RESTORATION NEWS MIDWEST

Newsletter of the Midwest-Great Lakes Chapter of the Society for Ecological Restoration – November 2010, Volume 3, Issue 2

MEMBERSHIP SURVEY, INCORPORATION, AND ANNUAL MEETING UPDATES

At the beginning of October a Chapter membership survey was distributed to all Midwest-Great Lakes (MWGL) SER Chapter members. The membership survey ended in the first part of November. On behalf of the Board of Directors I would like to thank the 56 individuals who provided us with some fantastic information. We (The Board of Directors) greatly appreciate your willingness to provide us with your feedback and insights. This information will be especially valuable to us as it provides information on how we ensure that the Chapter serves you best. The Board of Directors will be reviewing the membership survey results and discussing which suggestions we should implement in the future. Additionally, the Subregional Restoration Committee will be using the survey responses as a way of identifying potential workshop topics at our upcoming Annual Chapter Meeting.

Although the MWGL SER Chapter is a nonprofit organization, we are not a federally recognized 501c(3) nonprofit organization. Nor are we formally recognized as a nonprofit group within any state. In 2008 the Organizing Committee considered this issue and completed some preliminary actions by obtaining a federal employer identification number (EIN) number and drafting our chapter bylaws with the 501c(3) requirements in mind. Recently, the Board has decided to move forward yet again with the goal of obtaining 501c(3) status.

The first step in this process is to incorporate the MWGL SER Chapter as a nonprofit group within one of the states within our Chapter boundaries. The Board of Directors began began discussing this matter in our August conference call and subsequently voted on the issue in November. As a result the Board of Directors unanimously voted to incorporate as a nonprofit organization in the state of Indiana. This action will establish the MWGL SER Chapter as a recognized nonprofit group at the state level in Indiana.
We hope to complete all of the incorporation paperwork before the Christmas holiday.

Incorporation will require a minor update to our Chapter bylaws in the near future. Once the chapter is incorporated, we can formally apply for 501c(3) status. Obtaining federally recognized nonprofit status is important because obtaining it will enable potential meeting sponsors and donors to receive a tax deduction towards their support of the MWGL SER Chapter.

The Annual Meeting Committee along with representatives from the University of Illinois at Springfield having been making preparations for the Third Annual Chapter Meeting to be held in Springfield, Illinois. **I want to encourage everyone to save the dates of April 1, 2, and 3, 2011** for our Chapter meeting. Our meeting theme this year is *Linkages Between Ecological Restoration and Ecosystem Sustainability*. Our initial plans involve holding our technical sessions and social events on Friday April 1 and Saturday April 2. Sunday April 3 will be reserved for offsite field trips to selected restoration sites in Illinois and Indiana. We are planning on distributing the call for abstracts sometime in the first part of December. So I hope everyone will start thinking about your presentations and planning to attend our next Chapter Meeting.

Rocky Smiley, President

TRAINING UNEMPLOYED WORKERS FOR CAREERS IN HABITAT RESTORATION

* *Editor's note: This article is a modified version of one that was published in the Fall 2010 issue of Heinze Sights.*

In these difficult economic times, northwest Indiana, like the rest of the country, suffers from high rates of unemployment. Many people from the steel and other related industries – the backbone of our local economy – have been laid off. These blue collar workers have many skills and are accustomed to hard work, but employment prospects remain dim and they face a struggle to support their families.

This summer Shirley Heinze Land Trust (SHLT) in Michigan participated in an innovative new program aimed at assisting unemployed individuals with finding new jobs. The Green Infrastructure Jobs Program (known informally as "Green Jobs") is a joint project of the nonprofit Wildlife Habitat Council and the United States Forest Service. The American Recovery and Reinvestment Act of 2009 provides federal funding (i.e., "stimulus money") to support the Green Jobs program. This program is intended to provide training for unemployed workers by providing them with a variety of work experiences and introducing them to potential employers, including nonprofit organizations, governmental entities, and private ecological restoration companies.

The Wildlife Habitat Council approached SHLT when it was looking for venues for the training. The functioning stewardship program and many ongoing restoration projects made the SHLT a good fit for the program.

