



Photo Credit: Katherine Martin The Ohio State University

LINKAGES BETWEEN ECOLOGICAL RESTORATION AND ECOSYSTEM SUSTAINABILITY

THIRD MIDWEST-GREAT LAKES SER CHAPTER MEETING

April 1 to 3, 2011 University of Illinois Springfield

www.ser.org/content/SERMWGL.asp

MEETING PROGRAM



**MIDWEST-GREAT LAKES CHAPTER
SOCIETY FOR ECOLOGICAL
RESTORATION INTERNATIONAL**



Illinois Chapter
The Nature Conservancy 

Protecting nature. Preserving life.™



Stantec

The Alfred O. and Barbara Cordwell
THERKILDSÉN FIELD STATION AT EMIQUON 

WELCOME

On the behalf of the Midwest-Great Lakes SER Chapter we extend our warmest welcome and thank you for your participation and contribution to our Third Annual Meeting. Our goal for the meeting is to explore the linkages between ecological restoration and ecosystem sustainability. Under this goal, we will examine and discuss how current restoration efforts contribute to regaining, preserving, and sustaining the structure and functions of Midwestern and Great Lakes ecosystems. More than 40 oral and poster presentations, along with a plenary symposium, two workshops and a keynote address are scheduled. Our meeting program also offers field trips to learn about restoration projects in the central Illinois and northwest Indiana. Particularly, we believe the Emiquon Restoration Project Tour in the floodplain of Illinois River serves as the highlight of the meeting. We have no doubt that this meeting will become another outstanding forum for advancement in our research and practice of ecological restoration. Welcome to the Land of Lincoln and the Heart of the Prairie State!

2011 ANNUAL MEETING COMMITTEE

The Chapter would like to extend its sincere appreciation to the members of the Annual Meeting Committee for their time and effort in coordinating and developing the Third Annual Chapter Meeting of the Midwest-Great Lakes SER Chapter:

Young Choi (Chairperson), David Benson, Hua Chen, Cody Fleece, Mike Lemke, Jennifer Lyndall, Katie Martin, and Rocky Smiley.

ACKNOWLEDGEMENTS

We are very grateful to the tremendous support provided by our generous meeting sponsors that enabled us to hold a sponsorship reception, support student participation, defrayed food costs, and to help us make our Annual Meeting as environmentally friendly as possible. Staff of the University of Illinois Springfield assisted greatly with the planning the meeting and we greatly appreciate their contributions. We are also thankful for the participation of the meeting presenters, moderators, tour leaders, field trip leaders, volunteers, and attendees for making our Third Annual Chapter Meeting a success.

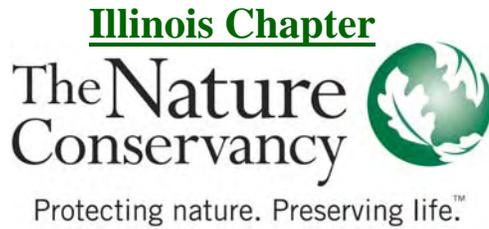
SPONSORSHIP RECEPTION AN EVENING IN THE PRAIRIE STATE

Enjoy drinks and snacks while examining poster presentations, viewing sponsorship exhibits, and socializing with colleagues.

MEETING HOST



SHARP-LOBED HEPATICA SPONSORS



YELLOW TROUT LILY SPONSOR

The Alfred O. and Barbara Cordwell
THERKILDSEN FIELD STATION AT EMIQUON 

RUE ANEMONE SPONSORS



ENVIRON



PRAIRIE-TRILLIUM SPONSORS



BLOODROOT SPONSORS



SCHEDULE OVERVIEW

Friday April 1		
	Public Affairs Center	University Hall
11:00 am – 7:00 pm	Registration (Main concourse)	
11:00 am – 7:00 pm	Sponsorship Exhibits (Main concourse)	
1:00 pm – 3:00 pm	Floodplain Restoration Plenary Session (Brookens Auditorium)	
3:00 pm – 3:15 pm	Break (Main concourse)	
3:15 pm – 5:15 pm		Workshops (Rooms 1005 & 1006)
5:15 pm to 7:00 pm	Poster Session & Sponsorship Reception (Main concourse)	
7:00 pm – 8:00 pm	Welcoming Comments & Dinner (Rooms C and D)	
8:00 pm – 9:00 pm	Keynote Address (Brookens Auditorium)	

Saturday April 2		
	Public Affairs Center	University Hall
8:00 am – 11:00 am		Registration (hallway)
8:00 am – 12:30 pm	Sponsorship Exhibits (Main concourse)	
8:00 am – 8:30 am		Continental Breakfast (hallway)
8:30 am – 9:50 am		Concurrent Oral Presentations (Rooms 1005, 1006, & 1007)
9:50 am – 10:10 am		Break (hallway)
10:10 am – 11:30 am		Concurrent Oral Presentations (Rooms 1005, 1006, & 1007)
11:30 am – 12:30 pm	Lunch, Business Meeting, Awards Ceremony (Main concourse)	
12:30 – 6:30 pm	Emiquon Restoration Project Tour	

Sunday April 3		
	Lincoln Memorial Gardens (Springfield, Illinois)	Kankakee Sands (Morocco, Indiana)
9:00 am – 10:30 am	Field Trip	
12:00 pm – 4:00 pm		Field Trip

** All times are central standard times*

SPECIAL PLENARY SESSION – FRIDAY APRIL 1, 2011

FLOODPLAIN RESTORATION TO SUSTAIN LARGE RIVER ECOSYSTEMS

This special plenary session consists of five presentations from representatives from National Great Rivers Research and Education Center, The Nature Conservancy, Illinois Department of Natural Resources, Dickson Mounds Museum, and the University of Illinois Springfield. These presentations will discuss regional floodplain restoration efforts, the Emiquon Restoration Project, use of key ecological attributes for monitoring, monitoring ecosystem function, and how public education/outreach can contribute to floodplain restoration. The plenary session will conclude with a panel discussion.

