RESTORATION NEWS MIDWEST

Newsletter of the Midwest Great Lakes Chapter of the Society for Ecological Restoration International September 2008, Volume 1, Issue 1

NEW BEGINNINGS

In March 2008 the Society for Ecological Restoration International (SER) welcomed the Midwest-Great Lakes Chapter as the newest regional SER Chapter. The chapter will serve the six state region of Ohio, Indiana, Michigan, Illinois, Wisconsin, and Minnesota. We will provide an introduction and give an overview of our future goals in this article.

Historically, SER was represented in the midwestern United States by the Ohio Chapter SER, which had members from Ohio and several adjacent states and Canada. Unfortunately, Ohio SER has not been active in recent years and SER lacked representation within the very region where the field of ecological restoration began. Additionally, the interest in ecological restoration is evident by the numerous organizations and individuals within the region that are interested in ecological restoration. Thus, the Midwest-Great Lakes Chapter of SER began with the vision of establishing an organization that brings together all within the midwestern United States who are interested in ecological restoration.

We, like SER, will not implement restoration projects, but instead will strive to be the organization that brings people and organizations with different interests together to help them meet their common ecological restoration goals. The mission of this regional SER Chapter is:

We will promote the science and practice of ecological restoration to assist with the recovery and management of degraded ecosystems within the Midwestern and Great Lakes regions. We will connect local resources and partners by facilitating dialogue among all groups and individuals interested in ecological restoration. We will provide educational opportunities to foster an interdisciplinary understanding of and interest in concepts and methods of ecological restoration for specialists and laypersons.

There is a tremendous diversity of organizations and individuals within the midwestern United States with an interest in ecological restoration, but who have a focus on specific ecosystems, taxonomic groups, subregion, or professional discipline. We want to foster dialogue among those working in different aspects of ecological restoration. One way that we will accomplish this goal is to hold annual meetings. Locations of the annual meeting will rotate among states each year. Additionally, we hope to hold joint meetings with different organizations each year. Plans are currently underway for the first annual meeting to be held most likely sometime in the spring 2009. Our initial goals for the meeting include passing the Chapter by-laws, officer elections, and celebrating the first Chapter gathering.

We have established a chapter listserve and developed a Chapter newsletter to foster communication among Chapter members throughout the year. We would like to encourage everyone to sign up for the listserve, especially since short communications from the Chapter leadership will be distributed via this list serve. To subscribe to this listsery, go to this webpage: http://sernews.org/mailman/listinfo/sermwgl sernews.org. The newsletter will be distributed at least two times a year and will contain articles on a wide range of restoration topics. The newsletter will consist of invited and contributed articles from the membership. Contact if you have something that you would like to share.

We also have a Chapter webpage (<u>www.ser.org/content/SERMWGL.asp</u>) to let others know something about us. Long term plans involve developing the webpage so it will serve as a resource of information on restoration within the midwestern United States.

Our membership drive has begun and we want to encourage each of you to join. For details on joining see the article below.

In summary, the future is exciting and we look forward to serving you.

Rocky Smiley and Jennifer Lyndall, Co-Chairs, Organizing Committee

CHAPTER MEMBERSHIP DRIVE BEGINS

The Midwest Great Lakes SER Chapter will provide a forum for the exchange of information, techniques and ideas related to ecological restoration within the Midwestern United States and the Great Lakes region. Specifically, we will offer these benefits to our members:

- a chapter list-serve for members to share announcements and ideas over email
- electronic newsletters at least twice a year
- an annual conference within the region

Members of the chapter will also receive reduced registration rates for the conference as a benefit of their membership. Chapter dues for the first year are just \$12 and discounted membership dues are provided for students at the cost of \$6.

One does not have to be a member of SER International to join the Midwest-Great Lakes Chapter SER. However, for a limited time, you can join the Midwest-Great Lakes SER Chapter and receive a complimentary oneyear *Associate Membership* to SER International. Associate Members of SER International receive the quarterly *SERNews* electronically.

Joining our new chapter is easy. Complete the Membership Application provided on the last page of this newsletter and fax or mail the completed application and your payment to

> Midwest-Great Lakes Chapter SER c/o SER International 285 W. 18th St., #1 Tucson, AZ 85701-2563 Phone: (520) 622-5485 Fax: (270) 626-5485

We hope that you will become part of this exciting adventure and help us get this new SER Chapter established.

