sws.org](http://www.sws.org) · [www.ser.org](http://www.ser.org)

Follow us on



@QuebecRE3

## ABOUT THE SER MIDWEST-GREAT LAKES CHAPTER

- We are a non-profit organization that was recognized by SER as a regional chapter in March 2008. The Chapter serves a seven state region of Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, and Iowa.
- **Mission:** To promote the science and practice of ecological restoration to assist with the recovery and management of degraded ecosystems within the Midwestern and Great Lakes regions.
- **Membership Benefits**
  - *Opportunity to network with colleagues and showcase your work at annual chapter meetings and state level events held throughout the year*
  - *Reduced chapter meeting registration rates*
  - *Chapter communications consist of the Restoration News Midwest blog and other social media streams that highlight regional ecological restoration issues, news, projects, and practitioners*
  - *Opportunities to promote ecological restoration-related events and discuss ecological restoration-related issues through the chapter social media*
  - *Webinars on relevant restoration topics in the region*
  - *Student members eligible to apply for research and practice grants through our Student Grant Program*
  - *Membership within our international parent society*
- **Interested in becoming a member? See <http://chapter.ser.org/midwestgreatlakes/>**



**AVAILABLE FROM UNIVERSITY OF IOWA PRESS**

***Ecological Restoration in the Midwest  
Past, Present, and Future***

edited by Christian Lenhart & Peter C. Smiley Jr.

*"The editors and authors bring together the history, theory, and practice of ecological restoration in the Midwest into a much-needed resource. There is no comparable book dedicated to the broad range of topics, challenges, and successes of restoration for this region of the United States."*—Christopher A. May, the Nature Conservancy



Focusing on six cutting-edge case studies that highlight thirty restoration efforts and research sites throughout the region—Iowa, Indiana, Illinois, Wisconsin, Michigan, Minnesota, and Ohio— editors Christian Lenhart and Peter "Rocky" Smiley Jr. bring together a group of scholars and practitioners to show how midwestern restoration efforts have developed, as well as where they are headed. Whether cleaning up contamination from auto plants in Ohio, or restoring native prairie grasses along the Iowa highway, the contributors uncover a vast network of interested citizens and volunteer groups committed to preserving the region's environment.

This study, intended for researchers, students, and practitioners, also provides an updated synthesis of restoration theory and practice, and pinpoints emerging issues of importance in the Midwest, such as climate change and the increase in invasive species it will bring to the region. Though focusing exclusively on the Midwest, the contributors demonstrate how these case studies apply to restoration efforts across the globe.

**Contributors:** Luther Aadland, David P. Benson, Andrew F. Casper, Hua Chen, Joe DiMisa, Steve Glass, Heath M. Hagy, John A. Harrington, Neil Haugerud, Constance Hausman, Michael J. Lemke, Christian Lenhart, Jen Lyndall, Dan Shaw, John A. Shuey, Peter C. Smiley Jr., Daryl Smith