Six unemployed individuals from Indiana were selected for the project by the Wildlife Habitat Council and were compensated for their time. All participants learned specific skills that will hopefully lead to permanent jobs in habitat restoration. According to Daniel Goldfarb, who directs the Green Jobs program for the Wildlife Habitat Council, "We are not just training seasonal workers to do landscaping jobs," Daniel also says, "They are learning to identify habitats and ecosystems, control and eradicate invasive species, do brush cutting and use chainsaws, obtain certification in herbicide application, and we plan to provide prescribed fire and wildfire training and certification this fall. There is a growing demand for these types of skills."

Green Jobs workers and SH Stewardship Assistant Jim Erledac (far right) at Cressmoor Prairie, Indiana. .

SHLT manages nature preserves that encompass > 4.1 km^2 of land within the southern Lake Michigan watershed in Indiana. These preserves include a wide range of habitat types such as sand dunes, dune-and-swale habitat, wet woodlands, bur oak savanna, and yellow birch fen just to name a few. SHLT management goals for these ecologically significant areas include preservation and habitat restoration. The six Green Jobs workers spent about three days a week working at various stewardship tasks on Shirley Heinze nature preserves. They learned to identify invasive species and a whole range of control measures by applying herbicides and mowing, cutting, pulling, and treating

resprouts. They also collected seed, cleared brush, planted native plants, and installed deer exclosures. Additionally, the Green Jobs workers maintained and improved hiking trails. Their trail work included construction of boardwalks and bridges.

A Green Jobs worker applying herbicide for invasive species control.

"The Green Jobs guys have given us a real boost this summer," says SHLT stewardship manager Paul Quinlan. "They brought useful skills with them, and they've shown a strong desire to work and learn. There is no task we've given them that they haven't picked up quickly and performed well." Stewardship assistant Jim Erdelac, who usually supervises the workers on their SHLT days, is equally enthusiastic about the program. "I've really been impressed by these guys and have enjoyed working with them. They've done an amazing amount of work for us. We've never had a more productive summer."

In addition, to their work at the SHLT preserves the Green Jobs participants have assisted with invasive species eradication for the Town of Portage. They have also established a native garden at the Franklin Academy Middle School in East Chicago, working with employees from the BP Whiting Refinery.

It has been a positive experience for both the workers and the Shirley Heinze Land Trust. We hope the Green Jobs project succeeds in its ultimate goal of helping these deserving individuals use their newly acquired skills to find long-term employment.

Ron Trigg,
Editor, Shirley Heinze Newsletter

HOW IS SOIL ECOLOGICAL KNOWLEDGE HELPING IMPROVE RESTORATION OUTCOMES?

In 2005 when David C. Coleman, the great soil ecologist and author of the recent book *Big Ecology: The Emergence of Ecosystem Science*, retired from the University of Georgia many of his former students, post-docs, and associates streamed back from across the country (and in some cases even further) to celebrate with him at "Dave-fest" (i.e., his retirement symposium. See Hendrix and Callaham 2007). Chatting over celebratory cocktails, many of Dave's former colleagues who had previously had been concerned with more basic questions regarding soil ecology discovered that most of us were now engaged with the practical applications of soil ecology to that rogue practice, ecological restoration. Several of us who were there: Mac A. Callaham, Charles C. Rhoades, Greg Eckert, Mitchell Pavao-Zuckerman and I were inspired to examine how soil ecologists were applying their knowledge to problems encountered in the restoration of degraded ecosystems. We hosted a conference in Chicago on the topic "Soils and Restoration Ecology" in 2006. The proceedings, edited by Mac Callaham, Chuck Rhoades and myself were published in *Restoration Ecology* (2008. Volume 16, issue 4). It was clear from the number of papers we received for the conference and proceedings that we were not the only ones that had taken an interest in

applying soil ecological knowledge (SEK) to restoration practice.

The term ‘‘soil ecological knowledge’’ is used to indicate perspectives from the discipline of soil ecology that integrate soil physical, chemical, and biological factors and processes in context of plant–soil feedback. In particular, it is knowledge from soil ecology that can be used explicitly to inform restoration practice. To provide an example of how ecologists working with soil think their insights may be of use to restoration practice I give an account of how SEK may improve restoration in the face of invasive species.

SEK and Restoration in the Face of Invasion

Research efforts to understand the phenomenon of biological invasion into habitats of biodiversity conservation concern (i.e., habitats with a relatively high representation of native species, some of which are regionally or globally rare) have largely centered on questions concerning: 1) the physiological and ecological traits of the invading species; 2) the role of habitat factors in facilitating or resisting invasion; 3) the post-colonization effects of invasive species on a variety of soil mediated ecosystem processes; and 4) on the complex interaction of all of these factors, especially considered from an applied perspective. There has been a notably large investment of research effort into examining the role invasive plants in modifying key soil properties over the past two decades. These more recent studies provide detailed information on the effects of a range on invasive taxa on ecosystem productivity, decomposition, soil nutrient dynamics, and soil food webs. These recent studies provide information that could assist with developing a new array of restoration tools that explicitly use sophisticated knowledge of the soil to achieve restoration outcomes that are more sustainable in the long-term. These approaches to restoration are promising because they offer the potential for remediating the often persistent impacts of invasive species on invaded systems, and therefore produce restoration outcomes that have a more desirable ratio of native to invasive species and also result in habitats that relatively resistant to reinvasion.

One particularly influential hypothesis is the so-called fluctuating resource hypothesis (Davis et al. 2000) and it examined the way habitat factors may promote invasion. This hypothesis suggests that plant invasion depends upon patterns of resource enrichment matched by the availability of propagules of the invasive organism. Some support exists for this hypothesis, although there are other studies that are less emphatically supportive. However, since soil and plants have a densely reciprocal relationship then a modification in vegetation, especially when aggressively invaded, will be expected to change soil conditions (Wardle et al. 2004, van der Putten et al. 2009). These soil changes may be expected, and are often shown to persist after the physical removal of the invader. We have limited knowledge about the passive recovery of soil biota and processes in such circumstances. In fact, soils degraded by invasion may develop a set feedback processes that maintain the system in relatively persistent stable states that are favored by the invading species.

If invasive species modify soil conditions in a way that makes the soil unsuitable for the successful re-colonization and spread of the desired native species, and instead modifies soil processes in a way that facilitates their own reinvasion, then there is a critical need for the development of a suite of restoration strategies that ameliorate modified soils as a prelude to reintroduction of a native species. There is a growing body of research on this topic, some of which may be highly relevant for practical management. Since a

commonplace observation is that invasive plant species enhance the availability of key nutrients, nitrogen and phosphorus in particular, it is not surprising that investigations of methods to reduce nutrient availability have been numerous. Carbon additions in the form of mulch, sawdust, and sugar additions have had some reported effect on soil nitrogen content, often resulting in microbial immobilization of nitrogen. The use of harvestable cover crops can also reduce soil nutrient availability. Soil carbon manipulation may in turn result in reduced invasion by non-native species and greater native vegetation diversity. However, some studies found that changes to the soil conditions are short lived. Although results such as these are encouraging, they nevertheless offer the promise but not the immediate prospect of applicability. Since results from different studies give us conflicting outcomes, it is premature to make specific recommendations for the management of sites of conservation concern in the face of invasion.

Reviewing the literature recently for a book chapter written with Sara G. Baer and Valerie Eviner it was clearer than ever that soil ecologists have been contributing to an understanding of mechanisms helpful to restoring damaged ecosystems. Reviews of the academic literature are of course considerably easier to perform that reviews of practice in the field. The mild disjunction between the restoration ecology as an academic discipline and the on-the-ground practice of ecological restoration (evidenced by the slightly tetchy exchanges over Robert J. Cabin's 2007 essay by entitled "Science-Driven Restoration: A Square Grid on a Round Earth? "in *Restoration Ecology*) suggests that we should not expect innovations evinced by field experiments to diffuse through a type of intellectual Brownian motion into practice on the ground. However, there are seemingly dozens of ways in which the manipulation of soil can be used as a prelude to, or as an ongoing practice as part of, on-the-ground restoration projects.
Information from restoration practitioners is critically needed for the development of restoration strategies for degraded soils.