Bob Grese, Liason Membership Subcommittee

THE EFROYMSON RESTORATION AT KANKAKEE SANDS – A LANDSCAPE APPROACH FOR GRASSLAND AND SAVANNA CONSERVATION IN INDIANA

A landscape-scale restoration project is underway in northwestern Indiana to reestablish a semblance of the original habitat mosaic at an appropriate ecological scale. The Indiana Chapter of The Nature Conservancy is attempting to reconnect and rebuild a biologically diverse landscape of over 30 square miles by reconnecting three important preserves (Conrad Savanna, Beaver Lake Prairie State Nature Preserve, and Willow Slough Fish and Wildlife Area).



Map of Efrovmson Restoration

We have purchased ~8,000 acres of agricultural land to reconnect these three areas. Past conservation efforts focused on each individual preserve. In contrast, the Efroymson Restoration at Kankakee Sands is designed to heal the landscape between the sites and to create a single, landscape-scale conservation area. Habitat fragmentation and isolation are thought to be the biggest threats to the long-term survival of Indiana prairie and savanna. Small, isolated prairies and barrens lose species with time, especially the rare, vulnerable and area sensitive species that most need our attention. If new colonists are not available to re-populate these sites then these areas will eventually become mere shadows of themselves -- species poor relicts of a once diverse ecosystem.

The Efroymson Restoration is designed create connections that will allow these remnants to ecologically communicate with one another. What was once row crop will be transformed over time into a botanically diverse mosaic of prairie, savanna, and wetland. The development of this diverse landscape matrix will result transformation of Kankakee Sands into a viable system spanning over 20,000 acres.

Over the years we have partnered with State and Federal agencies to design and implement this ambitious restoration project. The Indiana Department of Natural Resources, National Resources Conservation Service (NRCS), and the Indiana Grand Kankakee Marsh Restoration Project assisted with the initial land acquisition. The NRCS and the Indiana Department of Environmental Management have contributed to wetland restoration work, while the Indiana Grand Kankakee Marsh Restoration Project also funded some restoration activities. The US Fish and Wildlife Service contributed to the efforts in creating grassland and shorebird bird habitat.

The Restoration Approach

A generalized approach to prairie restoration was not sufficient because our goal is to enhance connectivity and to enable gene flow between these isolated nature preserves. We cannot scatter a generic prairie seed mix across the landscape and expect biodiversity and natural processes to be enhanced. From the onset we designed prairie and wetland community types based on soil, hydrology and ecological processes expected to occur over this variable landscape.

Restoration at the site requires managing the hydrology, botany and ecological processes. We are modifying hydrology by creating a mosaic of soil moisture conditions, ranging from pockets of deep emergent wetlands to xeric sand rises. Additionally, the hydrology restoration is intended to optimize conditions and hydroperiods most likely to support these wet/mesic sand prairies because this habitat type has been almost eliminated from the region.



Newly created wetland area

Once the hydrology is restored, appropriate native grassland and wetland communities are established by planting seeds from local genotypes. Our guiding image for botanical restoration is based on the plant communities found in adjacent high-quality natural area remnants. The initial plantings create a patchy grassland and wetland mosaic that will emulate a natural grassland mosaic. We tried to maximize the richness of the initial plantings, and have consistently seeded over 300 species each year. And the restorations will be enriched over time, such that the appropriate diversity of plants is ultimately reintroduced to each site.



Storage of seed used for plantings

In support of our restoration goals, we have established an 80-acre seed nursery at the site, designed to produce enough seed to restore approximately 640 acres per year. All nursery stock represents local genotypes, and 125 species are already in place. The nursery features a pivot irrigation system and seed processing, cleaning and storage facilities. We also wild collect seed in support of our plantings, and over 175 species are added to the nursery produced mix each year. There is also an onsite greenhouse for plug production. Species that are not well represented in seeded areas are installed as plugs. Typically, over 2,000 pounds of native seed, representing 300 to 400 species are planted in appropriate hydrological zones each year. Although there are over 100 species of grasses, rushes, and sedges in the plantings, we shy away from planting aggressive species such as big bluestem, Indian grass and switch grass that dominate most prairie plantings. We believe that by allowing the initial planting to establish with only minimal amounts of dominant grasses, we will see better establishment of the diverse prairie we are seeking to recreate.



