RESTORATION NEWS MIDWEST

Newsletter of the Midwest-Great Lakes Chapter of the Society for Ecological Restoration – December 2012, Volume 5, Issue 2

PRESIDENT'S CORNER

The Midwest Great Lakes (MWGL) SER Chapter has been active on several fronts. We are assisting SER in organizing their 2013 World Conference on Ecological Restoration (www.ser2013.org) with five Chapter Board members (Nancy Aten (LOC Co-chair), Troy Anderson, Autumn Sabo, Todd Aschenbach, and Rocky Smiley) serving on the conference Local Organizing Committee (LOC) and by forming a Chapter committee designated to support the LOC. SER's 2013 World Conference will be held in Madison, Wisconsin in October 2013. In January 2013 registration will open and the Call for Abstracts for contributed presentations will begin. We encourage everyone to plan on attending this great international restoration conference.

In August, the Chapter was incorporated as a nonprofit Domestic Corporation in the state of Indiana through the efforts of Dave Benson and Rocky Smiley. Incorporation was the first step in the application process to become a federally recognized non-profit organization (i.e., 501(c)(3)). Many thanks to our Treasurer, Jen Lyndall, who was the lead person in the preparation of our 501(c)(3) application. We were fortunate that the Southwest Chapter agree to let us use their completed and successful 501(c)(3) application form as a template for our application. In the process of preparing our application we discovered it was necessary to modify the Chapter's Bylaws so they conformed to IRS expectations. Rocky Smiley was instrumental in making the Bylaw changes that were approved by a vote of the Chapter Board of Directors. We submitted our application in November and we are hopeful that we will receive good news from the IRS that our application was accepted. We will be pleased to share our experience with these two application processes with other Chapters. We are grateful to SER for their assistance with the incorporation and 501(c)(3) applications.

Our Five-Year Strategic Planning Committee has been learning about the complex procedures of strategic planning. The Committee will rely strongly on input from the Board of Directors and Chapter members in developing the five-year strategic plan we hope to implement in 2013. We have developed a questionnaire for the Board of Directors that will help us understand their perspectives on the strengths and weaknesses of the Chapter, the needs of our constituents (i.e., Chapter members and interested lay persons) and how we can better serve them as their needs change in the future. A similar questionnaire is being prepared to obtain feedback from our membership. Our Five-Year Strategic Planning Committee consists of Hua Chen (co-chair), Roger Anderson (co-chair), Troy Anderson, Nancy Aten, Chris Lenhart, and Rocky Smiley.

Our Fifth Annual Chapter Meeting will be held in Wooster, Ohio in April 2013 (see article below for more details). Our Annual Meeting Committee has been working hard these past couple of months to ensure another great Midwest-Great Lakes SER Chapter Meeting. The Annual Meeting Committee consists of Rocky Smiley (chair), Roger Anderson, Nick Basta, David Benson, Hua Chen, Young Choi, Charles Goebel, Jen Lyndall, Pamela Rice, and Don Tilton. Watch our website (chapter.ser.org/midwestgreatlakes/) for updates.

Our website has undergone reconstruction with a new look and added features, thanks to our webmaster Nancy Aten and help from SER.

Roger Anderson, President

FIFTH ANNUAL MEETING OF THE MIDWEST-GREAT LAKES SER CHAPTER

This year's Midwest-Great Lakes SER Chapter Meeting will be held in Wooster, Ohio from April 12 to April 14, 2013. We are grateful for the generous support of our meeting hosts - the Ohio State University's Ohio Agricultural Research and Development Center and the School of Environment and Natural Resources. The theme of this year's meeting is "*Ecological Restoration and Sustainability - Partners for the Future*" and our primary goal is to explore how the field of ecological restoration can assist other disciplines with achieving their sustainability goals and how other disciplines can contribute to ecological restoration.

We invite all parties to submit an abstract for an oral presentation or poster to be presented at the meeting. We encourage the submission of abstracts that are directly related to the meeting theme and we also welcome abstracts involving any ecological restoration topic. Our meeting agenda will be similar to our past meetings and will include technical presentations, social events, workshops, and field trips. Additional details regarding the abstract submission process are provided in the Call for Abstracts that is posted within the section of our chapter website devoted to the Annual Meeting (http://chapter.ser.org/midwestgreatlakes/2013-meeting/). **The deadline for abstract submission is February 8, 2013**.