I am interested in receiving information from restoration practitioners regarding examples of where their knowledge of the soil and/or their active manipulation of the soil has changed their restoration methods. I am as interested in observations of practices that provided unexpected outcomes (or even failures) as those that have succeeded. ***I am therefore asking ecological restoration practitioners to reflect upon and respond to the questions:***

How do you incorporate soil ecological knowledge into your restoration work?

Are restoration outcomes improved by the use of soil ecological knowledge?

How has your manipulation of soil conditions led to changes in your restoration practices and/or plans?

Please respond to me by February 1, 2011 via email (soilecologicalknowledge [at] gmail [dot]com) with your responses to the above questions. Feel free to answer as in depth as you wish to each questions. Please contact me at the above email address if you have any questions regarding this information request. I will collate all responses I receive in a MWGL SER Chapter newsletter article that will be published in 2011.

References

Davis, M.A., J.P. Grime, and K. Thompson. 2000. Fluctuating resources in plant communities: a general theory of invasibility. Journal of Ecology 88:528-534.

Hendrix, P.F., and M.A. Callaham, Jr. Guest Co-Editors. 2007. Through a Ped Darkly: A Special Issue Dedicated to David C. Coleman. Pedobiologia 50(6):445-588. (**This special issue contains the proceedings of Dave Coleman's retirement symposium*)

Wardle, D.A., R.D. Bardgett, J.N. Klironomos, H. Setala, W.H. van der Putten, and D.H. Wall. 2004. Ecological linkages between above ground and below ground biota. Science 304:1629-1633.

van der Putten, W. H., R.D. Bardgett, P.C. de Ruiter, W.H.G. Hol, K.M. Meyer, T.M. Bezemer, M.A. Bradford, S. Christensen, M.B. Eppinga, T. Fukami, L. Hemerik, J. Molofsky, M. Schadler, C. Scherber, S.Y. Strauss, M. Vos, and D.A. Wardle. 2009. Empirical and theoretical challenges in above ground-below ground ecology. Oecologia 161:1-14

Liam Heneghan,
DePaul University,
Environmental Science Program and
Institute for Nature and Culture

COMPLETION OF THE FIRST REACH OF THE GRAND CALUMET RIVER RESTORATION AND REMEDIATION

The Grand Calumet River (GCR) begins at the Marquette lagoons in Gary, Indiana, flows through an industrial and urban corridor that includes the Indiana cities of Gary, East Chicago, and Hammond, and then flows past the Indiana state line into Illinois. Human settlement and a century of industrial development along with years of unregulated municipal and industrial discharges have resulted in a mosaic of degraded and healthy ecosystems. This mosaic ranges from natural communities within dune and swale habitat to highly modified and degraded riverine habitats and a river bed containing some of the most contaminated sediments in the nation. GCR is connected to Lake Michigan and the Indiana Harbor via the Indiana Harbor and Ship Canal (IHC). The IHC runs north from the GCR and divides the GCR into an East and West Branch. The GCR/IHC is listed as one of 43 Areas of Concern (AOC) by the International Joint Commission in the 1978 Water Quality Agreement for the Great Lakes basin between the United States and Canada.

Through negotiated settlements with responsible parties, the Natural Resource Trustees for the State of Indiana and the federal government have received damages for injuries to the natural resources in the GCR and its watershed. One of the Trustees' primary objectives is to use the Natural Resource Damage settlement monies to remediate contaminated sediments and restore habitat in the river, the surrounding wetlands, and the adjacent uplands within the AOC. Over the past several years, settlement monies have been used for protecting and restoring adjacent upland and wetland habitat along the river corridor. These efforts also include protection and restoration of the globally rare dune and swale habitat.

In 2002, United States Steel began a Resource Conservation and Recovery Act (RCRA) cleanup that involved dredging 8.1 km of the upper reaches of the East Branch GCR. This dredging project was completed in 2007 and constituted the first cleanup of contaminated sediments in the GCR/IHC.

In 2006, the Indiana State co-trustees submitted a proposal to U.S. EPA's Great Lakes National Program Office under the Great Lakes Legacy Act to remediate 1.8 km of contaminated sediments in the West Branch of the GCR in Hammond, Indiana. Natural Resource Damage settlement money was used

as the required 35% match. A project agreement was signed in September 2008 between the U.S. EPA's Great Lakes National Program Office, the Indiana Department of Environmental Management, and the Indiana Department of Natural Resources. Remediation began in December 2009 within the first 0.8 km reach between Columbia and Calumet Avenues in Hammond.

Westward view of Grand Calumet River restoration site from Columbia Avenue in June 2007

Sediments throughout the West Branch of the GCR are contaminated with various organic compounds that include polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCB), semi-volatile organic compounds (SVOCs), heavy metals, and pesticides. The habitat in West Branch of the GCR also consists primarily of non-native, invasive plants (*Phragmites* and *Typha* spp.)

The selected remedy for dealing with contaminated sediments located in water depths of 2.4 m is a combination of dredging and the installation of a reactive cap. Mechanical excavation of the contaminated sediment occurred in the dry by diverting the water east and west of the project site using steel sheet piles as barriers. The first 0.6 m of contaminated sediment was dredged from the river bottom. Dredging enabled the reactive cap to be installed on the river bottom without loss of hydraulic capacity. The dredged sediment was dewatered and sent to a municipal landfill in Newton County, Indiana designed to hold non-hazardous solid wastes and certain hazardous wastes that are exempted from subtitle C regulations, such as hazardous household wastes.

Westward view of Grand Calumet River restoration site from Columbia Avenue in March 2010.

Analysis of the sediment for metals, PAHs, and pH was completed prior to disposal at the landfill. Air at the restoration site was monitored during construction for metals and SVOCs. A wastewater pretreatment system was also constructed at the restoration site to meet industrial pre-treatment standards for water pursuant to the Hammond Sanitary District's wastewater treatment permit prior to discharge. All water from the sediment dewatering process met the water quality standards and did not have to be treated prior to discharge into the wastewater treatment plant. Once sediment was removed a reactive cap consisting of a geogrid, an activated carbon mat, and 0.6 m sand was installed over the remaining sediment. The reactive cap was required because it was not possible to remove all contaminated sediments. The reactive cap was designed to isolate contaminated sediments from the biota and to reduce contaminant transport that occurs as a result of groundwater upwelling.

Sand being installed over a geogrid and activated carbon mat to form a barrier over the sediment remaining after dredging

Approximately 23,723 cubic meters of contaminated sediment was excavated and 16,839,026 liters of wastewater was discharged to the Hammond Sanitary District's wastewater treatment plant. Restoration activities also resulted in the installation of 17,187 square meters of geogrid, 34,374 square meters of activated carbon mat, and the addition of 708 cubic meters of sand in order to construct the reactive cap.

Restoration of the river bank involved contouring, planting, and seeding with native vegetation such as common water plantain (*Alisma subcordatum*), sedges (*Carex* spp.), bulrush (*Scirpus* spp.), great blue lobelia (*Lobelia siphilitica*) and prairie cord grass (*Spartina pectinata*) to name a few.

Eastward view of Grand Calumet River restoration site from Columbia Avenue in August 2010.

The other half of this project will begin in December 2010 or January 2011 and will involve construction from Calumet to Hohman Avenues in Hammond. This upcoming project will mark the completion of the first Great Lakes Legacy Act project that began in 2006. The Trustees and the Indiana Departments of Environmental Management and Natural Resources will continue to monitor the success of the remediation and restoration of the dredged area. The Natural Resource Trustees will also continue to work in partnership with the Great Lakes National Program Office with the goal to remediate and restore additional segments of the Grand Calmulet River.

Acknowledgements

I thank Anne Remek-Kominoski for her input and comments on an earlier version of this article.

Carl Wodrich,
Indiana Department of Natural Resources

OHIO RIVER BASIN ALLIANCE

What is it?