Wild onion bed

One benefit of using high diversity plantings is the flexibility it provides for creating structural diversity. Using grasses and forbs that grow less than two feet high, we can create short stature prairie that is diverse, provides great habitat for birds and mammals needing low structure, and does not need mowing or other maintenance. Similar strategies can be used to create and sustain specialty habitats like mudflats, tall grass prairie, sparse sandy zones, and emergent wetland. The long-term success of the Restoration depends upon re-establishing appropriate ecological processes across the site. For example, our hydrologic restorations are designed to create the seasonal shallow flooding during winter and spring, which is essential to mesic and wet prairie habitats. Similarly, prescribed fire is used to mimic the natural fires that originally would have swept through the prairie at the site. Together, the dynamic interplay of hydrology and fire over soils will create over time, the finer-scale patchiness and complexity in the restoration that will eventually allow the planting to become a natural extension of the natural areas it adjoins and protects.

Current Status

Miles of agricultural drainage ditches have been removed to create wetlands and wet prairie that are among the rarest habitat types in the region. We have now restored and planted over 5,000 acres of grasslands and wetlands at the site. The plant and animal response to the restoration has been just as exciting as all the work itself. Some restoration areas currently support over 200 species of native plants and over 400 plant species have been reintroduced as a result of our plantings. These are among the richest plant restorations in North America but at a much larger scale than other restoration projects.



Everyone interested in conservation is aware that bird species that live in grasslands and wetlands are declining throughout Indiana and the greater Midwest in part due to habitat loss. Four

of the twenty-five fastest declining bird species in North America breed in the prairie and wetlands at Kankakee Sands: Henslow's sparrow; grasshopper sparrow; field sparrow; and northern bobwhite. Three declining species (lesser yellowlegs, king rail, and short-eared owl) rely on the site as a stopover during migration. In addition, another thirteen bird species found at Kankakee Sands are listed as threatened or endangered in Indiana. A few of these are the Northern harrier, upland sandpiper, American bittern, and black tern. In Indiana, the restoration became the first nesting location in Indiana for the Wilson's phalarope in 50 years. In total, there have been over 200 bird species recorded on the property since 2001.

Amphibians are thriving in the restoration areas as well. Since we began restoring the hydrology of the site, frogs and toads have began breeding within the newly created wetlands. The initial response to hydrologic restoration was an almost exponential increase in breeding populations over the site. Additionally, tiger salamander larvae were documented recently as well.

Initial work with insects suggests the sites are providing habitat for many rare species that were originally "trapped" on small patches of savanna and prairie. Ongoing inventory of the restoration has turned up over half of the 200 insect species that are dependent on these remnant habitat patches. We hope to see further increases in insect diversity as the fine-scale patch work of habitats coalesces across the restoration.

One rare mammal, the Great Plains Pocket Gopher, has responded dramatically to the restoration. This state imperiled species is limited to the northwest corner of Indiana, and was confined to ditch banks and a few old fields when the restoration began. The soil "push-ups" created by this burrowing mammal now dominate mesic/xeric restoration areas and newly burned fields.

Challenges

Large restoration projects pose some

challenges. Certainly controlling invasive plant species tops that list – it continues to be the biggest threat to our goals. Surprisingly, the problems aren't always from exotic species, cottonwoods and Equisetum have become as difficult to manage as the Canada thistles and Phragmites. Controlling invasives has required us to re-think staffing and prioritize follow-up management more as the restored acres accumulate.

Hydrologic performance can also be a bit unpredictable. In a natural hydrologic regime, there will be wet and dry years and this cycling is good for creating opportunities for an array of prairie plants. However, amphibians will have boom and bust years and deep-water refugia are vital to maintain some species. Waterfowl will experience the same variation in population levels to natural hydrologic cycles. We simply accept that the site will not provide perfect habitat every year.

As the restoration has proceeded, the "if you build it, they will come" model of animal recolonization has served us very well. But there are a few regionally rare species of plants and vertebrates will not be able to recolonize the site on their own. We are contemplating a program that would relocate selected species, such as ornate box turtles, to the site. In conclusion, we believe restoration sites such as Kankakee Sands offer the best long-term hope of survival for many such species in today's otherwise fragmented prairie landscape. Well conceived large-scale restoration is one of the key tools we have for conserving our grassland heritage for future generations.

John Shuey and Chip O'Leary, The Nature Conservancy of Indiana

ANCIENT TEXTS WITH CONTEMPORARY SUSTAINABILITY LESSONS: LESSONS LEARNED FROM THE VISIT OF DR. NARAYAN DESAI, EXECUTIVE DIRECTOR OF SER INDIA CHAPTER



Dr. Narayan Desai and colleague Mrs. Manisha Shete

The destinations on the May visit of Dr. Narayan Desai to the United States reflected the eclectic nature of his interests. These destinations included the Belin Blank Center for Gifted Education at the University of Iowa where Desai attended the Wallace Symposium on gifted education; DePaul University, Chicago, where he was a guest of the Institute for Nature and Culture; and a visit to the University of Arizona in Tucson. At each place he presented on aspects of his work in and around Pune, India. Not only does Desai serve as the Executive Director of SER India Chapter, he also works at the Jnana Prabodhini Research Institute and investigates the ecological application of the Vedas, the sacred books of the Hindu faith. Additionally, Desai leads a Mensa project in conjunction with his work with a local village school two hours that focuses on the identification and nuturing of the ecological consciousness of gifted students.



Dr. Desai with children from school near Pune, India

Several of the projects that Desai discussed during his visit are of especial interest to those interested in developing a sustainability and restoration ethic. His philosophy contrasts western restoration principles, which are science based, driven by technology, emphasize design and planning, and are often conceived within a legislative framework [mitigation and the like], with the restoration principles enunciated by Indian restorationists, which are more exploratory in nature, emphasizing cultural perspectives, evaluated on short term goals, and motivated by strong emotional or indeed loving connections with the land. Clearly, this taxonomy is presented as a general one, with many projects both in the US and India having shades of both restoration philosophies. Nevertheless it is apparent from the restoration projects that his group is pursuing, that they embed distinctive qualities that are instructive and thought-provoking. For instance, a sacred grove in view of the tribal school that Desai is associated with is being preserved, and another parcel of degraded land on the school property is being restored and will be "sacrilized." The project exemplifies some important principles: restoration should cultivate the potential human resource [in this case for instance through the tribal residential school, where one aim is to educate children to become "ecological priests"], and thus can facilitate

the development of effective techniques [some of these based upon principles from the Vedas]. The combination of a well developed human resource and a philosophically appropriate technique can be applied to an especially important landscape: the sacred landscape of ancient groves.



Sacred ficus grove

The restoration approach can also be applied to more traditional seeming restoration projects. For instance, working with Manisha Shete, Desai's PhD student, the team are involved with the conservation and restoration of turtle habitat in Maharashtra State. In cultivating an awareness and conservation ethic for these animals the team is assisted by the sacred importance of turtles in the Vedas. An examination of the ecological significance of Vedic writings forms another related plank in the research life of Desai and his groups. Desai is working on a second PhD on ecological principles in Vedic literature and supervising other students in the enormous task of systematically examining the books of the Vedas and elaborately coding them for their ecological relevance. His painstaking work is undertaken in a modest reading room of the library of his high school, where hundreds of Vedic texts are being pored through alongside more recent commentaries and translations. Desai has been able to demonstrate convincingly that this ancient tradition contains many lessons that authentically apply to the present day. His library space also serves as an office where

his conservation projects are planned and where the materials to promote them are designed. The highlight here is a collection of beguiling weather-proof posters that combine Hindu and English translations of Vedic ecological pronouncements with colorful depictions of deities, who are juxtaposed with images of contemporary landscapes and local citizens.



Dr. Desai's library space

The work of Dr. Narayan Desai is significant in that he gives an ample reminder that restoration is not just about habitat and species, but is also about human beings, their history, their values, and their perennial desire to find a reverential and loving way to be in this world.

Liam Heneghan and Randall Honold, Executive Committee for the Institute for Nature and Culture at DePaul University.

ISSUES IN NATURAL RESOURCE DAMAGE ASSESSMENT

Whether you are restoring an old farm field to wetland habitat, dredging and capping a historically and heavily contaminated river, or ridding a sensitive prairie habitat of an invasive species unless it is private land there is often some type of local, state, or federal authority involved. This section of the newsletter is dedicated to introducing existing, pending, and/or updated State, Federal, and local regulations and policies that may affect your restoration activities. It will also provide information on specific websites that may provide assistance (grants, narratives, etc) for your restoration project. This article is an educational tool and not intended to be interpreted as promotion or criticism of pending and/or existing legislation.