The Annual Meeting Committee is also soliciting proposals for Workshops and Symposia to be part of this meeting. We encourage the submission of workshop and symposia proposals that are directly related to the meeting theme and proposals involving any topic related to ecological restoration. Additional details regarding the submission process for workshop and symposia proposals are provided in the Call for Workshop and Symposia Proposals will be posted on our chapter website. **The deadline for submission of workshop and symposia proposals is February 8, 2013**.

We anticipate that registration will begin in early March 2013 and that registration costs will be similar to those of our previous Chapter meetings. We hope you will participate in this exciting event.

Rocky Smiley, Annual Meeting Chair

LOOKING FOR SHRUBS IN ALL THE WRONG PLACES – A SEARCH FOR THE SCOURGE OF THE MIDWEST IN IRELAND

In 1984 I tagged along with third year undergraduates on the annual University College Dublin Botany Department's field trip to the Burren in County Clare, Ireland. The trip was designed to help these naturalists hone their plant identification skills. The Burren is a grassland on karst topography that has truly exceptional flora. One finds botanical treasures there not readily found elsewhere. I was a zoology major and at that time my passion was for chrysomelid beetles with their shimmering metallic elytra and chironomid flies, the males of which family have those marvelous antennae that perch like out-sized Christmas trees upon their heads.

On that trip I encountered out on the limestone of the Burren, a plant that I barely registered at that time, but that was later to assume a dominant role in my life. This was *Rhamnus cathartica*, or buckthorn as it is commonly known. Buckthorn is a shrub or smaller tree with alternate finely toothed leaves and spiny twigs. It is, to my eyes, a fairly pretty plant. When I saw this relatively rare Irish plant again fourteen years later it was the commonest woody species in the Chicago Wilderness

region of Illinois. Introduced from its native range across the Old World where its populations are generally small it has become, after a lag-time of several decades, explosively successful in the Midwestern United States. From a conservation management perspective buckthorn is "public enemy number one" since it encroaches upon and often dominates open land set aside for conservation and restoration purposes. Much of my research work and that of students I have worked with in subsequent years has been devoted to understanding the ecology of this invasive species and identifying effective control methods

In the summer of 2012 I traveled back to Ireland for three weeks with the goal of finding buckthorn growing natively. My younger son Oisín (then 16) traveled with me. The trip was more arduous that we expected. With time ticking away we discovered that although several Irish botanists could tell us roughly where to locate the plant, none could say where a population of buckthorn was to be found with the precision required by a man with little time to spare.

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Buckthorn prefers rocky lake shores and is generally found on soils developed on calcareous bedrock. Webb's *An Irish Flora,* the definitive key to Irish plants reported that it was to be found in "*rocky places and lake-shores and other seasonally flooded habitats; occasionally in the west and centre, very rare elsewhere*" in Ireland. I did not have a clear recollection of where exactly in the Burren I visited in the 1980s. Given that I had reason to visit some other of the Irish National Parks, we first explored the Muckross Peninsula in Killarney National Park in the South West. Dr. Daniel Kelly from Trinity College, Dublin, an expert of the vegetation of the National Park, informed me that buckthorn is present but quite scarce in the Killarney limestone area within the park. My son and I followed the Arthur Young trail in the park that winds across the limestone, close to Reenadinna Yew Woods, and out onto the rocky beaches adjacent to the lake. I left Oisín by the lake shore skipping limestone pebbles as I scrambled over rocks by the water looking for buckthorn. Several hours later, we abandoned the effort.

We walked dolefully back to the visitor center. Oisín was somewhat less morose. I suggested that we detour to see Muckross Abbey, a deserted monastic settlement, to whet our appetites with the sauce of viewing the graves of long-dead monks. Along the way we listened in on the jarveys, drivers of jaunting cars who ferry visitors less inclined to peripatetic excursions around the park. "When the horse goes up the hill he goes slow", a jarvey sagely informed a client, "…but when he goes down the hill he goes very slow!" At the center of the monastery is an ancient yew tree and one can sit at the cloister's edge and admire this old tree. Children ran about us and mothers fretted as their darlings darted towards the paneless windows some distance above the flagstones. The monastic roof was long gone and jays called raucously from among the graves. As we walked away from the abbey out of the corner of my eye I saw a shrub that seemed happily to fit the habit of buckthorn, and there it was! Worth the morning's walk, a gift of departed monks.

The leaves were quite lanceolate (tapering and longer than broad) on the Muckrose Abbey specimen, which is unusual for buckthorn. I reflected a little on the morphological deviation of our Chicago, Illinois populations from the native condition of buckthorn found in Ireland. Perhaps there had been some inter-species hybridizing in the New World that invigorated the introduced population. In Ireland the plant was growing singly at the edge of a trail and not clumped in distribution as we find it around Chicago, where sometimes it grows as a impenetrable monoculture. Photographs were

taken, and leaves were pressed between the pages of my Webb's *Irish Flora*. We would come back the following day to look at the other vegetation around Muckross Abbey.

Later that evening we ate at the home of old friends of mine, Bill Quirke and Helena Twomey. Both are excellent naturalists and have worked in the Killarney area since the 1980s. In 1982 Bill had introduced me the Killarney's own problematic invasive shrub *Rhododendron ponticum* that proliferates throughout the oak woodlands. *R. ponticum* is native to southern Europe and southwest Asia. No doubt there is a Bulgarian ecologist visiting home nostalgically looking for populations of this shrub in its native land. As naturalists do - we drank tea and lolled about with vegetation samples and every botanical volume in the house opened to the Rhamnaceae. Helena held up my prize. "Oh nice…", she said, "you found spindle!" I had not, in fact, discovered buckthorn but had found *Euonymus europaeus*, a handsome shrub by any measure, but not buckthorn. Spindle is also associated with limestone and is found occasionally in Ireland. On another occasion I might have been pleased. The night was not a loss of course, Oisín provided a rather fine dramatic reading from the "American Girl" story collection for the entertainment of the Quirke-Twomey daughters, and for our collective amusement he juggled deftly. Nevertheless, we left Killarney a couple of days later without seeing our plant.

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Finding buckthorn in Ireland was important to me for a number of reasons. I wanted to observe buckthorn in a location where its discovery was a cause for satisfaction not concern. There is a habit among conservationists and restorationists to demonize invasive species no matter how lovely they may be. Perhaps this is inevitable to so regard the enemy. When I worked on *Rhododendron* removal in Irish woodlands in the 1980s I quite happily adopted this mindset and entered into battle with a quite blameless species that appeared to have quasi-imperialistic motives. Novice conservation volunteers, the world over, are often times taken aback when they show up to "restore" a site and are forthwith kitted with loppers and bow-saw and sent about their deadly task. We called the removal "Rhodo bashing", and when incredulous tourists would yell at us as we hacked away at the beautifully blossomed plant I would feel sorry for their ignorance, though some of the ignorance was ours. Though what we were doing was, I still think, correct from conservation and restoration perspectives, the ethical theory upon which it is based is far from transparent.

So when I moved to Chicago I felt inclined to like buckthorn even though local restorationists regarded at times with the enmity I once had for *Rhododendron*. It was, after all, an Irish native successfully setting down roots in a foreign land. So successful that I claimed that my research on it was motivated by jealousy! But just as Hitchcock's *The Birds* made ominous organisms that individually we love, a leafy flock of buckthorn is viewed as an abomination in the Midwestern United States. Returning this past summer to find it in Ireland where it was ecologically well-behaved, a rarity among its fellows, was in some ways an attempt to vindicate my high regard for it.

There was another reason behind the motivation for my trip. When I traveled with my botanists on that first trip I was setting out to be a naturalist. I wanted to both identify, and identify with, organisms. Insects were my thing back then, but I hoped to become a good botanist as well. Though they are professionally closely related an ecologist and a naturalist are not quite the same thing. I became the former and not so much the latter. Ecologists tend to focus on processes, whereas naturalists concern themselves with "things" -

organisms. For example, ecosystem ecologists squint at the world and rather than seeing "things" see the buzzing connections between "things". The buzz is typically the buzz of death: predation, decay, necrophagy. I have primarily been a student of death and decay, and have learned less about the lives of individual organisms than I had hoped. Another distinction between ecology and natural history is that ecologists tend to be more experimentally inclined, setting up "event traps" in which processes are allowed to occur. In contrast, the naturalist's primary methodology, walking, sends one into the trap that nature pleasantly sets. Traveling in Ireland to find buckthorn called for a natural historian's skill and rehabilitating this field skill, seemingly lost in me was one of my personal motives for the trip.

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Yet with time moving along rapidly I was yet to find a single buckthorn individual after more than a week of searching. Oisín and I next visited Connemara National Park, which is located on the far west coast of Ireland. Tim Robinson, whose three volume account of the Connemara region's social and natural history is definitive, wrote and told me that I would not find buckthorn there. He indicated that he had seen buckthorn out on the Aran islands, but it was not to be found in the metamorphic and granitic parts of park that I was visiting. My last hope was to find it in east County Galway. Jim White, my old teacher from University College Dublin, provided me with information from Webb's *An Irish Flora*, Mary Scannell's *Flora of Connemara*, and the Burren which confirmed east Galway locations where buckthorn was previously documented. My old teacher warned though that whereas general locations of the plant were known, it might be hard to find specific sites where one was guaranteed to find it.

As it happened Oisín and I were traveling on this leg of the journey with my cousin Brendan Heneghan. Brendan, a lawyer, is a man of vast and eclectic interests. He took a friendly concern in helping me locate buckthorn. On the last day of our travels together we decided that we would drive through East Galway and into County Mayo. Our ultimate destination that day was a graveyard in which several generations of dead Heneghans have been laid to rest. This was a side trip, but I did not want to tax the patience of my amiable cousin. After all, the search area for buckthorn was reasonably large.

Webb and Scannell reported that buckthorn is frequently found near Oughterard, a town north of Galway City and locally abundant by the south shore of the lake Lough Mask. Coincidentally, I had run into an old friend from my graduate school days previously who suggested that I try Clonbur Woods for buckthorn. Since Clonbur Woods was enroute to the cemetery we stopped and walked through the woods towards Lough Mask. Clonbur Woods is also close to Cong, the village where John Ford's movie "The Quiet Man" was filmed. There had been some recent cutting of plantation trees in the woods. The site looked disheveled and unpromising. Flies buzzed about us aggressively. Brendan sprinted: for a bookish man he can gather up quite some speed. We moved further into the woods towards Lough Mask. The flies vociferated in their buzzing way and Brendan attempted to make himself the less appetizing target by sprinting randomly. He merely provoked their further interest and they feasted on that fine legal head. Calculating that his patience was good for about another thirty minutes, we pressed on, each with our personal head-cloud of flies.

Was it to be that my first love, insects, would keep me from locating my newer botanical love? And in the way that such things happen,

even to those of us who believe not at all in fate or the gods we walked around a bend in the trail and there, stretched out across a little limestone terrace, was the loveliest little population of buckthorn.

Liam with the buckthorn found within Clonbur Woods, Ireland.

Although buckthorn is not so rare as to be considered a plant of conservation concern in Ireland, nevertheless it is found in a relatively small number of locations in the country. If search time could be used as an indicator of scarcity, my trip showed that it takes quite a bit of time to find a population in Ireland. It also takes the deliberations of many botanists, the companionship of a son, and the good will of a cousin to find it there! In Chicago, in contrast, one needs only know how to recognize it after which it is almost impossible not to find it.

Later in the day after having found the buckthorn population three living Heneghans, a family name rarely encountered in the Midwestern United States, crouched down in a graveyard near Partry, County Mayo surrounded by a virtual monoculture of dead Heneghans.

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Environmental Science Program and
Institute for Nature and Culture
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On twitter @Dublinsoil

A RESTORATION CHALLENGE OF A LIFETIME: THE SENECA MEADOWS PROJECT

What is your virtual field of dreams for restoration? To put it more concretely, what have you always wanted in a restoration project?

• A client committed to going the extra mile and then some. Check.

• A really large canvas to work on—supporting substantial diversity. Check.

• Opportunity to start from scratch to design and build. Check.

• A chance to monitor the restoration for a significant length of time. