

Natural Resource Connections



Across Generations and Disciplines

# 37th Annual Natural Areas Conference

## Program & Schedule of Activities

October 26 - 29, 2010  
Tan-Tar-A Resort  
Osage Beach, Missouri



Missouri Natural  
Areas Committee



College of  
Agriculture,  
Food and  
Natural  
Resources



National Association of  
**EPPCs**

## About Us

# The Natural Areas Association



The Natural Areas Association (NAA) has, for nearly 30 years, provided support and vital resources to individuals and agencies concerned with the protection and stewardship of natural areas.

As defined by NAA's founder, George B. Fell, natural areas are "areas of land which have scientific, educational and esthetic value by reason of distinctive natural features."

NAA provides natural areas "defenders" with the tools and information they need to be successful, whether they are natural areas managers, educators, program staff or volunteers.

To support those who are committed to natural areas conservation, NAA:

- Publishes the Natural Areas Journal and the Natural Areas News.
- Hosts the Natural Areas Conference.
- Develops special reports such as "The Status of State Natural Area Programs."
- Facilitates special programs and working groups such as the State and Federal Natural Area Programs Roundtables.
- Provides education and outreach to the land trust community.
- Serves as a portal to natural areas information and resources.
- Founded in 1980, NAA is a 501(c)(3) non-profit organization.

To become a member, donate or learn more about the Natural Areas Association, visit [www.naturalarea.org](http://www.naturalarea.org).

## Host



## Co-Hosts



Missouri Natural Areas Committee



National Association of EPPCs



College of Agriculture, Food and Natural Resources

## Sponsors



Missouri Department of Natural Resources

PAT JONES



L-A-D Foundation

## Conference Co-Sponsors

### Benefactors (\$10,000+)

Pat Jones  
Bureau of Land Management  
Missouri Department of Conservation  
Missouri Department of Natural Resources

### Underwriters (\$5,000 to \$9,999)

U.S. Forest Service

### Sponsors (\$2,500 to \$4,999)

National Park Service

### Supporters (\$1,000 to \$2,499)

Conservation Federation of Missouri  
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George Clark Missouri State Chapter  
- National Wild Turkey Federation  
Joint Fire Sciences Program  
LAD Foundation  
Missouri Parks Association  
U.S. Fish and Wildlife Service, Missouri Ecological Services Field Office

## Other Donors

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Missouri Conservation Heritage Foundation  
Missouri Native Plant Society  
Missouri Prairie Foundation  
Missouri Society For Conservation Biology  
Missouri Society of American Foresters  
Missouri Soil & Water Conservation Society — MO Show-Me Chapter  
Open Space Council

**Thank you to all of our sponsors who make the Natural Areas Conference possible!**

## Conference Committee

### Conference Organizers

Tim Nigh, *Missouri Dept. of Conservation*  
Charles Nilon, *University of Missouri*

### NAA Conference Committee

Deb Kraus, Renee Boronka, and  
Thomas Meyer

### Program Chair

Ken McCarty, *Missouri Dept. of  
Natural Resources*

### Field Trip Chair

Mike Currier, *Missouri Dept. of Natural  
Resources*

### Publicity Chair

Mike Leahy, *Missouri Dept. of  
Conservation*

### Sponsorship Chair

Amy Buechler, *Conservation  
Federation of Missouri*

### Exhibits Co-Chairs

Malissa Underwood, *Missouri Dept. of  
Conservation*  
Lisa Davis, *Missouri Dept. of Conservation*

### Plenary Chair

Gene Gardner, *Missouri Dept. of  
Conservation*

### Social Chair

Nancy Masterson, *Missouri Dept. of  
Natural Resources*

### Conference Coordinator / Registrar

Angela Freemyer, *MU Conference  
Office*  
Lindsay Kilgore, *MU Conference Office*  
**Graphic Design**  
Sharon Rodes, *MU Conference Office*  
Ramona Fairchild, *MU Conference  
Office*

# Welcome to Osage Beach, on the Lake of the Ozarks, Missouri, USA

The Missouri Natural Areas Committee is pleased to co-host the 37<sup>th</sup> Annual Natural Areas Conference. We are proud to partner with the conference host, the Natural Areas Association, and other co-hosts: the University of Missouri College of Agriculture, Food and Natural Resources, and the National Association of Exotic Pest Plant Councils, to provide this high-quality conference. You will have the opportunity to attend thought-provoking plenary sessions, symposia, workshops and hands-on field trips to Missouri natural areas. This year's conference features many paired workshop and field trip combinations for more intensive training. We hope you will participate in the networking opportunities and make it your goal to make those connections with old friends as well as new faces and to learn something new.

We are proud and honored to have you here in the Show Me state. People that attend the Natural Areas Conference are at the center of resource conservation in North America and around the world. Many of the advances in ecosystem restoration and management now and into the future have Natural Areas Association members in the lead. Because of your efforts, there is enduring hope for every living thing on the planet.

Please take a moment to thank the conference co-sponsors (see opposite page). Without their generous support, this event would not have been possible.

Enjoy the Natural Areas Conference and your time on the Lake of the Ozarks!

**Tim Nigh**  
Conference Organizer

## Information

### Questions

The staff working the conference registration desk would be glad to help answer any questions that you might have.

### Name Badges

Please wear your name badge to all conference events. It is your ticket to access symposia, sessions, breaks and socials.

### Cell Phones

Please turn off cell phones during sessions as a courtesy to the presenter and other participants.

### Meals and Dining Out

Your full conference registration fee includes coffee breaks, appetizers in the exhibit hall Tuesday evening for the poster reception, the field trip box lunch (pick up Thursday morning before departing), and if you confirm ahead of time, the Wednesday NAA membership luncheon and Thursday evening banquet. All other meals are on your own. For your convenience, the hotel

will have cash breakfast items and lunches for sale in the exhibit hall. There are several restaurants on the hotel property that should satisfy all budgets.

### Auction

A variety of silent and live auction items will be displayed in Windgate Hall for your bidding pleasure beginning Tuesday morning. Bidding will close on silent auction items shortly before the Thursday evening banquet begins. Winning bidders must pay for their items on Thursday night. Arrangements can be made for shipping through NAA. All auction proceeds support the conference and the work of the Natural Areas Association. If you've brought items to donate to the auction, please drop them off at the registration table when you arrive.

### Exhibitors

Windgate Hall will be open daily from Tuesday morning through Friday morning to provide participants time to meet the vendors and browse their displays.

### Field Trips

Full conference and Thursday daily registrants who pre-registered for a field trip will have a ticket in their name badge holder. If you have questions regarding your scheduled trip, then visit the conference registration desk. Changing field trips is discouraged but any changes must be made by 2:00 pm on Wednesday.

### Student Awards

We want to thank those students who entered the student awards contest, and also the contest sponsor,

### Conference T-Shirts

Be sure to stop at the Natural Areas Association booth to pick up your official 37<sup>th</sup> Annual Natural Areas Conference T-Shirt. These 100% organic cotton shirts are printed with water based ink and reflect our social and environmental values and make great souvenirs!

# 2010 Conference Schedule at a Glance

<b>Monday, October 25</b>		
<b>Time</b>	<b>Session/Event</b>	<b>Room</b>
8:00 am - 5:00 pm	<b>Affiliated Meeting of the Society of Wetland Scientists - Central Chapter</b>	
4:00 - 7:00 pm	<b>Registration Opens</b>	Foyer
<b>Tuesday, October 26</b>		
<b>Time</b>	<b>Session/Event</b>	<b>Room</b>
7:00 am	<b>Registration Opens</b> <b>Exhibits Open</b> <b>Cash and Carry Breakfast</b>	Foyer Windgate Hall Windgate Hall
8:00 am – Noon	<b>Plenary Session</b> Bob Priddy, Doug Ladd, Randy Heidorn, and Peter Colverson	Salon A
10:00 – 10:30 am	<b>Mid Morning Coffee Break in Exhibit Area</b>	Windgate Hall
Noon	<b>Lunch on Your Own</b> (Cash and Carry Lunch Available in Exhibit Area)	Windgate Hall
1:30 – 3:00 pm	<b>Natural Resource Connections Symposium</b>	Salon A
1:30 – 5:00 pm	<b>Invasive Species Papers</b> (Two Concurrent Sessions)	Room 74 Room 75
1:30 – 5:00 pm	<b>General Technical Papers</b> (Two Concurrent Sessions; Management and Conservation Tracks)	Parasol II Redbud
3:00 – 3:30 pm	<b>Mid-Afternoon Coffee Break in Exhibit Area</b>	Windgate Hall
3:30 – 5:00 pm	<b>Natural Resource Connections Symposium World Café Breakout Sessions</b>	Room 62 Room 63 Salon A
5:30 pm	<b>Poster Session and Social in the Exhibits Hall</b>	Windgate Hall
7:00 pm - 9:00 pm	<b>Federal Natural Areas Roundtable</b>	Room 76
<b>Wednesday, October 27</b>		
<b>Time</b>	<b>Session/Event</b>	<b>Room</b>
7:30 am	<b>Registration Opens</b>	Foyer
8:30 am – 12:00 pm	<b>Morning Workshops and Concurrent Sessions</b>	
10:00 – 10:30 am	<b>Mid Morning Coffee Break in Exhibit Area</b>	Windgate Hall
Noon	<b>NAA Annual Meeting and Luncheon</b> <b>General Attendees: Lunch on Your Own</b> (Cash and Carry Lunch Available in Exhibit Area)	Parasol I Windgate Hall
1:30 pm – 5:00 pm	<b>Afternoon Workshops and Concurrent Sessions</b>	
3:00 – 3:30 pm	<b>Mid-Afternoon Coffee Break in Exhibit Area</b>	Windgate Hall
3:30 pm	<b>NAEPPC Roundtable and Business Meeting</b>	Room 76
5:30 pm	<b>Dinner on Your Own</b>	
7:00 pm	Natural Areas Journal Editorial Board Meeting	Room 76