Natural resource damage assessment (NRDA) is a process to identify injury, recover damages, and determine the amount and type of restoration needed after a hazardous substance enters the environment. Success is often measured by the amount, type, and quality of restoration achieved over time. The goal of NRDA is to restore the injured resources and services s to their "baseline" condition and to compensate the public for the loss of public resources and the services they provide. The regulatory framework that drives the NRDA process and assists with accomplishing restoration goals includes the **Comprehensive Environmental Response** Compensation and Liability Act modified by the Superfund Amendments and Reauthorization Act (CERCLA), the Oil Pollution Act of 1990 (OPA), and the Clean Water Act (CWA).

Specifically, Section 301 of CERCLA requires the federal government to issue regulations outlining "the best available procedures" for assessing natural resource damages and the rules that guide the NRD process are codified at 43 CFR 11. With few exceptions, CERCLA provides the most comprehensive set of authorities to address injury assessment, damages and restoration of resources. The Oil Pollution Act of 1990 addresses oil pollution liability and compensations and was enacted in response to the March 24, 1989 Exxon Valdez oil spill in Prince Edward Sound, AK. It provides authority for the federal government to direct and manage oil spill clean ups as well as allow for the assessment and restoration of natural resources contaminated or threatened by the discharge of oil. Section 311(a) of the Clean Water Act addresses liability pertaining to oil and other hazardous substance released into navigable waters of the United States.

In addition to the previously described regulations there may be other authorities applicable to both the remedial, injury assessment, and restoration activities of a contaminated site. These include but are not limited to the Migratory Bird Treaty Act, Endangered Species Act, Marine Mammal Protection Act, Clean Air Act, National Marine Sanctuaries Act, Tribal Treaty Rights, Federal Land Management and Policy Act, in addition to state and/or local laws.

Restoration under the NRDA process takes on many forms from rehabilitating to acquiring or replacing injured resources, creating new resources, and/or undertaking activities that increase services provided by other existing resources. Examples of restoration activities include creating and/or protecting wetlands, purchasing land, stocking fish, or removing invasive species from protected habitat. One example of a NRDA driven restoration project in the midwestern United States occurred, occurred after a diesel fuel spill into Fish Creek in northeastern Indiana and northwestern Ohio. A diesel fuel pipeline burst in September 1993 in a soybean field in Dekalb County, Indiana, ruptured causing the fuel to enter Fish Creek through the field tiles. Restoration of Fish Creek following the oil spill was necessary because it is home to several endangered endangered species and it is the last known habitat of the cat's paw pearly mussel (Epioblasma obliquata perobliqua). State agencies from Indiana and Ohio, the USFWS partnered with The Nature Conservancy and other local organizations to restore Fish Creek and more than 1,500 acres of the stream's watershed has been protected

through acquisition, conservation easements, reforestation, streambank stabilization, and wetlands restoration. Recovery efforts were completed in 2007.

This is a brief overview of NRDA. For more detailed information on the process, applicable regulations, and current cases the Midwest great lakes region please see the following links:

http://www.epa.gov/superfund/programs/nrd/t rustees.htm

http://www.fws.gov/midwest/nrda/

http://response.restoration.noaa.gov/orr_about _owner.php?RECORD_KEY%28owner_chos en%29=owner_id&owner_id(owner_chosen) =7

http://www.darrp.noaa.gov/

http://www.epa.gov/superfund/programs/nrd/ primer.htm

http://www.csc.noaa.gov/coastal/economics/i ndex.htm

http://www.uscg.mil/ccs/npfc/

Anne Remek Kominowsk Indiana Department of Environmental Management

SELECTED CONTENTS OF THE SEPTEMBER 2008 ISSUE OF ECOLOGICAL RESTORATION

The Restoration Notes, Articles, and Book Reviews in this issue focus on ecological restoration within urban landscapes.

Restoration Notes

H. Young, L. Graham and V. Ruzicka. The Big Apple and Beyond: Challenges and Successes of Habitat Restoration in the Long Island Sound Watershed.

W.M. Bartodziej, S.L. Blood, P.W. Erdmann and T. F. Shevlin. An Evaluation of Fencing to Challenge Emergent Plant Herbivory (Minnesota).

D.A. Sarr and T.L. Dudley. Survival and Restoration Potential of Beaked Sedge (Carex utriculata) in Grazed Riparian Meadows of the Southern Sierra Nevada (California).