Seventy-three partner agencies and organizations covering state, local, and federal government, nonprofit organizations (NPOs), industry, and academia convened in October 2009, February 2010, and August 2010 to discuss their collective interest in the future of water resources within the Ohio River Basin. This conglomeration of individuals and institutions is known as the Ohio River Basin Alliance (ORBA). During the February 2010 meeting in Columbus, Ohio the group developed their vision statement:

> The Ohio River Basin Alliance will support and implement integrated management of the Ohio River Basin's resources to achieve sustainable economic

growth, ecological integrity, and public safety.

Additionally, the mission of the ORBA is "*to form a successful collaboration that will recommend strategies and coordinate actions to address complex water resource challenges and priorities with a unified voice*." The geographic focus of ORBA follows the watershed boundary of the Ohio River and encompasses Ohio, Indiana, Illinois, Kentucky, Tennessee, Alabama, Mississippi, Georgia, North Carolina, Virginia, West Virginia, Maryland, Pennsylvania, and New York. The watershed covers 529,469 km^2 and over 27 million people reside within the watershed.

Why was it organized?
ORBA originated, in part, from the recognition that despite the Ohio River Basin's natural and capital assets it has received less attention and funding than other regionally significant restoration initiatives such as the Great Lakes Restoration Initiative, Chesapeake Bay, and the Everglades. It is difficult for residents to effectively organize and advocate on behalf of the Ohio River Basin because of its geopolitical complexity

Fast Facts

- The Ohio River is a tremendous natural asset and contributes approximately 60% of the mean annual flow to the Mississippi River. It is also in non-attainment for water quality standards along much of its length and has over 1,000 combined sewer overflows that discharge untreated sewage during wet weather events and is a contributor to Gulf of Mexico hypoxia.
- Biodiversity in the Ohio River basin is very high as it is home to roughly half of the freshwater fish and one third of the freshwater mussel species in the United States.

Fast Facts Continued

- Much of the infrastructure (navigation, hydroelectric, flood control, etc.) in the Ohio River basin has exceeded its design life, therefore an opportunity exists to make modifications that satisfy the original intent of the project while minimizing environmental impacts.
- The Ohio River basin is an economic engine for the country but is in jeopardy as regional economies transition away from traditional industries. The development of sustainable solutions and technologies is a strategy maintaining its position as an economic force and the standard of living for its inhabitants.

Who is involved?
Nearly 200 individuals have attended ORBA meetings. Meeting attendees represented their federal agencies (48%), state agencies (15%), industries/businesses (14%), and nongovernmental organization, local agencies, and universities (22%).

Where can I learn more?
ORBA has a website (www.ohioriverbasin.org) with selected information about the group, how to join, and information on the past and future meetings. Additionally, I have materials from the meetings that can be shared upon request for those who are interested.

How can you participate?
Attend the working meetings. ORBA currently has approximately two meetings per year. The location of future meetings will shift around the basin. The next meeting is scheduled to occur in Indianapolis, Indiana in March 2011.

Participate in the working groups. There are four working groups that meet periodically. Volunteers for these groups are welcome and

if you are interested in participating contact the individuals listed below. The Water Availability and Management and the Restoration and Protection Working Group have the most obvious linkages to terrestrial and aquatic restoration. However, rehabilitation of aging lock and dams might lead to an updated structures that enable fish passage. Sustainable growth also presumably incorporates restoration and habitat preservation.

Working Group	Lead (email)
Water Availability & Management	John Hoopingarner (jhoopingarner@mwcd.org)
Restoration & Protection	John Stark (jstark@tnc.org)
Enterprise & Infrastructure	Kari Mackenbach (kari_mackenbach@urscorp.com)
Sustainable Growth & Competitiveness	Ryan Fisher (ryan.fisher@usace.army.mil)

Share your thoughts with me

I have attended all three ORBA meetings and am an active member of the Restoration and Protection Working Group. I plan to attend the next meeting in March 2011. If you cannot participate but have issues, comments, and/or concerns you can contact the working group chairs listed above as well as Mark Kessinger of the U.S. Army Corps of Engineers at 304-399-5083. Additionally, I am willing to assist and carry comments forward to the other members of the ORBA. I can be reached at cody.fleece@stantec.com or by phone at 513-262-3994.

Cody Fleece, Stantec Consulting

SELECTED CONTENTS OF THE NOVEMBER ISSUE OF *RESTORATION ECOLOGY*

Set-backs and Surprises

R.D. Villanueva, A.J. Edwards & J.D. Bell. Enhancement of grazing gastropod populations as a coral reef restoration tool: predation effects and related applied implications.

L.A. Toth. Unrealized expectations for restoration of a floodplain plant community.

Research Articles

J.P. Roccaforte, P.Z. Fulé & W.W. Covington. Monitoring landscape-scale ponderosa pine restoration treatment implementation and effectiveness.

S.L. Hall, C.D. Barton & C.C. Baskin. Topsoil seed bank of an oak–hickory forest in eastern Kentucky as a restoration tool on surface mines.

C.A. Korfel, W.J. Mitsch, T.E. Hetherington & J.J. Mack. Hydrology, physiochemistry, and amphibians in natural and created vernal pool wetlands.

C.J. Brady & R.A. Noske. Succession in bird and plant communities over a 24-year chronosequence of mine rehabilitation in the Australian monsoon tropics.

J.L. Funk & S. McDaniel. Altering light availability to restore invaded forest: the predictive role of plant traits.

C. Nellemann, I. Vistnes, P. Jordhøy, O. Støen, B.P. Kaltenborn, F. Hanssen & R. Helgesen. Effects of recreational cabins, trails and their removal for restoration of reindeer winter ranges.

C.T. Hammersmark, S.Z. Dobrowski, M.C. Rains & J.F. Mount. Simulated effects of

stream restoration on the distribution of wet-meadow vegetation.

P. Soini, T. Riutta, M. Yli-Petäys & H. Vasander. Comparison of vegetation and CO_2 dynamics between a restored cut-away peatland and a pristine fen: evaluation of the restoration success.

C. Reckinger, G. Colling & D. Matthies. Restoring populations of the endangered plant *Scorzonera humilis*: influence of site conditions, seed source, and plant stage.

D.A. Smith & S.D. Gehrt. Bat response to woodland restoration within urban forest fragments.

A. Klimkowska, W. Kotowski, R. Van Diggelen, A.P. Grootjans, P. Dzierża & K. Brzezińska. Vegetation re-development after fen meadow restoration by topsoil removal and hay transfer.

J.C. Marks, G.A. Haden, M.O'Neill & C. Pace. Effects of flow restoration and exotic species removal on recovery of native fish: lessons from a dam decommissioning.

A.L. Frances, C.R. Adams & J.G. Norcini. Importance of seed and microsite limitation: native wildflower establishment in non-native pasture.

For more information on current and past issues of Restoration Ecology see:
www3.interscience.wiley.com/journal/117979191/home

UPCOMING ECOLOGICAL RESTORATION RELATED CONFERENCES & EVENTS: DECEMBER 2010 TO FEBRUARY 2011

Invasive Species Laws – Wisconsin as a Case Study with Kelly Kearns (Wisconsin Department of Natural Resources). Stewardship Network Webcast. Online event, 11:45 am to 1:00 pm EST, December 8, 2010. See the following for more information: www.stewardshipnetwork.org/site/c.hrLOKWPILuF/b.3975187/k.A610/Stewardship_Network_Webcast.htm

Meeting of the Great Lakes Panel on Aquatic Nuisance Species. Ann Arbor, Michigan. December 8 to 9, 2010. http://glc.org/ans/panel.html#glpmeet

2010 Watershed Seminar – NPDES Phase II Stormwater Issues and Watershed Planning and Implementation. Michigan Water Environment Association. East Lansing, Michigan. December 9, 2010. http://www.viethconsulting.com/Calendar/moreinfo.php?eventid=11831

Volunteer Workday - Shirley Heinze Land Trust. Savanna restoration in Bur Oak Woods, Hobart, Indiana. December 11, 2010. http://img835.imageshack.us/img835/9173/dec201

71st Midwest Fish and Wildlife Conference. Minneapolis, Minnesota. December 12 to 15, 2010. ***http://www.midwest2010.org/***

Atmospheric Toxics Webinar Series. Great Lakes Air Deposition Program. Online event. Six webinars on different topics related the effect of atmospheric toxic pollutants on the Great Lakes and their tributary watersheds are scheduled from December 15, 2010 to Thursday March 31, 2011. For more

information see:
http://glc.org/glad/meetings/webinar/

Indiana Arborist Association Annual Conference. Indianapolis, Indiana. January 18 to 20, 2011. www.indiana-arborist.org/index.htm.