## Thursday, October 28

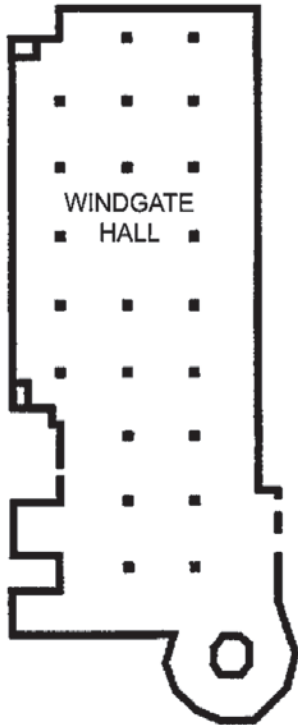
Time	Session/Event	Room
6:30 am	Registration Opens	Foyer
7:30 am	Buses depart for the field trips, Pick up Box Lunches in Windgate Hall (check field trip schedule on page 14)	
5:00 pm	Buses return from the field trips	
5:30 pm	Social in the Exhibits Hall and Silent Auction items displayed	Windgate Hall
6:30 pm	Awards Dinner and Auctions	Salon C

## Friday, October 29

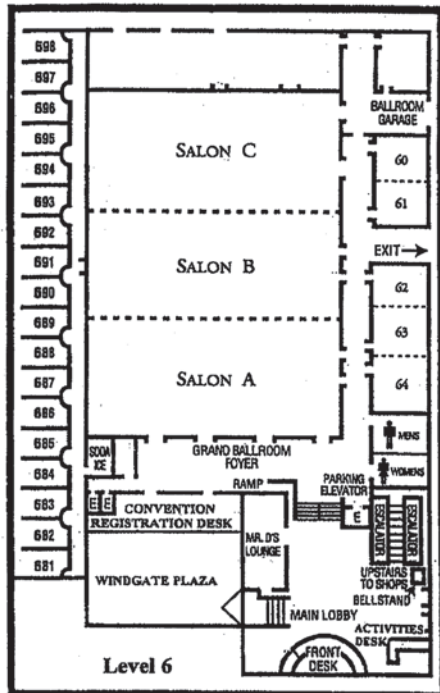
Time	Session/Event	Room
7:30 am	Registration Opens	Foyer
8:30 am – 12:00 pm	Morning Workshop and Invited Papers Concurrent Sessions	
10:00 am	Mid Morning Coffee Break in Exhibit Area	Windgate Hall
9 am to noon	State Natural Areas Roundtable	Room 76
Noon	Conference Adjourns	
12:00 – 5:00 pm	Evaluating and Selecting Conservation Projects: Missouri Land Trust Coalition and the Land Trust Alliance (Lunch provided for those pre-registered)	Salon B



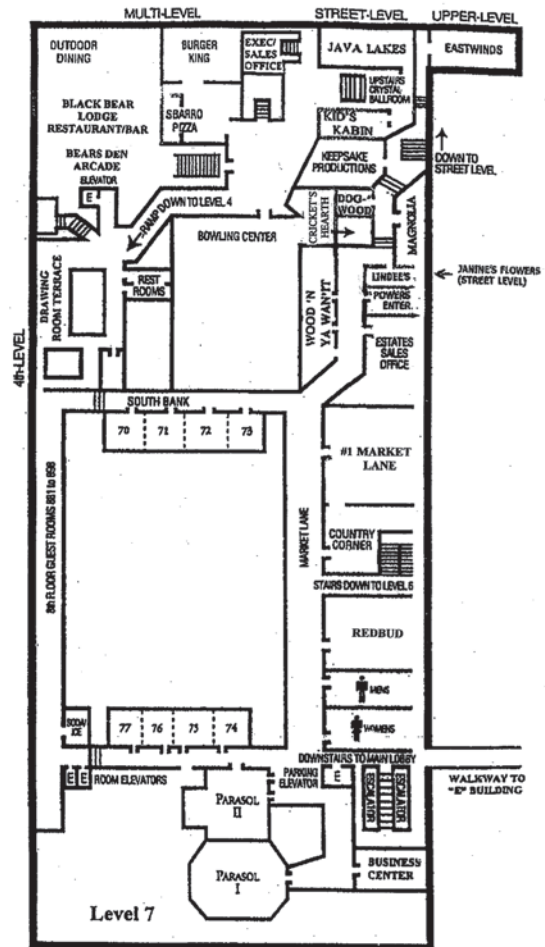
**BUILDING A & B**  
(Meeting and Facilities Directional Map)



FIFTH FLOOR



Level 6



Level 7

## Highlights

### Opening Plenary Session Salon A

8:00 am

#### Welcome Addresses:

Tim Nigh, Conference Co-Chair;  
NAA President Lisa Smith

8:30 am

**Bob Priddy**, Conservation: The  
Never-Ending Trail

9:15 am

**Doug Ladd**, A Natural and  
Cultural History of the Missouri  
Landscape

10:00 am

**Break**

10:30 am

**Randy Heidorn**, The Natural  
Areas Movement as an  
Incubator of Natural Resource  
Conservation Trends

11:15 am

**Peter Colverson**, Natural Area  
Managers, How Should They Be  
Trained?

12:00 pm

#### Lunch Break

(Cash and Carry Lunch with  
Exhibitors in Windgate Hall)

1:30 pm

**Symposium: Natural  
Resource Connections Across  
Generations and Disciplines**

5:30 pm

**Join your colleagues to meet  
poster authors while enjoying  
light snacks and refreshments  
from the cash bar.**

**Poster Session and Social  
Exhibit Area** – Windgate Hall

7:00 pm

#### Federal Natural Areas Roundtable

An open forum of people  
responsible for or interested in  
federal natural areas.

# Tuesday, October 26, 2010

## Plenary Speakers

### Conservation: The Never-Ending Trail



#### Bob Priddy

Bob is well known regionally as a Missouri historian and journalist. He has been involved with Missouri news reporting and documenting the history of Missouri for over 30 years. His presentation will be *Conservation: The Never-Ending Trail*. Bob is an expert Midwest historian and adroit storyteller who will provide the crucial historic context in which the conservation movement has developed in Missouri. This story is fundamental to understanding where natural areas conservation is today in Missouri and the broader central U.S. It shows us where we have been and provides the ever important social and economic background that drives natural resource decision making across the larger landscape.

Bob Priddy received his bachelor's degree in Journalism from the University of Missouri in 1963. He has been working as a journalist and as a historian for over 30 years. In 2000 he received the University of Missouri Alumni Association's Faculty-Alumni Award. In 2002 he received the Missouri Honor Medal for Distinguished Service in Journalism from the Missouri School of Journalism — the School's highest award. Bob is currently the News Director of The Missourinet, a statewide commercial radio network that provides news, sports and special programming to about 60 radio stations in Missouri. The Radio-Television News Directors Association and the Radio and Television News Directors Foundation presented him with a distinguished service award in 2010. This award has been previously given to such figures as Walter Cronkite, C-SPAN founder Brian Lamb, and CBS News President Frank Stanton. He's a historian who has written four books which focus on Missouri history. Three of them are based on his popular daily radio program, *Across Our Wide Missouri*. Bob is a member of the Board of

Trustees of the State Historical Society of Missouri and the Board of Trustees of the Friends of the Missouri Archives. Bob and his wife reside in Jefferson City, Missouri. They have two grown children.