M.L. Daniels, J.D. Springer, C.M. McGlone and A. Wilkerson. Seeding as Part of Forest Restoration Promotes Native Species Establishment in Grand Canyon-Parashant National Monument (Arizona).

C.A. Annen, E.M. Kirsch and R.W. Tyser. Reed Canarygrass Invasions Alter Succession Patterns and May Reduce Habitat Quality in Wet Meadows.

H.L. Bateman, A. Chung-MacCoubrey, D.M. Finch, H.L. Snell and D.L. Hawksworth. Impacts of Non-native Plant Removal on Vertebrates along the Middle Rio Grande (New Mexico).

S.P. Schottler, J. Port and T. DeGolier. Influence of Floristic Diversity on Songbird Nesting Preferences in a Suite of Adjacent Reconstructed Grasslands (Wisconsin).

S.P. Schottler, J.Port and T. DeGolier. An

Efficient Method for Quickly Surveying Pheasant Nesting Site Preferences.

F.A. Comín. The Contribution of the Latin American and Caribbean Community to a Global Restoration Action.

S.D. Sprenkle. Community-Based Agroforestry as Restoration: The Haiti Timber Re-Introduction Project Methods and Framework.

O. Tarvainen, E. Dupuy and A. Tolvanen. Costs of Reforesting Roads in a Boreal Environment (Finland).

<u>Articles</u>

M.Essig. Portraits of Grasses: A Story of Art and Restoration from the Apache Highlands Ecoregion.

S. Collins and H. Brown. Ecological Restoration Calls for a New Kind of Language.

J.J. Wolf. Fighting with Fire: Restoring Montane Grasslands and Controlling Melilotus in Rocky Mountain National Park.

A. Newman. Inclusive Planning of Urban Nature.

J.K. Shisler, T.J. Iannuzzi , D.F. Ludwig and P.J. Bluestein. Ecological Benchmarking in an Urbanized Estuarine River System.

D.J. Salas. Developing an Ecological Restoration Management Plan: John Heinz National Wildlife Refuge, Philadelphia.

S. McDermott, D. Burdick, R. Grizzle and J. Greene. Restoring Ecological Functions and Increasing Community Awareness of an Urban Tidal Pond Using Blue Mussels.

For more information on the journal, upcoming issue, and past issues see: <u>www.ecologicalrestoration.info/firstpage.html</u>

UPCOMING ECOLOGICAL RESTORATION RELATED CONFERENCES – SEPTEMBER TO DECEMBER 2008

Native By Design, A How-to Conference for Gardeners, UW Arboretum, Madison, WI. September 14, 2008. <u>http://uwarboretum.org/images/NGCwebbroc hure08.pdf</u>

Regional conference for the U.S. Great Lakes Areas of Concern, Ann Arbor, MI. September 24-25, 2008. Matt Doss, Great Lakes Commission, 734-971-9135.

Great Lakes Bioneers Conference, Northwestern Michigan College, Traverse City, MI. October 17-19, 2008. <u>http://www.glbconference.org/2006-</u> <u>bioneers/registration-bioneers.html</u>

State of the Lakes Ecosystem Conference (SOLEC), Niagara Falls, Ontario, Canada. October 22-23, 2008. Theme: The Near Shore. Contact: <u>solec@ec.gc.ca</u>

The 6th Annual Wisconsin Association of Floodplain, Stormwater, and Coastal Management (WAFSCM) Conference, Wisconsin Dells, WI. November 12-14, 2008.

http://wi.floods.org/index_files/Conference.ht m

Chicago Wilderness Congress, University of Illinois, Chicago, IL. November 13, 2008. <u>http://www.chicagowilderness.org/whatshapp ening/index.cfm</u>

North Central Weed Science Society's 62nd

Annual Conference, Indianapolis, IN. December 8-12, 2008. <u>http://www.ncwss.org/</u>

The Ohio Chapter of the American Fisheries Society, Midwest Fish & Wildlife Conference, Columbus, OH. December 14-17, 2008. http://www.biosci.ohiostate.edu/%7Eocafs/

If you have a restoration conference that you would liked announced in this section please send the information to Cara.Hardesty@stantec.com

Cara Hardesty, Liason Subregional/Local Restoration Group Subcommittee and Belynda Smiley, SENR, the Ohio State University

MIDWEST-GREAT LAKES SER CHAPTER MEMBERSHIP APPLICATION

Name:				
Business/Organization:				
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Midwest-Great Lakes SER

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