Moderator: Amy B. McEuen, Biology Department, University of Illinois Springfield.

1:00 – 1:20 pm: Sparks, Richard*. ***Floodplain restoration: the big picture.*** National Great Rivers Research and Education Center, Alton, Illinois. Email address: rsparks@illinois.edu

Most of the floodplains and deltas in the developed nations of the world have been leveed for agriculture and commercial development, and the developing nations seem to be following suit. Authors of a paper in Nature last fall used a spatially explicit global-accounting approach to quantify threats to human water security (adequate water supply and protection from flooding) and to freshwater biodiversity. They concluded that the United States and other developed nations have been able to achieve water security through massive investments in dams, levees and other technologies, but at the cost of increasing threats to biodiversity. They characterize the actual and potential losses of freshwater biodiversity as a “pandemic”, with biodiversity in 65% of the world’s rivers and streams falling into the moderate to highly threatened category. The papers in this session describe one floodplain restoration project that is underway at the Emiquon Preserve (a former agricultural levee district) on the Illinois River. During the same period that the Emiquon restoration was being planned, approximately the same acreage was being leveed and developed for commercial and residential use on the floodplain near St. Louis. The development cost \$2.2 billion and includes 28,000 new homes on floodplain that was under water in the Great Upper Midwest Flood of 1993. From a larger, policy perspective, we need Emiquon to help us quantify the links among biodiversity, ecosystem processes, and ecosystem goods and services that will enable us to maintain healthy ecosystems and economies. We will not be a sterling example to the developing world until we have done a better job with our own floodplains.

1:20 – 1:40 pm: Blodgett, Doug*. ***The Nature Conservancy’s Emiquon Project: contributing to the long-term health of the Illinois River by restoring and managing functional floodplains.*** Illinois River Program, The Nature Conservancy, Lewistown, Illinois. Email address: dblodgett@tnc.org

Ecologically, functional floodplain is important not only for habitat it provides for resident and migratory wildlife, but also for essential contributions to ecological processes that sustain large-floodplain river ecosystems. At Emiquon, we are working with partners on a science-based approach for restoring and managing floodplain to contribute to the ecological health and sustainability of the Illinois River for nature and people.

1:40 – 2:00 pm: Herkert, James, R*. ***Adaptive management at The Nature Conservancy's Emiquon Preserve.*** Illinois Department of Natural Resources, Springfield, Illinois. Email: james.herkert@illinois.gov

The Nature Conservancy and its partners have developed a framework for evaluating the success of conservation work. The framework, which was published by Parrish et al. 2003 (Bioscience 53,851-860), includes four core components, (1) identification of a limited number of focal conservation targets, (2) identification of key ecological attributes for these targets, (3) identification of an acceptable range of variation for each attribute as measured by properly selected indicators, and (4) rating of target status based on whether the target's key attributes are within acceptable ranges of variation. The approach provides a foundation for setting conservation objectives, assessing threats to targets, identifying monitoring and research needs, and evaluating conservation progress. Beginning in 2004, The Conservancy initiated an effort to apply this framework to the Emiquon Preserve located along the Illinois River in Fulton County, Illinois. Conservation targets identified in the Illinois River Site Conservation Plan were used as the initial set of potential targets for the Emiquon Preserve. Key ecological attributes and indicators were then developed during a meeting of The Nature Conservancy's Emiquon Science Advisory Council in April 2004. These key ecological attributes and indicators have served as the basis for restoration and management planning at Emiquon and also have provided the framework for evaluating the progress of the ecological restoration at this site. A monitoring program focused on collecting data on these key attributes has been initiated and these monitoring data are being used to drive an adaptive management process.

2:00 – 2:20 pm: Lemke, Mike*. ***Microbes of the river floodplain: connecting restoration structure to function.*** Therkildsen Field Station at Emiquon, Lewistown, Illinois. Email: lemke.michael@uis.edu

Along the Illinois River, levees disrupt the hydrologic connection between many floodplain lakes and the river. In addition, it is likely that lakes restored on former agricultural lands have altered microbial communities and biogeochemical cycles. I will examine the role of microorganisms in ecosystem services important to floodplain sustainability as well as the use of microbial communities to track changes in a newly restored floodplain lake not yet connected to its flood pulse river source (Thompson Lake converted from agriculture in 2007) to an established reference floodplain lake that receives flood pulses (Lake Chautauqua). The incredible metabolic diversity and range in response times make the study of microbial ecology in floodplains a necessary consideration for restoration projects.

2:20 – 2:40 pm: Wiant, Michael D*.¹, Jason Beverlin², and Michael Lemke³. ***Propagating public interest in restoration: a case study from Emiquon.*** ¹Illinois State Museum—Dickson Mounds, Lewistown, Illinois. ²The Nature Conservancy, Lewistown, Illinois. ³Therkildsen Field Station at Emiquon, Lewistown, Illinois. Email: wiant@museum.state.il.us

A significant component of the restoration of Emiquon, a stretch of Illinois River valley above the confluence of the Spoon River, is propagating public interest in the project. Interested members of the public include stakeholders, students, tourists, and volunteers. There is a role for everyone and each must participate to promote and sustain restoration. We engage

and involve people to accomplish the tasks at hand, but we also educate and enrich them to foster support for future restoration efforts.

2:40 – 3:00 pm: **Panel Discussion**. All speakers will take questions from the audience and further discuss their views on selected issues related to the restoration of large river floodplains.

WORKSHOPS - FRIDAY APRIL 1, 2011

Room UHB 1005: Lenhart, Chris¹, John Shuey², and Kim Hall³ **The role of ecological restoration in climate change adaptation for the Midwest**. ¹ Department of Bioproducts & Biosystems Engineering, University of Minnesota, St. Paul, Minnesota. ² The Nature Conservancy, Indiana Field Office, Indianapolis, Indiana, ³ The Nature Conservancy, Great Lakes Project, Lansing, Michigan Field Office, Lansing, Michigan. CL Email: lenh0010@umn.edu, JS Email: jshuey@tnc.org, KH Email: kimberly_hall@tnc.org

Climate change is predicted to stress Midwestern ecosystems in a variety of ways in upcoming decades. Typically global climate models predict increased precipitation, more frequent extreme events, greater evapotranspiration and more variable streamflow for the Midwest. Recent studies of the response of upper Midwestern watersheds to increased rainfall and higher temperature over the past three decades show that these responses are region-specific depending on land use, drainage, geology and other site specific factors. Therefore unique management strategies must be developed that address the specific conditions of each ecoregion or major river basin. Upland prairie and woodland ecosystems will face shifting plant distributions, invasive species and fragmentation issues. Aquatic environments will face increased water temperature and changes to streamflow variability, baseflow, and sediment and nutrient dynamics in many streams. Three 40-minute presentations will be given to address climate change-related management issues with Midwestern ecological restoration and management. The first presentation by Kim Hall will review recent climate change predictions for the Midwest and discuss efforts to downscale global models to specific Midwestern watersheds. John Shuey will then discuss the role of prairie restoration in mitigating climate change impacts on shifting plant distributions, fragmentation and invasive species. Third, researchers from the University of Minnesota will discuss the management implications of increased streamflow in agricultural watersheds of the upper Midwest. The use of wetland and stream restoration as well as alternative ditch and subsurface drainage designs for reduction of water, sediment and nutrient loading will be presented.

Room UHB 1006: Banovetz, Steven J.* and Eric Johnson. **Prescribed fire as a management tool**. Stantec Consulting, Madison, Wisconsin. Email: steve.banovetz@stantec.com

Fire was a natural occurrence throughout the Midwest prior to European settlement. Many of our native plants and the ecosystems in which they occur – from woodlands and savannas to prairies and wetlands – not only developed a tolerance to fire, but also a dependency on it. The use of a prescribed burn program is one of the single best tools a land manager can implement for long-term maintenance and restoration of native plant communities. The objective of this workshop is to describe the role of prescribed fire in the natural landscape and the use of fire as a tool for managing plant communities. Participants will learn 1) The ecological benefits of prescribed fire and role of fire in maintaining natural areas; 2) The essential components of a complete and successful burn plan, including an introduction to common burn objectives, permits and notifications, staffing, safety and equipment, hazard assessment, go/no-go decision-making, contingency planning, site and fuel preparation, and fuel ignition; 3) Introduction to basic equipment used on prescribed burns through an outdoor hands-on demonstration by the instructors; and 4) Opportunities for additional training to serve as a crew leader or burn boss on prescribed burns. Additionally, we will address commonly asked questions related to restoration objectives, appropriate habitat types, fire behavior, frequency of use, and success criteria. Case studies will be presented to highlight a spectrum of challenges frequently encountered on prescribed burns, from overhead power lines to adjacent highway traffic to smoke management near residential areas. Throughout the workshop we will present and accept questions and strive to provide the most complete answers our experience allows.



Photo Credit: Katherine Martin The Ohio State University

FRIDAY APRIL 1, 2011

Poster Session

Main Concourse of the Public Affairs Center - 5:15 pm – 7:00 PM

POSTER	AUTHOR	TITLE
#1	Puanini A. Borges, Carl Bernacchi, Kelly D. McConnaughay, Elsor A. Paul, and Sherri J. Morris	Emiquon nutrient dynamics: an examination of wetland and former wetland soils following 80+ years of agriculture
#2	Kamalprit Ghotra and Hua Chen	Methane emissions at two restored Illinois wetlands: Spunky Bottoms and Emiquon Preserve
#3	A. M. Lemke , K. G. Kirkham, T. T. Lindenbaum, W. L. Perry, E. G. Bekele, Y. Lian, M. P. Wallace, D. A. Kovacic, and Kent Bohnhoff	Targeted implementation and evaluation of constructed wetlands in agricultural watersheds to reduce nutrient loadings, improve drinking water quality, and address hypoxia in the Gulf of Mexico
#4	Chris Lenhart , Jason Ulrich, and John Nieber	Quantification of channel erosion and floodplain deposition processes in the Minnesota River basin for prioritization of restoration activities
#5	Rachel C. Powers , Spence A. Goehl, and Kevin M. Tungesvick	Integrating ecological restoration practices into wetland mitigation design and installation to create successful, sustainable wetland mitigation sites
#6	Peter C. Smiley Jr. , Kevin W. King, and Norman R. Fausey	Evaluating the ability of grass filter strips to contribute to the restoration of degraded agricultural headwater streams in central Ohio
#7	Zachary A. Rasche	Assessing optimal sampling methods for Illinois freshwater mussels
#8	Robert C. Roos , Todd A. Aschenbach, and Carolyn Henne	A sand prairie restoration experiment: nature or nurture?
#9	Justin D. Ramey and Amy B. McEuen	Seed additions fail to increase plant diversity in an established tall-grass prairie
#10	Christy Troxell-Thomas and Amy B. McEuen	Early burning and composition & floristic integrity of tallgrass prairie restoration at the Emiquon Preserve, Illinois