### A Natural and Cultural History of the Missouri Landscape



#### Doug Ladd

Doug is well known throughout the eastern U.S. as an accomplished plant ecologist and botanist who has been working tirelessly for over 30 years in the field of natural areas conservation. He brings a great perspective as a biologist who is comfortable both with a dissecting microscope and a drip torch. His work and mentoring have influenced the careers and direction of the natural areas movement throughout the Midwest. Doug's presentation *A Natural and Cultural History of the Missouri Landscape* will build upon the historical context provided by Bob Priddy. Ladd has a commanding knowledge of the natural history of the region and will show us the connections between geology, biology, and history that set the stage for current natural areas conservation in Missouri.

Doug Ladd is Director of Conservation Science for the Missouri Chapter of The Nature Conservancy. He has been involved with vegetation ecology, fire management, conservation planning, natural area assessment, and ecological management, restoration, and research for more than thirty years, with particular emphasis on vegetation, ecological restoration and fire ecology. He has also worked on lichens in the Midwest for over two decades, and is currently collaborating with Richard Harris of the New York Botanical Garden on a study of Ozark lichens, which has resulted in the discovery of several species and genera new to science. He has undergraduate degrees in botany and chemistry, and a master's degree in botany from

Southern Illinois University, where his thesis research was conducted under Dr. Robert Mohlenbrock on the flora and vegetation of north-central Vermont. In addition to numerous articles and reports, he is the author of two plant field guides, *North Woods Wildflowers* and *Tallgrass Prairie Wildflowers*, and coauthor of *Discover Natural Missouri* and *Distribution of Illinois Vascular Plants*. A research associate at the Missouri Botanical Garden in St. Louis and the Morton Arboretum in Chicago, Ladd resides in Webster Groves with his wife Deborah and daughter Melica.

## The Natural Areas Movement as an Incubator of Natural Resource Conservation Trends



### Randy Heidorn

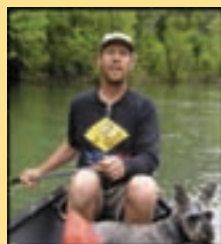
Randy has been involved with natural areas conservation and the Natural Areas Association for nearly 30 years during which time he has been closely involved with the conservation of Illinois Nature Preserves. Illinois is one of the first states in the nation to have a natural areas protection program dating back to 1963. The influence of Illinois' natural areas work was instrumental in terms of concepts and trained biologists that then spread across many other states. Randy's presentation *The Natural Areas Movement as an Incubator of Natural Resource Conservation Trends* will give us an overview of how these concepts of natural areas conservation have developed and influenced the broader field of natural resources conservation. His long-time involvement with the Illinois Nature Preserves System and the Natural Areas Association will provide us with the background to consider connections between generations and disciplines in the natural resources field and further build upon the natural and cultural historical context provided by Priddy and Ladd.

Randy Heidorn currently manages the day to day operations of the Illinois Nature Preserves Commission (INPC), a model reserve system of over 500 natural areas protected by dedications, conservation easements and other protection agreements. Heidorn specializes in stewardship and defense of natural areas working with scientists, staff, contractors, volunteers,

non-governmental organizations, public and private landowners, the Illinois Department of Natural Resources (IDNR), and the Illinois Office of the Attorney General to conserve natural areas. He led efforts in state government in the development and implementation of the Illinois Prescribed Burning Act which certifies prescribed burn managers in the State of Illinois. Heidorn has been closely involved with the initiation of the development of biological control for purple loosestrife and garlic mustard. He helped initiate a process to formally designate special groundwater recharge areas for Illinois' dedicated Nature Preserves. His 28 year long career in Illinois government has included service as the INPC Deputy Director for Stewardship and District Natural Heritage Biologist for IDNR in the Chicago area. Heidorn received his Masters of Arts in Zoology from Southern Illinois University at Carbondale (1982) and also his Bachelors of Science in Biological Sciences from Southern in 1978.

Randy Heidorn has been a member of the Natural Areas Association since the early 80s and on the Board of the Directors since 1999. He has served on several committees, was the conference chair in 2004 in Chicago, served as treasurer for 5 years and is currently the Vice President. He is also the Treasurer of The Illinois Prescribed Fire Council. Randy lives with his wife Jean Scherer and two boys on a hobby farm in rural Sangamon County, Illinois.

## Natural Areas Managers, How Should They Be Trained?



### Peter Colverson

Peter has nearly 30 years of experience in communications, teaching, and natural resources management. His background in education, training, environmental interpretation and facilitation have provided him the insight needed to discuss how we can connect across generations and disciplines to integrate conservation biology and natural areas concepts into current natural resource management. His presentation *Natural Areas Managers, How Should They Be Trained?* will build upon the context provided by the other plenary speakers (Priddy, Ladd and Heidorn) by showing us that given the history of the natural areas movement and conservation where

we might go in the future to train new natural areas managers and ensure that natural areas concepts are integrated into the broader field of natural resources management today.

Peter currently works for Pandion Systems, an environmental science, ecology and communications company that since 1997 has designed innovative solutions that strike a balance between the needs of people and the environment. With Pandion he currently works as a lead trainer for the National Association of Interpretation's Certified Interpretive Guide training program, leads the Gopher Tortoise training program for the Florida Fish and Wildlife Conservation Commission, and has trained hundreds of teachers in fire ecology for the Florida Division of Forestry. Before joining Pandion in 2006 he worked for The Nature Conservancy where he founded and managed a new program for Florida's land managers called the Natural Areas Training Academy. Peter managed the academy for five years during which time over 50 land managers earned a certificate in natural areas management. Peter has also been a lead facilitator for a variety of environmental projects from springs protection working with the Florida Department of Environmental Protection to the Firewise Communities program of the Florida Division of Forestry.

Peter also taught college for 20 years in biology, environmental science and math. He holds an MA in Environmental Interpretation and Resource Geography from Oregon State University and a BS in Zoology and Botany from the University of London, England. Born and raised in England he has lived in the U.S. for 30 years. He shares his nature-based interests with his wife and two sons.



# Tuesday

# Program Sessions



Tuesday, October 26, 2010			
Times	Room: Salon A	Room: Parasol II	Room: Redbud
7:30 am	Registration Desk Opens		
8:00 am	PLENARY SESSION		
8:00 am	<b>Welcome Addresses</b> Tim Nigh, <i>Conference Co-Chair</i> ; NAA President Lisa Smith		
8:30 am	<b>Bob Priddy.</b> Conservation: The Never-Ending Trail		
9:15 am	<b>Doug Ladd.</b> A Natural and Cultural History of the Missouri Landscape		
10:00 am	Mid-Morning Break (Windgate Hall)		
10:30 am	<b>Randy Heidorn.</b> The Natural Areas Movement as an Incubator of Natural Resource Conservation Trends		
11:15 am	<b>Peter Colverson.</b> Natural Area Managers, How Should They Be Trained?		
12:00 pm	Lunch Break		
	<b>Symposium: Natural Resource Connections Across Generations &amp; Disciplines</b>	<b>General Technical Papers Management Session</b>	<b>General Technical Papers Conservation Session</b>
1:30 pm	<b>1:30 PM: Tim Nigh/Charlie Nilon</b> Introduction <b>1:40 PM: Daniel Svedarsky,</b> <i>Professor, University of Minnesota,</i> Discipline Based Education and Training. <b>2:00 PM: Mark Ryan,</b> <i>Director, School of Natural Resources, University of Missouri,</i> Preparing Students for the Future. <b>2:20 PM: Jody Shimp,</b> <i>Natural Heritage Division Field Staff Administrator, Illinois Department of Natural Resources,</i> Natural Areas Internship Programs. <b>2:40 PM: Lisa Brush,</b> <i>Executive Director, The Stewardship Network,</i> Professional Training.	<b>Ganga Nakarmi.</b> Community and Conservation in Nepal.	<b>Dennis E. Figg.</b> Toward Accelerating Wildlife Habitat Conservation: A Synthesis Report from the Wildlife Habitat Policy Research Program.
2:00 pm		<b>David Riddell and Karen Wise.</b> Work Smarter, Not Harder - Sustainable Design Practices for Wetlands Mitigation Banks in Ohio.	<b>Aaron Stevenson.</b> The Future of Missouri's Biodiversity.
2:30 pm		<b>Jack Pizzo.</b> Successful and Award Winning Restorations in Sustainable Developments and Open Spaces - How to Communicate to the Development Community and to the Buying Public.	<b>Joshua Cohen and Michael Donovan.</b> Michigan's Biodiversity Conservation Planning Process.
3:00 pm	Mid-Afternoon Break (Windgate Hall)		
3:30 pm	<b>Natural Resource Connections World Café Breakout Sessions: Topic #1 and #2</b>	<b>Quinn Long, Kelly Kindscher, and Bryan Foster.</b> Interseeding and Heterogeneous Disturbances Increase Native Species Recruitment and Diversity in Prairie Restorations.	<b>David J. Brunckhorst, Phillip Morley, and Ian Reeve.</b> Landscapes of Property, Politics and Place: Understanding 'Regions' for Conservation Actions.
4:00 pm		<b>John Vickery and Megan Bowes.</b> Ecological Services of Weeds: Examples and Implications for Natural Areas Management.	<b>Phil Morley and David Brunckhorst.</b> Landscape Change and Population Migration - Examining Conservation Futures of Alternative Landscape Designs.
4:30 pm		<b>Michael P. Burfield, Charles H. Nilon, and Lana Henry.</b> Creating an Integrated Vegetation Management Plan for George Washington Carver National Monument.	<b>Gust M. Annis, Scott Sowa, David Diamond, Aaron Garringer, Phillip Hanberry, and Michael Morey.</b> An Aquatic Gap Analysis of Riverine Ecosystems Throughout the Missouri River Basin.
5:00 pm	Sessions End		
5:30 pm	Poster Session and Exhibits in Windgate Hall		
7:00 - 9:00 pm	Federal Natural Areas Roundtable in Room 76		



# Poster Presentations

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Effects of Chinese Privet (*Ligustrum sinense*) on Nutrient Cycling and Growth by Recolonizing Native Herbaceous Plants.