University of Toledo's Lake Erie Center Public Lecture Series. Conservation Biology of Great Lakes Fishes and Their Habitats - R. M. Strach (Great Lakes Science Center). Toledo, Ohio January 20, 2011.
http://www.utoledo.edu/as/lec/events/events.html

The 2011 Science, Practice & Art of Restoring Native Ecosystems Conference. The Stewardship Network and Land Trust Alliance. East Lansing, Michigan. January 21 to 22, 2011.
http://www.stewardshipnetwork.org/site/c.hrLOKWPILuF/b.5187337/k.2FA/2011_Stewardship_Network_Conference.

Agriculture's Conference on the Environment. Michigan Agricultural Environmental Assurance Program. Lansing, Michigan. January 27, 2011. http://www.maeap.org/ace

Soaring to New Heights. 2011 Illinois Association of Park Districts and Illinois Parks and Recreation Association Conference. Chicago, Illinois. January 27 to 29, 2011.

Wisconsin Waterfowl Associations Annual State Meeting. Waupaca, Wisconsin. January 28 to 29, 2011.
http://www.wisducks.org/events.html

51st Ohio Fish and Wildlife Conference. Ohio Fish and Wildlife Management Association. Columbus, Ohio. February 4, 2011.
http://www.dnr.state.oh.us/Home/wild_resourcessubhomepage/ResearchandSurveys/ofwma/ofwma_callforpapers/tabid/18733/Default.aspx

14th Annual Minnesota Waterfowl Symposium. Minnesota Waterfowl Association, Minnesota Department of Natural Resources, and US Fish and Wildlife Service. Bloomington, Minnesota. February 5, 2011. Contact Bradley Nylin (brad.nylin@mnwaterfowl.com) for more information.

Central States Water Environment Association/WWA Sixth Annual Midwest Water Industry Expo. Wisconsin Dells, Wisconsin. February 8 to 9, 2011
http://www.cswea.org/events/

Wetlands in the Landscape: Wisconsin Wetland Association's 16th Annual Conference. Baraboo, Wisconsin. February 16 to 17, 2011.
www.wisconsinwetlands.org/2011conference.htm

Wetland Buffers: Theory, Science, Policy and Implementation. This national symposium is part of the program at our 16th Annual Wisconsin Wetland Association's Conference. February 16, 2011.
http://www.wisconsinwetlands.org/2011symposium.htm

Indiana Chapter of the American Fisheries Society. Montgomery, Indiana. February 23, 2011. Contact Debbie King (Dking@dnr.IN.gov).
Conservation and the Working Landscape. The Prairie Enthusiasts' Annual Banquet and Conference. Platteville, Wisconsin. February 26, 2011.
http://www.theprairieenthusiasts.org/conference11/conference11.htm

Wild Ones Annual Conference – Design with Nature. St. Paul, Minnesota. February 26, 2011.
http://www.designwithnatureconference.org/

Annual Power and Energy Conference at Illinois. IEEE. Urbana-Champaign, Illinois. February 25 to 26, 2011.
http://peci.ece.illinois.edu/

2011 Annual Midwest Aquatic Plant Management Society Conference. Grand Rapids, Michigan. February 27 to March 2, 2011.
http://www.mapms.org/2011/meeting.htm

2011 Upper Midwest Stream Restoration Symposium. Partnership for River Restoration and Science in the Upper Midwest. Oconomowoc, Wisconsin.
February 27 to March 2, 2011.
http://www.prrsum.org/content/umsrs-symposium-2011

Bill Santelik, EA Engineering, Science, and Technology, Inc.

***If you have a conference or event that you would like listed in this section in future newsletters please email the information to Bill Santelik* (wsantelik@eaest.com).**

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