Poster Session - continued

POSTER	AUTHOR	TITLE
#11	Paul Grabowski , Geoffrey Morris, and Justin Borevitz	Genetic variation of <i>Panicum virgatum</i> in Indiana Dunes State Park
#12	Priya C. Shahani and Orley R. Taylor	Selecting milkweeds for monarch and pollinator habitat enhancement efforts in the Upper Midwest
#13	Sarah Cusser and Karen Goodell	Invasive plant removal reduces vegetation structural complexity with positive effects on pollinator abundance on native plants
#14	Dayani S. Pieri , Lauren G. Umek, and Liam Heneghan	The response of European buckthorn, <i>Rhamnus catherica</i> , to soil amendments in restoration
#15	Meaghan E. Kern , Lauren G. Umek, and Liam Heneghan	European buckthorn seed germination and seedling growth in mulch amended soils: implications for restoration.
#16	Elizabeth Kosson , Lauren Umek, and Liam Heneghan	Do invasive earthworms in the Chicago Wilderness region respond to restoration management directed to plant populations?
#17	Menyon R. Heflin and Mark J. Renz	Impact of mowing timing on seed production by invasive Japanese hedge parsley (<i>Torillia japonica</i>).
#18	M. J. Timpe and Roger C. Anderson	Phenological niche separation from native species increases reproductive success of an invasive species: <i>Allaria petiolata</i> (Brassicaceae) – garlic mustard
#19	Kathleen S. Knight , Daniel A. Herms, John Cardina, Robert P. Long, John P. Brown, Catherine P. Herms, Wendy S. Klooster, and James M Slavicek	Forests impacted by emerald ash borer: understanding effects on forest plant communities and planning restoration using DED-tolerant American elm
#20	Keenan E. Dungey and Michael J. Lemke	Sustaining ecosystem restoration through educating the public: an online course about Emiquon
#21	Patricia Stimmel, Damien Gabis , and James Hitz	Ecological restoration/sustainability at Taltree Arboretum and Garden – benefits to the south Lake Michigan region
#22	Benjamin K. Van Thiel , Kristin Floress, and Katrina Shankland	Policy options for community solar projects in the Midwest

KEYNOTE PRESENTATION – FRIDAY APRIL 1, 2011

Roger C. Anderson

Emeritus University Distinguished Professor of Plant Ecology at Illinois State University

MIDWEST OAK WOODLANDS AND SAVANNAH: ORIGINS, HISTORIC CHANGES, AND FUTURISTIC TRENDS

Abstract: Oak savannas and woodlands in mid-continent North America were best developed along a north-south gradient from Minnesota to southeastern Texas where eastern deciduous forests and grasslands meet. Extensive occurrence of these communities was of relatively recent origin and was associated with a warming and drying trend (Hypsithermal), which began about 8 kyBP (thousand years before present), peaked near the middle of the Holocene (5-6 kyBP), and ended 3.5-5 kyBP, and with concurrent fires set by Native Americans. Cooler and presumably moister conditions following the Hypsithermal would have favored conversion of oak savanna and woodlands to closed forest dominated by mesophytic trees species on most sites. However, fires set by Native Americans as a management tool to maintain needed resources, including oak and hickory mast and species of wildlife hunted for food, maintained oak savannas and woodlands. In the 1990's, ecologists debated whether Midwest savannas were a distinctive vegetation type or a transitional community between grassland and forest. While this issue remains unresolved, there is recent evident indicating that there are few, if any, species restricted to savannas. However, several species that occur in prairies or forests reach their highest abundance in savannas and the species diversity of savannas generally exceeds that of grasslands and forests. While future climate change and invasive species will have negative effects on remaining remnants of these communities, most of the historic oak savannas and woodlands were lost during a relatively short period of time, from the middle of the 1800's to the present time. For example, in Midwestern United States, fire suppression in the previous two centuries, habitat fragmentation, and agricultural and urban development reduced these communities to less than 0.02% of the 11-13 million hectares they historically occupied. In addition, the variety and diversity of these communities has declined as well as the area they historically occupied. On many mesic and dry-mesic sites, successional invasion by native mesophytic trees, and subsequent mesophication, has reduced tree and ground layer diversity and all but eliminated possibilities for restoration of degraded remnants of oak savanna and woodlands. Despite extensive loss of savanna and woodland habitat, reasonably large areas with potential for restoration occur on low competition, low nutrient xeric sites. On these sites, oak savannas and woodlands may persist with appropriate management despite climate change. Nevertheless, as was the case with historic oak savannas and woodlands, intervention by humans, including fire management and efforts to reduce influx of invasive species or their removal once established, will be necessary to maintain these communities.

Biography: Dr. Roger C. Anderson, School of Biological Sciences, Illinois State University, received his Ph.D. in Botany from University of Wisconsin-Madison and joined the Illinois State University faculty in 1976 where he is an Emeritus University Distinguished Professor of Plant Ecology. Professor Anderson has been a member of the Botany Departments at Southern Illinois University-Carbondale and the University of Wisconsin-Madison. He also served on the faculty of Central State University, Edmond Oklahoma, and the Universities of Oklahoma and Michigan Biological Stations. He was the Director of the internationally known University of Wisconsin-Madison Arboretum and served two terms on the Illinois Nature Preserves Commission. His service to professional organizations includes membership on the Editorial Boards of *Restoration Ecology*, since the inception of the journal in 1993, and *The American Midland Naturalist* (2010-present). Dr. Anderson has authored over 144 peer reviewed publications and is a co-editor of "Savannas, Barrens, and Rock Outcrop Plant Communities of North America," Cambridge University Press (1999). Dr. Anderson has been a member of the Board of Directors of the Parklands Foundation, a non-profit, public foundation that purchases, protects, and restores natural lands in central Illinois, since 1983 and he was president of the organization from 1992-1994.

SATURDAY APRIL 2, 2011

Forest and Wetland Restoration

UHB 1005 8:30 am – 11:30 am

Moderator: Michael Lemke

TIME	AUTHORS	TITLE
8:30 – 8:50	Katherine L. Martin and P. Charles Goebel	Eastern hemlock as shifting foundation in forest of eastern US
8:50 – 9:10	Danelle Haake	Ecological restoration in an urban floodplain: challenges and opportunities
9:10 – 9:30	Anthony J. St. Aubin	Skokie River Woods wetland restoration and enhancement project
9:30 – 9:50	Sarah Popovich and Hua Chen	Carbon and nitrogen storage in two restored wetlands in Illinois
9:50 – 10:10	Break	
10:10 – 10:30	Todd D. Van Middlesworth , Greg G. Sass, Timothy W. Spier, Michael A. Clelland, Nerissa N. Michaels, Stephen M. Tyszko, and Thad R. Cook	Aquatic vegetation and fish community monitoring at The Nature Conservancy's Emiquon Preserve: testing for regime shifts in ecosystem state
10:30 – 10:50	Nerissa N. Michaels , Greg G. Sass, and Tim W. Spier	The Nature Conservancy's Emiquon Preserve: largemouth bass diet response to restoration
10:50 – 11:10	Randy V. Smith , Christopher S. Hine, Aaron P. Yetter, Michelle M. Horath and Joshua D. Stafford	Diverse wetland habitats attract water birds to the Emiquon Preserve during fall
11:10 – 11:30	Ariane L. Peralta , Jeffery W. Matthews, Eric Johnston, Sarah Ludmer, and Angela D. Kent	Linking microbial community structure and water quality function in restored floodplain wetlands

Grassland and Savanna Restoration

UHB 1006 8:30 am – 11:30 am

Moderators: Cody Fleece and Stephen Thomforde

TIME	AUTHORS	TITLE
8:30 – 8:50	Paul E. Rothrock and Barri Pruitt	Prairie reconstruction in Indiana: status and sustainability
8:50 – 9:10	Greg Spyreas , Scott Meiners, Jeffrey Matthews, and Brenda Molano-Flores	Successional trends in floristic quality
9:10 – 9:30	Stephanie Frischie	From <i>Acorus</i> to <i>Zizia</i> : high diversity restoration at Kankakee Sands.
9:30 – 9:50	Steve L. Thomforde	Catastrophic shift in the Midwest Great Lakes Savanna Ecoregion
9:50 – 10:10	Break	
10:10 – 10:30	Eric Bird and Young Choi	Monitoring the development of restored tallgrass prairie ecosystem in Taltree Arboretum, Valparaiso, Indiana
10:30 – 10:50	Geoffrey P. Morris , Paul Grabowski, Justin O. Borevitz, R. Michael Miller, and Julie Jastrow	The effects of biodiversity on establishment of reconstructed native grasslands and outputs of ecosystem services
10:50 – 11:10	Elizabeth L. Middleton and Chip O'Leary	Evaluating the effect of patch burn grazing on an eastern tallgrass restoration
11:10 – 11:30	Sarah C. Richardson , Corey E. Palmer, Stephanie Hughes, Isaiah Cole, Elizabeth L. Middleton, James D. Bever, Peggy A. Schulz, and Zhanna Yermakov	Investigating the effectiveness of mycorrhizal fungi and its colonization into a new prairie habitat at Burnham Park, Chicago

Education, Outreach, and Stewardship

UHB 1007 8:30 am – 9:30 am

Moderator: Jennifer Lyndall

TIME	AUTHORS	TITLE
8:30 – 8:50	Daniel J. Goldfarb and Ryan Templeton	Advancing ecological restoration on industrial facilities in Indiana and Illinois
8:50 – 9:10	Aaron J. Feggestad , Sara Race, and Jeff Kraemer	Prairie restoration program on Commonwealth Edison (ComEd) landholdings in northern Illinois
9:10 – 9:30	Jane Dell and Adam Shirley	Native plants education for Iowa cities
9:30 – 9:50		

Invasive Species and Habitat Restoration

UHB 1007 10:10 am – 11:30 am

Moderator: Katherine Martin

TIME	AUTHORS	TITLE
10:10 – 10:30	Basil V. Iannone, III , Lauren G. Umek, Liam Heneghan, and David H. Wise	How does amending soils with mulch after <i>Rhamnus catharica</i> (European buckthorn) removal limit reinvasion?
10:30 – 10:50	John K. Lampe	New control method for buckthorn and other invasive tree species
10:50 - 11:10	Neil W. MacDonald , Corey K. Kapolka, Timothy F. Botting, and Laurelin M. Martin	Second-year site preparation and hand pulling effects on spotted knapweed control on a degraded site in western Michigan
11:10 – 11:30	Orley R. Taylor and Priya Shahani	Restoring milkweeds to save the monarch migration and protect pollinator habitats



EMIQUON RESTORATION PROJECT TOUR 12:30 TO 6:30 PM SATURDAY APRIL 2, 2011

Come dressed for the weather and easy to moderate walking. This guided tour is intended to complement the floodplain restoration plenary session and is sponsored by the Great Rivers Partnership, Illinois Chapter of the Nature Conservancy, Dickson Mounds Museum, and the UIS Therkildsen Field Station at Emiquon.

The Emiquon Restoration project is one of the largest floodplain restoration projects in the United States and it serves as a model for restoration of large river floodplains all over the world. The Illinois Chapter of The Nature Conservancy owns and manages the land and has been collaborating with federal, state, and local agencies to restore the floodplain since the early 2000's. The restoration project began formally in 2007 and this makes it a young restoration site. The guided tour will give attendees a chance to view first hand restoration practices implemented on nearly 28 km² of floodplain and to learn about 10,000 years of human interaction that have occurred in the area.

Chartered buses will transport us to the restoration site that is 1.5 hours west of Springfield, Illinois and the Emiquon Partners will provide us with an introductory overview during the ride to the project site.

The onsite tour will last about 2.5 hours and includes visits to different research sites, discussion of different restoration practices, overviews of geology and archaeology, monitoring activities, discussion of outreach, and a chance to ask the different partners associated with this unique restoration effort questions about their results and activities. The tour will include a wine and cheese reception sponsored by the Emiquon Partners.



OFFSITE FIELD TRIPS - SUNDAY APRIL 3, 2011

9:00 am to 10:30 am: Matheis, James*. **Jens Jensen's Landscape at Lincoln Memorial Garden**, Springfield Illinois. Lincoln Memorial Garden, Springfield, Illinois. E-Mail: LMG2301@comcast.net

In 1936, nationally acclaimed landscape architect, Jens Jensen, began a process that would eventually turn a sixty-three acre pasture into a lush mosaic of woodlands, wetlands and prairie openings called Lincoln Memorial Garden. It could be argued that Jensen was one of the country's earliest restoration ecologists. His appreciation of natural ecosystems led him to champion the protection of the Indiana Dunes National Lakeshore, and the establishment of the Cook County Forest Preserve District, and the Illinois State Park System. Lincoln Memorial Garden is considered by many to be one of Jensen's greatest intact works and was his last major public project. Using contractual workers, scouts, and garden club volunteers, Jensen and the Garden's founder, Harriet Knudson, began the plantings which today include 75 year old white oaks, a cypress grove, tall grass prairie, oak/hickory woods, soft maple/cottonwood wetlands and more. In early April, spring wildflowers, planted by volunteers years ago, such as bloodroot, trillium, Dutchman's breeches and dogtooth violets will greet visitors. The Garden's Executive Director, Jim Matheis, will lead a tour of the original 0.26 km² Garden, pointing out Jensen design characteristics, plant communities and other points and plants of interest. We will also visit the Garden's recently restored 0.12 km² prairie center addition and discuss outside threats to the Garden's natural communities.

12:00 pm to 4:00 pm: Shuey, John*, Stephanie Frischie*, and Alyssa Nyberg*. **Field trip to the Efroymson Restoration at Kankakee Sands in northwest Indiana**. Indiana Chapter of the Nature Conservancy, Morocco, Indiana. Email: jshuey@tnc.org

Join us for a tour of the Efroymson Restoration at Kankakee Sands located in northwest Indiana. This landscape-scale restoration is designed to reestablish a semblance of the original wetland / grassland / oak barrens mosaic that once characterized the region. The Indiana Chapter of The Nature Conservancy (TNC) is attempting to reconnect and rebuild a biologically diverse landscape of over 65 km². The restoration is designed to reconnect three important preserves (Conrad Savanna, Beaver Lake Prairie State Nature Preserve, Willow Slough Fish and Wildlife Area) into a single management unit. TNC purchased over 32 km² of agricultural land to reconnect these three preserves. Past conservation efforts focused on efforts to protect, manage and restore the preserves themselves. In contrast, the Efroymson Restoration is designed to heal the intervening landscape that isolates the sites and create a single conservation area. Habitat fragmentation is the biggest threat to the long-term survival of Indiana prairie and oak barrens. Small isolated prairies and oak barrens lose species with time, especially the rare, vulnerable and area-sensitive species. The lack of new colonists to re-populate these sites means that these remnants will become mere shadows of themselves -- species poor relicts of a once species rich ecosystems. The Efroymson Restoration is also intended to alleviate the threat of habitat isolation. The strategy is to create connections through restoration that will allow these remnants to ecologically communicate with one another and initiate an ecological recovery trajectory that will transform the site into a seamless mosaic of native communities. To date, nearly 25 km² of former row crop agricultural land has been sown with a botanically diverse seed mix of over 600 species of vascular plants. The tour will visit restorations of various ages, the 0.5 km² native plant seed nursery, greenhouse and seed facility. We have many valuable experiences to share and will present both our successes and setbacks.

ENVIRONMENTAL DEGREES

UNIVERSITY OF
ILLINOIS
SPRINGFIELD



Graduate Degrees for Restoration Professionals

Never in history has an understanding of the natural world and our impact on it been so critical. Society looks to environmental professionals to lead the way in protecting air, water, and soil quality and developing better solutions

for the management and restoration of our resources. UIS offers three graduate programs that prepare students for field and lab research and careers in ecosystem management and restoration.

**Master of Science (M.S.)
BIOLOGY**

**Master of Science (M.S.)
ENVIRONMENTAL STUDIES**

Master of Arts (M.A.)

ENVIRONMENTAL STUDIES

uis.edu/graduateeducation

THERKILDSEN FIELD STATION AT EMIQUON

UNIVERSITY OF
ILLINOIS
SPRINGFIELD



Open and Available for Research and Outreach

UIS' Therkildsen Field Station, located at the site of The Nature Conservancy's wetland restoration project—one of the largest in the country—offers facilities for a minimal rental fee to researchers, students, and community groups

interested in the environment. Facilities include a wet and dry labs, sleeping rooms, kitchen, library, classroom, and conference room. For more information, please contact Dr. Michael Lemke, Director of the Field Station.

DR. MICHAEL LEMKE, DIRECTOR
217.206.7339

THERKILDSEN FIELD STATION AT EMIQUON
11316 N Prairie Road, Lewistown, IL 61542

uis.edu/emiquon

The **Biology Department** at the **University of Illinois Springfield** offers opportunities for field and lab research and will prepare you to solve crucial human and environmental problems. Our program offers both a **M.S.** (thesis and exam closure options) and a **B.S.** in Biology. Find out more about our program by visiting our webpage at www.uis.edu/biology.

Working together, we can
ensure the diversity of life on Earth and
enrich the quality of life now and
for future generations.

© Heather Baker

The Nature
Conservancy 
Protecting nature. Preserving life.™
nature.org/illinois



Stantec offers stand-alone services for every phase of a restoration project. We also possess the depth and breadth of staff to integrate these services and carry projects, large or small, from conception to completion.

Our ecological services are not only a core business area but also part of a corporate commitment to sustainable solutions. Stantec employs knowledgeable staff in such wide ranging disciplines as stream and wetland ecology, wildlife biology, fisheries biology, ornithology, fluvial geomorphology, botany, natural systems engineering, environmental chemistry, and geology.

Stantec is **One Team** providing **Infinite Solutions.**

For more information call:
 Cody Fleece – (513) 842-8200
 Bryon Ringley – (614) 486-4383
 Aaron Feggstad – (608) 839-2040
 George Athanasakes – (502) 212-5000

stantec.com

Services we provide include:

**DIAGNOSTIC SURVEY/
FEASIBILITY STUDIES**

- Geomorphic Assessments
- Threatened and Endangered Species Surveys
- Wetland Delineations
- Habitat Assessment
- Limiting Factor Analysis
- Watershed Planning
- Total Maximum Daily Load (TMDL) Studies

RESTORATION DESIGN

- Dam Removal
- Fish Passage
- Stream Restoration
- Wetland Restoration
- Prairie Restoration
- Woodland Restoration

**REGULATORY COMPLIANCE
AND PERMITTING**

- 404/401 Permits
- Endangered Species Act
- Stream and Wetland Mitigation
- National Environmental Policy Act
- FERC Licensing

BUILD SERVICES

- Earthmoving & Grading Contractor Oversight
- Soil Preparation
- Native Seed & Plant Procurement
- No-till Drill & Broadcast Seed Installation
- Tree, Shrub, & Herbaceous Plant Installation
- Invasive Species Control
- Tree & Shrub Removal
- Erosion Control Installation

MONITOR & MANAGE SERVICES

- Vegetation & Invasive Species Surveys
- Performance Standard Evaluation & Reporting
- Habitat Quality & Diversity Assessments
- Erosion Control Inspection
- As-built Survey & Reporting
- Invasive Species Control
- Prescribed Burn Management
- Targeted & General Herbicide Application
- Landscape Management Mowing
- Hydrology Monitoring



One Team. Ecological Solutions.

A040438670111006150711



Proud Sponsor of the 2011 MWGL SER Meeting

ENVIRON's scientists and engineers deliver innovative solutions and unparalleled service in sediment, ecological restoration, toxicology, water quality and wastewater management, encompassing:

- Restoration Services
- Natural Resource Damage Assessments
- Risk-Based Engineering
- Risk Assessment
- Pharmaceutical Risk and Ecotoxicology
- Characterization and Modeling
- Laboratory and Field Studies

Regional offices in Ann Arbor, Chicago, Cleveland, Columbus, Indianapolis and Milwaukee



ENVIRON

Great Rivers Partnership

A Alianca Grandes Rios
Alianza De Los Grandes Rios
Milonga Mipati Alukamantano
大河伙伴

The Nature
Conservancy



Protecting nature. Preserving life.™

nature.org/greatrivers

Prairie Restorations, Inc.

Bringing people together with the land since 1977

Prairie Restorations, Inc.

PO Box 327
Princeton, MN 55371
800-837-5986
prairieresto.com

Designing, Installing and Managing Native Landscapes
Local Eco-Type Seed and Plant Materials
Six Locations Throughout Minnesota
Consulting Services Available

CHRISTOPHER B. BURKE ENGINEERING, LTD.



9575 West Higgins Road, Suite 600 Rosemont, Illinois 60018
PH (847) 823-0500 FAX (847) 823-0520
www.cbbel.com

*Environmental • Mechanical/Electrical
Stormwater Management • Water Resources
Transportation • Surveying • Structural*



Eco Logic



Eco Logic
Bloomington, IN
812.339.4011 Phone
812.339.1078 FAX
www.ecologicindiana.com
mail@ecologicindiana.com

Eco Logic, LLC is dedicated to providing the highest quality ecological services and innovative practices in the field of invasive plant management and native plant establishment by protecting diverse natural areas.

Lake States Fire Science Consortium



www.lakestatesfiresci.net

*A Joint Fire Science Program Knowledge
Exchange Consortium*



Northwater

Consulting

water resources | geosciences | mapping

- Watershed Studies, Planning & Management
- Permitting/Monitoring/Compliance
- Water Supply Development
- Ecological Restoration and Landform Stability
- Custom Mapping and GIS Analysis
- Geology & Hydrogeology

A small environmental and resource consulting business proudly serving the Midwest and Great Lakes Region from offices in Springfield and Chicago, Illinois

ringfield: 217-725-3181 Chicago: 630-318-0010



www.northwaterco.com

Spence Restoration Nursery



ILLINOIS STATE
Museum
502 SOUTH SPRING STREET
SPRINGFIELD, ILLINOIS

Changes: DYNAMIC ILLINOIS ENVIRONMENTS

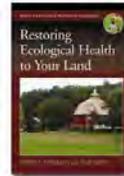


Open Daily
8:30 - 5:00 pm
Monday - Saturday
Free Admission



DICKSON MOUNDS
Museum
LEWISTOWN, ILLINOIS

Island Press is proud to partner with SER to provide tools for restorationists.



Restoring Ecological Health to Your Land
by Steven I. Apfelbaum
and Alan W. Haney



Climate Savvy
by Lara J. Hansen and
Jennifer R. Hoffman

Check out our conference book display!
These titles and more available at
www.islandpress.org/ser

800.621.2736
www.islandpress.org



• ECOLOGICAL CONSULTING • RESTORATION SERVICES •
• CULTURAL RESOURCE MANAGEMENT • NATIVE PLANT NURSERY •



info@JFNew.com

www.JFNew.com

SER Has the Tools You Need For Your Practice!



The SER Primer on Ecological Restoration is our most downloaded resource. It's a concise statement of restoration principles, and includes a clear definition of what restoration is, how it is planned, conducted, and evaluated, and how it coordinates with related disciplines.

Restoration Ecology, the Society's scientific and technical journal, is offered to SER members at significantly reduced rates. It is peer-reviewed by eminent scholars from around the world. Articles focus on restoration research and ecological principles that help explain restoration processes, descriptions of techniques that the authors have pioneered and that are likely to be of use to other practicing restorationists, and reviews of articles that summarize literature on specialized aspects of restoration.



BEFORE



AFTER

Photos by Deanna Rokich

Restoration of a quarry in Perth, Australia through the partnership of Rocla Quarry Products and the Science Directorate of Kings Park and Botanic Garden.



Society for
Ecological Restoration
International



Photo by Bob Dixon

Kings Park Master Gardeners monitoring a site in Beenup, Australia

SER Members are bringing restoration to every corner of the earth.

www.ser.org

SER International

285 W. 18th St.
Suite 1
Tucson, AZ 85701
USA
Phone: 520-622-5485
Fax: 520-622-5491
E-mail: info@ser.org

Our mission is to promote ecological restoration as a means of sustaining the diversity of life on Earth and reestablishing an ecologically healthy relationship between nature and culture.

We're a growing world community of practitioners dedicated to restoring damaged and disturbed ecosystems ... shouldn't **you** be part of this?



GLOBAL
RESTORATION
NETWORK

GlobalRestorationNetwork.org

The root of restoration is information.

FIND ANSWERS RESTORE ECOSYSTEMS

On the surface, **GlobalRestorationNetwork.org** is a free resource that connects you directly to hard science and provides you with practical advice for ecological restoration projects. From searchable databases of historic ecosystems to modern causes of degradation, to in-depth case studies and proven restoration techniques, the GRN is your hub of information.

Beneath the surface, our goal is to link you to restoration projects, researchers, and practitioners to foster a creative exchange of experience, vision and expertise always moving toward more effective and sustainable ecological restoration.

Visit **www.GlobalRestorationNetwork.org** for more information.

Made possible by:

The GRN is a project of the Society for Ecological Restoration International



Mérida, Mexico • August 21-25, 2011



SER2011

WORLD CONFERENCE ON
ECOLOGICAL RESTORATION

FEB 1

Call for Abstracts Opens

MARCH 1

Early Registration Opens

MAY 15

Call for Abstracts Closes

Re-establishing the Link between Nature and Culture

4th World Conference on Ecological Restoration

20th Annual Meeting of the Society

2nd Meeting of the Ibero-American and Caribbean Ecological Restoration Network

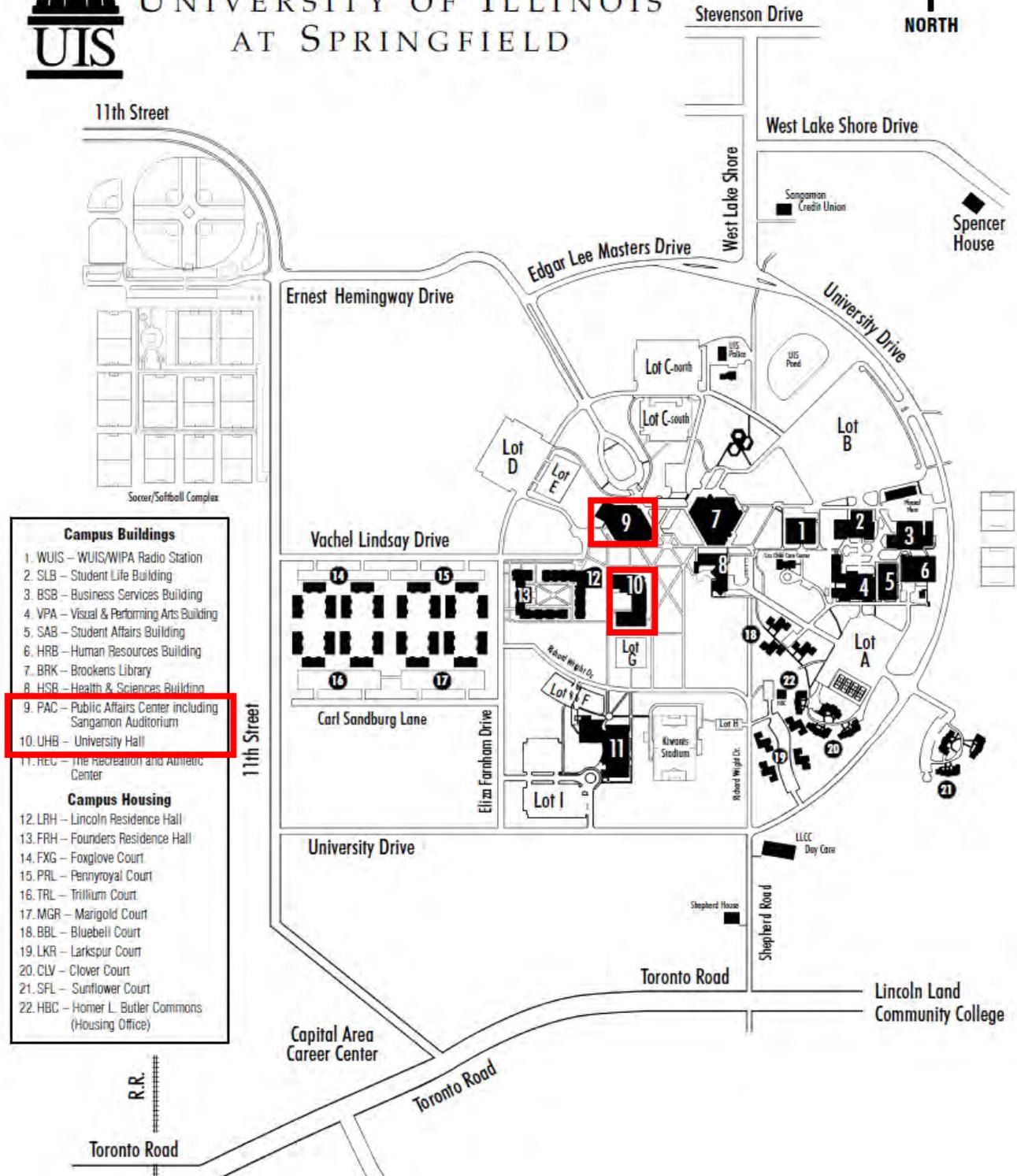
www.ser2011.org



The Society for Ecological Restoration, an international membership organization, hosts world conferences on ecological restoration every two years.



UNIVERSITY OF ILLINOIS AT SPRINGFIELD



Parking is available in Lot C north and Lot C south. If you are parked in these lots and you receive a parking ticket please bring the ticket to the registration desk.