G. Mitchell Allen, Oliver Herbst, and Katherine Larson

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Decomposition Station Survey at Tumbling Creek Cave.

David Ashley and Thomas Aley

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Monitoring Missouri Populations of the Prairie Fringed Orchids (*Platanthera praeclara* and *Platanthera leucophaea*).

David Ashley and Tom Nagel

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Show Me the Missouri River.

M. Neil Bass and Chuck Sellmeyer

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Aquatic Vegetation Monitoring at Ozark National Scenic Riverways, Missouri.

David E. Bowles, Hope R. Dodd, Jan A. Hinsey, and Tyler Cribbs

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Effects of Land Management Practices on Primary Production and Soil Nutrients in a Temperate Prairie Ecosystem.

David R. Burge

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Natural Areas as Scientific Laboratories. Emeralds at the Crossroads: Dragonfly Hybridization in Beringia.

Dr. Syd Cannings, Dr. Erik Pilgrim, Dr. Rob Cannings, Tim Vogt, and Dr. Oleg Kosterin

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Northern Bobwhite Quail (*Colinus virginianus*) Response to Habitat Restoration on Private Lands in NW Missouri: Implications for Management Applications on Natural Areas.

Richard Cook, Cary Chevalier, Jeffrey Powelson, Kyle Reno, and Wyatt Jackson

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Using GIS/GPS Technology to Assist in Managing Habitat for a Federally Endangered Species: Coldwater Fen and The Mitchell's Satyr Butterfly (*Neonympha mitchellii mitchellii*).

Randy Counterman and Nate Fuller

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Estimating the Occupancy Status of Several Mesopredators in the Ozark Highlands of Missouri: For Some and Absence for Others.

Michael V. Cove, Liisa M. Niva, and Victoria L. Jackson

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Distribution of The Prairie Mole Cricket *Gryllotalpa major saussure* (Orthoptera: Gryllotalpidae) in Areas that are Grazed and Ungrazed by Bison at Prairie State Park in Barton County Missouri.

Nicholas A. Crownover

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Development and Maintenance of Native Bee Habitat Within Natural Areas for Education.

Zane M. Dye and David M. Gordon

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The Biology and Ecological Roles of a Leafcutter Bee in a Northern California Coastal Dunes Preserve.

David M. Gordon

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Wildlife Communities and Human Recreationists in Bobcat Ridge Natural Area.

Bonnie Caldwell Greenwood and Victoria Claire Wilson

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Spatio-Temporal Distribution of Eastern Red Cedar (*Juniperus virginiana*) in the Wichita Mountains National Wildlife Refuge, Oklahoma, USA.

Lyndia D. Hammer and Michael C. Stambaugh

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Reference Conditions for the Missouri Ozarks.

Brice Hanberry, Hong He, John Kabrick, Dan Dey, Brian Palik, and Shawn Fraver

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Soil Composition Using Portable X-Ray Fluorescence Spectrometry (Pxf) in the Loess Hills of the Missouri River.

Dr. Kurt M. Hartman, Dr. Shauna L. Hiley, Samantha M. Schmuecker, Brian Guyer, Peter Nelson, Tyeson Geiger, Nicole Deveau, Tommy Beck, and Amanda Sullivan

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Midstory Removal Within a Mixed Uneven Aged Oak Stand to Promote Natural Regeneration of Various Oak Seedlings.

Dawn E. Henderson, Mike Anderson, Mike Keeley, and Eric R. Goats

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Influences of Environmental Factors on Aquatic Invertebrate Community Structure in Ozark Tributaries at Buffalo National River and Ozark National Scenic Riverways.

Janice A. Hinsey, David E. Bowles, Hope R. Dodd, and J. Tyler Cribbs

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Heartland Network I&M Website Redesign for Improved Visitor Usability.

Lanna Jin and Kevin James

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Monitoring a Glade Restoration: An Opportunity for Undergraduate Education and Research.

Gail F. Johnston, Jamie M. Gibison, Eric M. Wright, and Raychel G. Terschluse

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Historic Canopy Disturbance and the Role of Topography in the Missouri Ozark Highlands.

Chad King, Rose-Marie Muzika, and Richard Guyette

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Restoration and Management of Natural Areas Through Science and History.

David M. Knotts, Amanda D. Molenpah, and Daniel W. J. Beliese

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The Relative Contribution of Seedling Establishment Versus Vegetative Spread in Invasions by Japanese Honeysuckle.

Katherine Larson and Michael Uffenbeck

---

Longleaf Pine Restoration on State Natural Area Preserves in Southeast Virginia.

Darren Loomis, Rick K. Myers, and Paul A. Clarke

---

Shoot Control of Running Bamboos Using Glyphosate.

Victor Maddox and John Byrd

---

Boot Brush Stations: An Effective Way to Stop the Spread of Invasive Species?

Misty McElyea, David J. Gibson, and Chris Evans

---

Range Expansion of the Non-Native Roesel's Katydid (*Metroptera roeselii*) into Northern Indiana.

Scott Namestnik and Carl Strang

---

Effects of *Ligustrum sinense* Eradication on Avian Abundance and Species Richness in Central Arkansas.

Jessica Needham and Mary Victoria McDonald

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Connecting the Ponds: A Graph Theory Approach to Assessing Wood Frog Population Connectivity in Missouri.

William E. Peterman, Tracy A. G. Rittenhouse, and Julia E. Earl

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Mapping Current and Historic Vegetation at Pea Ridge National Military Park.

Dyanna Pursell, Mike DeBacker, David Diamond, Kevin Eads, Lee Elliott, Kevin James, and Ronnie Lea

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Databases as Secure Containers for Long-Term Ecological Monitoring Data.

Gareth Rowell

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Comparing Evil Twins: Seedling Responses of Two Invasive Shrub Honeysuckles to Light.

Kurt E. Schulz, Jessica Wright, David Harroun, and Luci Ann Kohn

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The Reproductive Biology of Amur Honeysuckle Suggests a Nuanced Control Strategy.

Kurt E. Schulz and Jessica Wright

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Confluence Point - Converging Rivers and Converging Interests.

John Skelton, M. Neil Bass and Charlie Hanneken

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Assessing Germination Vigor and Viability of Missouri Shortleaf Pine Seedlots Stored for 43, 30, 23, and 6 years.

Stacey L. Smith, David P. Gwaze, and John P. Dwyer

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Vegetation Response to Initial Management for Shortleaf Pine Community Restoration.

Carrie R. Steen and Susan Farrington

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Recreational Use of the Missouri River: Results From a Public Use Study.

Tom Treiman, Steve Sheriff and Rochelle Renken

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Any Sheep in the Landscape? Unlikely Connections of Landscape National Parks in Interior Alaska and Northern England.

Lucy Tyrrell

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Natural Resources Connections: Creating Fact Sheets to Connect Researchers with General Audiences.

Lucy Tyrrell

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Evaluating North American Tallgrass Prairie Quality Using the Auchenorrhyncha Quality Index.

Adam Wallner, Christopher Dietrich, and Brenda Molano-Flores

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Mount Rushmore National Memorial Condition Assessment.

Gary Willson, Sunil Narumalani, Christine Lockert, and Paul Merani

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Restoring Piedmont Prairie and Hardpan Woodlands in Virginia: a Decade of Success at Difficult Creek Natural Area Preserve.

Claiborne Woodall, Bryan Wender, Rick Myers, and Chris Ludwig.

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Comparative Analysis of Aquatic Insect, Amphipod, and Isopod Communities in Rheocrene Spring Systems of Missouri State Parks.

Megan M. Zeller, Richard M. Houseman, and Robert W. Sites



# Wednesday Concurrent Sessions

Wednesday, October 27, 2010				
Time	Room: 61	Room: 74/75	Room: Redbud	Room: 64
	<b>Workshop -- Large River Natural Communities: Ecology and Management</b>	<b>Workshop -- Caves and Karst Ecology &amp; Management</b>	<b>Workshop -- Glade/Woodland Ecology &amp; Management</b>	<b>Workshop -- Stream Ecology &amp; Conservation</b>
8:30 am	<b>Rob Jacobson.</b> Big River Systems, Patterns and Processes.	<b>David Ashley.</b> Introduction to Karst.	<b>Theo Whitsell.</b> Re-Open for Business: Glade, Woodland and Other Open Habitat Restoration Projects on State Natural Areas in Arkansas.	<b>Matthew Combes.</b> Missouri Resource Assessment and Monitoring Program.
9:00 am	<b>David Galat.</b> A Socio-Ecological History of the Missouri River.	<b>Anthony Elliott.</b> White-nose Syndrome in Bats: History and National Perspective.	<b>Allison Vaughn.</b> After 25 Years of Prescribed Fire: Woodland Bird Populations in the Ha Ha Tonka Oak Woodland Natural Area.	<b>Robert DiStefano.</b> Missouri's Crayfishes: What Good Are They?
9:30 am		<b>William Elliott.</b> White-nose Syndrome in Bats and Missouri's Response Planning.		
10:00 am	<b>Mid-Morning Break</b> (Windgate Hall)			
10:30 am	<b>Robert Hrabik.</b> A Natural History of the Middle Mississippi River: The Fictional Travels of Jedidiah Smith.	<b>Brian Allen.</b> Testing a Widespread Hypothesis Made Urgent by the White Nose Syndrome Epizootic: Do Bats Control Mosquito Populations?	<b>Paul Nelson.</b> Biotic Homogenization or Ecosystem Restoration: A Manager's Choice?	<b>Michael McKee and Annie Allert.</b> Trends in Ecological Impacts for Mining-Derived Metals in the Ozark Highland Watershed.
11:00 am	<b>David Galat.</b> Challenges to Applying Adaptive Management to Large-Scale River Restoration: The Upper Mississippi River Navigation and Ecosystem Sustainability Program (NESP).	<b>Tom Aley.</b> Essential Management Strategies for Maintaining Cave Ecosystems with the Anticipated Loss of Bats to White-Nose Syndrome.	<b>John Taft.</b> Canopy and Ground-layer Interactions in Oak Woodland Communities - Evidence for Restoration Potential.	<b>Craig Fuller.</b> Road Crossings and Niangua Darter Recovery Efforts: A Bridge to the Future.
11:30 am	<b>Mickey Heitmeyer.</b> Big Rivers Restoration Planning Using the HGM Approach.	<b>Blake Stephens.</b> Ozark Cavefish ( <i>Amblyopsis rosae</i> ): Learning, Conserving, and Preserving.	<b>Stephen Packard.</b> Savanna and Oak Woodland Restoration Analyzed by a Variety of Methods.	<b>Jason Persinger.</b> Monitoring Experimental Streambank Stabilization Techniques in Missouri Streams.
12:00 pm	<b>Lunch Break</b> (NAA Annual Meeting and Luncheon in Parasol I or Cash and Carry Lunch available in Windgate Hall)			
	<b>Workshop -- Large River Natural Communities: Ecology and Management (continued)</b>	<b>Workshop -- Caves and Karst Ecology &amp; Management (continued)</b>	<b>Workshop -- Managing for Diverse Landscape with Fire</b>	<b>Workshop -- Dendroecology and Natural Areas: the Language of Tree Rings</b>
1:30 pm	<b>Wedge Watkins.</b> Passive Floodplain Management at Overton Bottoms.	<b>Robert Lerch.</b> Resource Documentation and Recharge Area Delineation of a Large Fluvial Karst System; Carroll Cave, Missouri.	<b>Greg Nowacki.</b> Past, Current and Future Trends of Oak in the Eastern United States.	<b>Mike Stambaugh.</b> Introduction to Tree Rings: The Who, What, Where, When and Why of Dendrochronology.
2:00 pm	<b>Tim James.</b> Active Floodplain Management at Eagle Bluffs.	<b>Ben Miller.</b> Source Mixing and Water Chemistry Monitoring in the Carroll Cave-Toronto Springs Hydrologic System.	<b>Eric Knapp.</b> Ecological Effects of Prescribed Fire Season: A Literature Review and Synthesis for Managers.	<b>Richard Guyette.</b> Methods of Dendrochronology: Collection, Preparation and Measurement.
2:30 pm	Introduce Practical Exercise.	<b>Robert Lerch.</b> Contaminant Transport in Two Central Missouri Karst Recharge Areas.	<b>Todd Hutchinson.</b> Herbaceous Layer Response to Thinning and Fires of Varying Intensity in Oak Forests.	<b>Mike Stambaugh.</b> Dating Wood.
3:00 pm	<b>Mid-Afternoon Break</b> (Windgate Hall)			
3:30 pm	Practical Exercise.	<b>Roxie Campbell.</b> Devil's Icebox Cave's 2009 Aquatic Invertebrate Die-off and Recovery.	<b>Charles Ruffner and J.W. Groninger.</b> Practical Considerations for Ecological Rehabilitation and Re-creation in Natural Areas Management.	<b>Richard Guyette and Mike Stambaugh.</b> Hands on Rings: Wood Types and Anatomy, Species Potentials, Other Organisms.
4:00 pm		<b>Ivan Vining and William R. Elliott.</b> How Much is Missouri Heating Up and Can Cave Creatures Survive?	<b>Ken McCarty.</b> Designing Fire Programs for Natural Systems, Based on Fire Regime Parameters.	<b>Mike Stambaugh.</b> Case Study I: Understanding Fire Regimes Through Dendrochronology.
4:30 pm		<b>Michael Slay and Daniel Fong.</b> Preliminary Estimates of Species Detection Probabilities for Ozark Trogloliths.	<b>Doug Ladd.</b> Do We Know What We Don't Know About Fire Ecology?	<b>Richard Guyette.</b> Case Study II: Understanding Past Climate Changes Through Dendrochronology.
5:00 pm	Sessions End	Sessions End	Sessions End	Sessions End

## Wednesday, October 27, 2010

Wednesday, October 27, 2010			
<b>Room: Parasol II</b>	<b>Room: 60</b>	<b>Room: 62</b>	<b>Room: 63</b>
<b>Workshop -- Plant Identification: Grasses &amp; Composites of the Midwest</b>	<b>Workshop -- Reptile and Amphibian Ecology &amp; Management</b>	<b>Workshop -- Invasive Species: A Never-ending Battle</b>	<b>Session -- Contributed Ecological Papers</b>
<b>Justin Thomas and Dana Thomas.</b> Plant Identification Workshop.	<b>Jeff Briggler.</b> Introduction to Missouri's Herpetofauna and Associated Community Types.	<b>Reid J. Smeda and Diego J. Bentivegna.</b> Teasel: Why Is It Here and How Do We Get Rid of It?	<b>Kyle Steele, Fred Young, Tim Nigh, and Amber Marshaus.</b> Ecological Site Descriptions: Development and Application in Missouri.
	<b>Christopher D. Shulse, Raymond D. Semlitsch, and Kathleen M. Trauth.</b> Building Better Wetlands for Amphibians: Investigating the Roles of Engineered Wetland Features on Amphibian Abundance and Reproductive Success.	<b>Bruce Schuelte.</b> Seventeen Years of Combating Garlic Mustard ( <i>Alliaria petiolata</i> ) in a Large Natural Resource State Park in Northeast Missouri.	<b>C. Mark Cowell and Rose-Marie Muzika.</b> Vegetation Dynamics of a Sugar Maple-Oak Natural Area in the Missouri River Hills.
	<b>Raymond Semlitsch.</b> Behavioral and Ecological Processes Inform Conservation and Management of Amphibians.	<b>Bob Gillespie.</b> Kudzu.	<b>Richard Guyette and Michael Stambaugh.</b> A 14,000 Year Long Record of Midwestern Growth and Climate.
<b>Mid-Morning Break</b> (Windgate Hall)			
<b>Justin Thomas and Dana Thomas.</b> Plant Identification Workshop.	<b>Timothy Lescher, Tang-Martinex Zuleyma, Jeff Briggler and Bette Loiselle.</b> Comparison and Habitat Utilization of Alligator Snapping Turtles ( <i>Macrochelys temminckii</i> ) and Eastern Snapping Turtles ( <i>Chelydra serpentina</i> ) in Missouri.	<b>Chris Evans.</b> Identification, Ecology and Control of Japanese Stiltgrass.	<b>Richard Guyette, Michael Stambaugh, Rose-Marie Muzika, and Daniel Dey.</b> Estimating Historic Fire Frequency Where None is Known, an Interactive Presentation.
	<b>Trisha Crabill.</b> Ecology and Conservation of Massasauga Rattlesnakes ( <i>Sistrurus catenatus</i> ) in Missouri.	<b>Thomas Meyer and Kelly Kearns.</b> NR 40 - Wisconsin's New Comprehensive Invasive Species Rule.	<b>Susan J. Farrington.</b> Woodland Ground Flora Response to Timber Management: Findings From the Missouri Ozark Forest Ecosystem Project 1993-2009.
	<b>Jeff Briggler.</b> Conservation of Hellbenders ( <i>Cryptobranchus alleganiensis</i> ) in Missouri.	<b>Tim Banek and Katherine Howe.</b> Invasive Species Laws Discussion.	<b>Carrie R. Steen.</b> Management, Restoration and Research - Joining Forces to Reclaim an Ozark Pine Community.
<b>Lunch Break</b> (NAA Annual Meeting and Luncheon in Parasol I or Cash and Carry Lunch available in Windgate Hall)			
<b>Workshop -- Tallgrass Prairie: Ecology &amp; Management</b>	<b>Workshop -- Fungi Biology &amp; Identification</b>	<b>Workshop -- Coordinated Weed Management Areas</b>	<b>Session -- Contributed Rare Species Papers/General Papers</b>
<b>Kevin James.</b> Measuring Plant Diversity in Two Prairie Parks.	<b>Chris Crabtree.</b> Fungi Biology and Identification Workshop.	<b>Katherine Howe.</b> Introduction to Cooperative Weed Management Areas: What Are They, What can They Do For Me, and How Do I Get One Started? (1:00 - 2:00)	<b>Katherine Chi and Brenda Molano-Flores.</b> Effects of Shading on the Reproductive Ecology of <i>Syntherisma bullii</i> (Plantaginaceae), A Rare Species.
<b>Emily Horner.</b> In Peril On the Prairie: Occurrence and Management of the Federally Threatened <i>Asclepias meadii</i> (Mead's milkweed) Within Missouri's Natural Areas.		<b>Christopher Evans.</b> What Can a CWMA Do For You? A Look Back at the First Three Years of the River to River CWMA. (2:00 - 2:45)	<b>Mike DeBacker, Dave Diamond, Kevin James, Craig Young, Scott Sowa, Gust Annis, &amp; Ronnie Lea.</b> A Case Study for Conducting Natural Resource Condition Assessments from Effigy Mounds Nat'l Monument, Iowa.
<b>David C. Heimann.</b> Comparison of Hydrologic and Water-Quality Characteristics of Two Native Tallgrass Prairie Streams with Agricultural Streams in Missouri and Kansas.		Discussion. (2:45 - 3:00)	<b>Rebecca Schillo.</b> Chicago Wilderness Species of Conservation Concern: How Regional-Level Rarity Lists Can Drive Conservation.
<b>Mid-Afternoon Break</b> (Windgate Hall)			
<b>James Trager.</b> Thoughts and Observations on Prairie Management and Invertebrate Conservation.	<b>Chris Crabtree.</b> Fungi Biology and Identification Workshop.	<b>Room: 76</b>	<b>Abigail Derby Lewis, Laurel Ross, Doug Stotz, Robert Moseley, and Melinda Prueff-Jones.</b> Creating "Climate Smart" Conservation Practices: Bridging the Gap Between Science and Biodiversity Adaptation Strategies in the Chicago Wilderness Region.
<b>Samuel D. Fuhlendorf.</b> Pyric Herbivory: The Critical Role of Heterogeneity for Grassland Conservation.		NAEPPC Roundtable and Business Meeting (3:30 - 5:00 pm)	<b>Steven Buback and Chris Ferree.</b> A Case Study in Ecosystem Restoration in Forest Park, St. Louis, Missouri.
<b>James Herkert.</b> Nesting Ecology of Grassland Birds.		Sessions End	<b>Michele Baumer, Julie Fleming, Robin Grumm, Joel Sartwell, Colleen Scott, and Tom Treiman.</b> How Many Visitors Do I Have and What Do They Think? Creating and Testing a Simple, Standardized Visitor Survey You can Use About Anywhere - Even on a Natural Area.
Sessions End	Sessions End	Sessions End	Sessions End

# Wednesday, October 27, 2010



## Workshop

### Large River Natural Communities: Ecology and Management (WS1)\*

8:30 am - 5:00 pm  
Room: 61

Two of our nation's largest rivers meet in Missouri, and on each there are major initiatives for restoration, mitigation and environmental management taking place. Join several of those involved in these projects to explore topics of large river ecology and management. Wednesday morning lectures on natural communities, processes, management and restoration will be followed by afternoon discussions of HGM modeling, endangered species, and restoration case studies. For those who register, join these experts on an all day Missouri River field trip on Thursday.

## Workshop

### Caves and Karst: Ecology and Management (WS2)\*

8:30 am - 5:00 pm  
Room: 74/75

Missouri is known as the cave state, with over 6,300 recorded caves that support over 900 species, and an abundance of springs, losing streams, collapsed chasms, sinkholes and extensive karst landscapes. A spectrum of conservation issues prompt the topics on ecology, protection and management of cave and karst resources that will be covered in this workshop. Wednesday's topics include cave protection, conservation planning, pollution and bat white nose syndrome. Thursday's field trip expands the sharing of strategies and approaches outdoors to the dramatic karst landscapes of the Niangua basin at Ha Ha Tonka (10 mapped caves, natural bridge, several large sinkholes and Missouri's 12th largest spring) and Lake of the Ozarks (20 mapped caves) state parks.

## Workshop

### Glade and Woodland: Ecology and Management (WS4)\*

8:30 am - 12:00 pm  
Room: Redbud

Large expanses of oak woodlands and glades blanket Missouri's Ozark region which are rich in native plants and animals and a priority focus for conservation. Invited presenters will share their experiences and views about managing these historic landscapes at Wednesday morning's special interest workshop, with discussion opportunities after each talk. The all day field trip on Thursday will be a conference highlight. Participants will hike through one of Missouri's best-known and studied remnants – the large and ruggedly scenic Ha Ha Tonka Oak Woodland Natural Area. Experts stationed along the way will discuss contemporary research, natural history and management history of this site.

## Workshop

### Stream Ecology and Conservation (WS6)\*

8:30 am - 12:00 pm  
Room: 64

Missouri and particularly the Ozark Highlands is known for its abundant water and high quality streams. With so much to work and learn from, this workshop features some of Missouri's top experts discussing the rich diversity and distribution of aquatic species in Missouri streams, patterns of diversity and conservation challenges for the major faunal groups, and the most current stream conservation issues, priorities and monitoring approaches. Registrants for the Thursday field trip will sample stream fish, observe habitat, inspect road crossings modified to improve passage by aquatic organisms and observe stream bank improvement projects in the Little Niangua River watershed.

## Workshop

### Plant Identification: Grasses and Composites of the Midwest (WS7)\*

8:30 am - 12:00 pm  
Room: Parasol II

These two groups are abundant in almost every kind of native Midwestern landscape. Collectively they comprise a high percentage of the dominant, characteristic, conservative and restricted species by which we describe and understand natural communities and properly identifying them is an important skill. Leading field botanists will discuss the terminology and identifying characteristics for the major groups, and offer hands-on learning during the Wednesday classroom session using fresh and dried specimens. A full day field trip on Thursday will explore the Ozark Caverns site of Lake of the Ozarks State Park in habitats ranging from oak woodlands and open glades to mesic woodlands and Ozark fens learning as many grass and composite species as can be packed into one day.

## Workshop

### Invasive Plants: A Never-ending Battle (WS12)

8:30 am - 12:00 pm  
Room: 62

For as long as people have been traveling they have been carrying remnants of their homeland with them. As the issue of invasive species draws the attention of academics and government officials, more research is being conducted to determine what the threats are and what the best way of combating these threats may be. This workshop will focus on the life history of and control methods for, a selection of invasive plants, and address some of the tactics that are being utilized to protect natural areas and native ecosystems.

## NAA Annual Meeting and Luncheon

12:00 – 1:30 pm • Room: Parasol I

All NAA members are invited and encouraged to attend their annual meeting. If you RSVP'd 'yes' when you registered, we will have a complimentary lunch ready for you. If not, NAA members and other conference attendees are welcome to attend and bring a brown bag lunch (available for sale in the Exhibit Hall). The meeting agenda includes the NAA annual report to members, Board of Directors elections, vote on Bylaws changes and opportunity to share your ideas. Please join us!

### Workshop

#### Reptile and Amphibian Ecology and Management (WS13)

8:30 am - 12:00 pm  
Room: 60

Missouri is ranked 13th in the nation in terms of native reptile species diversity, and there are 108 native reptile and amphibian species inhabiting the wide variety of natural communities here from cypress swamps to tallgrass prairies, and caves and streams. Five experts will examine the life history, ecology and population dynamics of herptile species native to the Midwest; emphasizing their place in natural areas conservation and response to management practices.

## NAA Annual Meeting and Luncheon

12:00 – 1:30 pm • Room: Parasol I

See above.

### Workshop

#### Tallgrass Prairie: Ecology and Management (WS3)\*

1:30 - 5:00 pm  
Room: Parasol II

Learn the basics of tallgrass prairie ecology and how we restore and manage them. Missouri's modern landscape includes the eastern-most prairie biome's largest surviving remnants. These prairie remnants span situations from the Ozark Highlands, to Missouri's Glaciated Plains, and the state's unglaciated Osage Plains ecoregions. The workshop portion teaches of their soils, geology, plants, insects, birds, and ecological processes providing case studies of prairie problem solving to bring forward the latest restoration and management techniques. Join local experts to explore several of those projects by visiting the 3,000+ acre Wah'Kon-Tah prairie on the associated field trip.

### Workshop

#### Managing for Diverse Landscapes with Fire (WS5)\*

1:30 am - 5:00 pm  
Room: Redbud

Most Missouri and Midwest landscapes developed in the presence of a fire regime, and understanding these is pivotal to managing or preserving them. The presentations will introduce the most contemporary fire management concepts and explore the ways that fire is being used to replicate historic fire regimes for natural landscapes. Thursday's field trip will tour several long-term fire managed sites in natural areas to view results of landscape scale burns and burns at various seasons of the year within the dramatic Ozark scenery of Ha Ha Tonka Oak Woodland Natural Area.

### Workshop

#### Dendrochronology and Natural Areas: The Language of Tree Rings (WS8)\*

1:30 - 5:00 pm  
Room: 64

The *language* of tree rings is used to study ecosystems and environmental history with many links between dendrochronology and natural area concerns. Wednesday's classroom-style workshop will show how the rich natural and human history of natural areas may be documented by measuring, counting and analyzing the rings of trees and other organisms. Participants will be provided microscopes and wood samples for a *hands-on* learning opportunity. Thursday's related field trip to Brushy Creek in the Thomas Baskett Wildlife Area will explore the temporal human, vegetation and landscape history in a riparian hardwood forest with trees older than 400 years.

### Workshop

#### Macrofungal Ecology and Identification (WS9)\*

1:30 - 5:00 pm  
Room: 60

This workshop will familiarize participants with a major driving force in natural communities, the macrofungi. The workshop will teach basic mushroom taxonomy and identification, and explore the roles fungi play in our ecosystems. The field trip will be spent touring numerous areas of Ha Ha Tonka Oak Woodland Natural Area, seeking mushrooms and other fungi in glades, various woodland types, forests and fungal-rich sinkholes. Identification instructions will help participants use taxonomic keys, microscopes and associated tools/reagents and dissection to learn mushroom development and important identifying structures.

### Workshop

#### Cooperative Weed Management Areas (WS14)

1:00 - 3:00 pm  
Room: 62

Cooperative Weed Management Areas are local organizations that work on invasive plant management across jurisdictional boundaries. They allow partners to share and leverage limited resources, raise awareness about invasive plant problems, and provide a mechanism for collaborative problem-solving on both public and private lands. In this workshop, you will learn about the benefits of starting a Cooperative Weed Management Area (CWMA), the 16 steps to starting a CWMA, and where to find funding for a CWMA. The Coordinator of River to River CWMA in Illinois will also talk about how that organization got started and what they have accomplished. There will be time at the end of the workshop for discussion and questions.

**\* These workshops are paired with a related field trip on Thursday.**

# Thursday Field-Trips



## Mid-Conference Field Trips

Look for your field trip ticket in your nametag holder showing your pre-registered field trip. If you have questions regarding your scheduled trip, visit the registration table from 8:00 am on Tuesday through 2:00 pm on Wednesday. No changes can be made after 2:00 pm on Wednesday.

Box lunches are available at 7:00 am in the exhibit hall (Windgate Hall). Please pick up a lunch and a cash and carry breakfast item on your way to your field trip. Bring appropriate outdoor gear and consider bringing an extra bottle of water for the field trip. Vehicles will be parked at the main hotel entrance.

Vehicles will depart promptly at their announced times.

Thursday, October 28			
Field Trip	Location	Departure	Return
FT 1	Large River Natural Communities: Ecology and Management	8:00 am	5:00 pm
FT 2	Caves and Karst: Ecology and Management	8:00 am	5:00 pm
FT 3	Tallgrass Prairie: Ecology and Management	8:00 am	5:00 pm
FT 4	Glade and Woodland: Ecology and Managment	8:00 am	5:00 pm
FT 5	Managing for Diverse Landscapes with Fire	8:00 am	5:00 pm
FT 6	Stream Ecology and Conservation	8:30 am	5:00 pm
FT 7	Plant Identification: Grasses and Composites of the Midwest	8:30 am	5:00 pm
FT 8	Dendrochronology and Natural Areas: The Language of Tree Rings	8:00 am	5:00 pm
FT 9	Macrofungal Ecology and Identification: Fungal Interactions in our Natural Communities	8:30 am	5:00 pm
FT 10	Niangua River Canoe Trip	7:30 am	5:00 pm
FT 11	Prescribed Fire: A Hands-on Primer on the Application of Prescribed Fire	8:30 am	5:00 pm

## Awards Dinner and Auction

Join us for a social hour with cash bar at 5:30pm in the exhibit hall, for an opportunity to mingle and to bid on silent auction items. Following dinner, which begins at 6:30pm in Salon C, we will honor this year's recipients of the Carl N. Becker Stewardship Award and the George B. Fell Award, and participate in an exciting live auction. Both auctions are great fun and help fund NAA programs. Music will be provided by String Fever Music.



# Friday, October 29, 2010

## Workshop

### Conservation Easements and Natural Areas Protection (WS20)

9:00 am – 12:00 pm  
Room: Parasol II

Explore how to protect natural areas using conservation easements. What is the past, present and future of conservation easements to protect natural areas? Real-world examples illustrate the status of land trusts and easements in the United States, highlighting current issues and demonstrating both benefits and limitations.

## Workshop

### Pollinators in Natural Areas (WS21)

8:30 am – 12:00 pm  
Room: Redbud

Share up-to-date information and ideas on pollinator ecology and its importance in rare plant management, pollinator diversity, monitoring, management, restoration and conservation status. This workshop provides a forum for researchers studying pollinators in natural areas and natural communities.

## Workshop

### Conservation Genetics (WS23)

8:30 am – 12:00 pm  
Room: 61

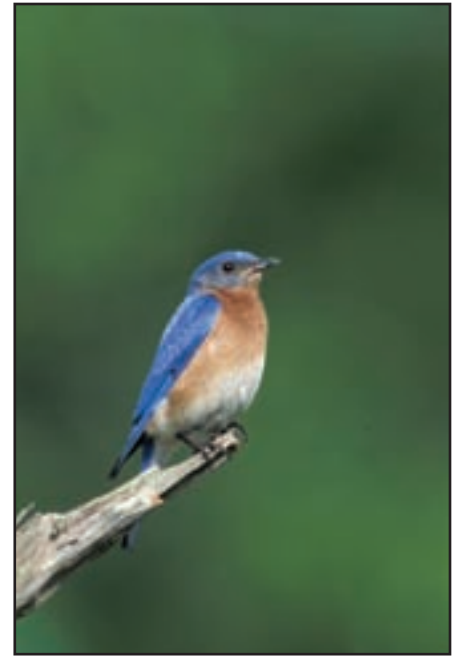
Modern genetic techniques are more amenable for field work than ever before. These techniques have many diverse applications to problems arising in conservation including identifying units for conservation management, monitoring the biological impact of translocation and management programs, and identifying habitat and other features that influence movement across a landscape. These applications will be illustrated with worked and ongoing examples.

## Workshop

### Natural Areas and Urban Residents

8:30 am – 10:00 pm  
Room: 64

This workshop will explore connections between natural areas and urban residents with examples from Kansas City, St. Louis and other urban areas.



# Friday Concurrent Sessions

Friday, October 29, 2010				
Time	Room: Parasol II	Room: Redbud	Room: 60	Room: 61
7:30 am	<b>Registration Opens</b>			
	<b>Workshop -- Conservation Easements and Natural Areas Protection</b> (Begins at 9:00 am)	<b>Workshop -- Pollinators and Natural Areas</b>	<b>Session -- Natural Area Internships</b>	<b>Workshop -- Conservation Genetics</b>
8:30 am		<b>Wedge Watkins.</b> A Survey of the Pollinators of the Big Muddy National Fish and Wildlife Refuge.	<b>Jodi M. Vandermyde, Matt R. Whiles, Sara G. Baer, David J. Gibson, John Groninger, and Jody Shimp.</b> Importance of Internship Opportunities for Undergraduates.	<b>Alan Templeton and Jennifer Neuwald.</b> Temporal Changes in Population Genetic Dynamics in Response to Habitat Fragmentation and Restoration by Prescribed Woodland Fires in the Eastern Collared Lizard.
9:00 am	<b>Edward J. Heisel.</b> The Basics of Conservation Easements.	<b>Robert Jean.</b> Bee Diversity of Black Oak Savanna Remnants in Indiana.	<b>Krissa Skogen, Belton Copp, Diana DelleChiale, Andrew Monks and Carley Jennings.</b> The Chicago Botanic Garden Conservation and Land Management Internship Program -- Putting your education to work with federal agencies.	<b>Brad Oberle and Barbara Schaal.</b> Responses To Historical Climate Change Identify Contemporary Threats to Diversity in Eastern North American Dodecatheon.
9:30 am	<b>James R. Farmer.</b> Factors Influencing the Adoption of Conservation Easements.	<b>Retha Edens-Meier, Peter Bernhardt, and Michael Arduser.</b> <i>Cypripedium reginae</i> (Orchidaceae) and its Pollinators in Southern Missouri: Too Big, Too Small, Just Right.		<b>Meredith Mahoney, James Purdue, Everett Cashatt, and Timothy Vogt.</b> Population Genetics and Species History of Hine's Emerald Dragonfly ( <i>Somatochlora hineana</i> , Corduliidae) in Missouri.
10:00 am	<b>Morning Break</b> (Windgate Hall)			
	<b>Workshop -- Conservation Easements and Natural Areas Protection</b>	<b>Workshop -- Pollinators and Natural Areas</b>	<b>Session -- Contributed Land Use and Conservation Papers</b>	<b>Workshop -- Conservation Genetics</b>
10:30 am	<b>Peggy Horner and Mike Leahy.</b> Agency/Land Trust Partnerships for Natural Resource Protection.	<b>Peter Bernhardt, Retha Edens-Meier, Michael Joseph, and Michael Arduser.</b> Generalist Pollination Follows Controlled Burns and Mass Flowering in the Threatened Missouri Bladderpod ( <i>Physaria filiforme</i> ; Brassicaceae).	<b>Julia E. Earl and Raymond D. Semlitsch.</b> The Effects of Land Use on the Aquatic and Terrestrial Stages of America Toads and Wood Frogs.	<b>William Peterman, Raymond Semlitsch, Tracy Rittenhouse and Julia Earl.</b> A Landscape Genetics Approach to Amphibian Conservation: Identifying Corridors, Barriers and Conservation Units.
11:00 am	<b>Kurt Homeyer.</b> Managing Land Subject to a Conservation Easement.	<b>Mike Arduser.</b> Natural Community Dependency Among Missouri Bees.	<b>Mark Mackey and Raymond Semlitsch.</b> Managing Golf Courses to Maximize Stream Salamander Diversity in the Southern Appalachians.	<b>Lori Eggert, Rebecca Mowry, Kaitlyn Faries, Thea Kristensen, Jeff Beringer and Don White.</b> Facts From fur and Feeces: Using Genetic Methods in the Conservation Management of Native Missouri Carnivores.
11:30	Questions and Answers / Discussion.		<b>John Taggart and Charles Roe.</b> Golf Course Conservation Easements with Natural Habitats: A Need for Clarity.	General Discussion with Question and Answer Session.
12:00 pm	<b>Conference Adjourns</b>			
Noon - 5:00 pm	<b>Workshop: Evaluating and Selecting Conservation Projects (Sponsored by Missouri Land Trust Coalition and The Land Trust Alliance) in Salon B</b> (includes lunch for pre-registered attendees provided by the Missouri Land Trust Coalition)			

# Friday, October 29, 2010

Room: 64      Room: 63      Room: 76      Room: 62

## Registration Opens

Natural Areas and Urban Residents	Session -- Contributed Ecological Restoration Papers	State Natural Areas Roundtable	Session -- Invasive Species Papers
Charles Nilon and Brandon Pope	<p><b>Mathew S. Kraushar, Zachary E. Lowe, and Harmon P. Weeks Jr.</b> Use of Foliar Herbicides to Control a Problematic Native Species: <i>Acer negundo</i> (Boxelder).</p>	<p>An Open Forum of people responsible for or interested in state natural areas.</p>	<p>Byron B. Sleugh, Mary Halstvedt, Robert G. Wilson, and Gustavo Sbatella. Salt Cedar and Russian Olive Control with Aminopyralid and Triclopyr Mixtures.</p>
	<p><b>David Jachowski, R. Gitzen, S. Grassel, M. Grenier, B. Holmes, and J. Millspaugh.</b> The Importance of Thinking Big: Large-scale Prairie Dog Conservation Drives Black-footed Ferret Reintroduction Success.</p>		
	<p><b>John Vickery.</b> Vegetation Management in Colorado Front Range Prairie Dog Colonies: Concepts, Considerations, and Native Plant 'Survivors'.</p>		
			<p><b>Jamie Herold, Matt Kraushar, and Zach Lowe.</b> Herbicide Control of Spotted Knapweed.</p>

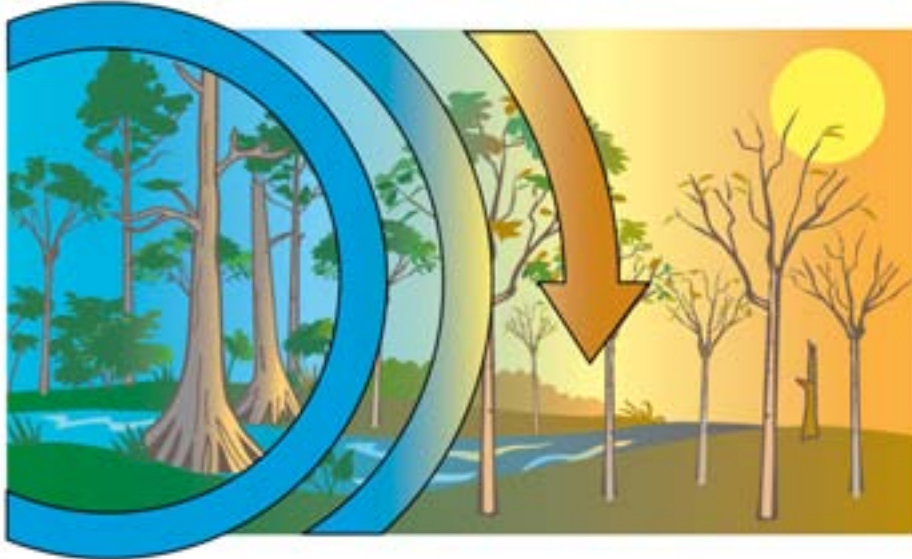
## Morning Break (Windgate Hall)

	Session -- Contributed Bird Conservation Papers	State Natural Areas Roundtable	Session -- Invasive Species Papers #3b
	<p><b>Dorothy P. Field, Paul A. Clarke, and Rick K. Myers.</b> Food for Flight: Using Natural Feeding Preferences to Increase Migratory Songbird Habitat on the Lower Delmarva Peninsula.</p>	<p>An Open Forum of people responsible for or interested in state natural areas.</p>	<p><b>Sawsan A. Oran.</b> Flora of Jordan: Exotic and Invasive Species.</p>
	<p><b>D. Todd Jones-Farrand, Lee E. O'Brien, Tim A. Nigh, C. Diane True, and Jane A. Fitzgerald.</b> Mapping Potential Natural Vegetation Across the Central Hardwoods Bird Conservation.</p>		
	<p><b>D. Todd Jones-Farrand, Jane A. Fitzgerald, and Lee E. O'Brien.</b> Managing Landscapes for Natural Communities: Saving Birds and a Whole Lot More in the Central Hardwoods.</p>		
			<p><b>Sarah O'Sullivan, Stephen Enloe, Nancy Loewenstein, and Evaden Brantley.</b> Control of Chinese Privet (<i>Ligustrum sinense</i>): The Influence of Individual Plant Size on Treatment Efficacy.</p>

## Conference Adjourns

# ANNOUNCING THE 38<sup>TH</sup> NATURAL AREAS CONFERENCE

## ADAPT OR DIE!



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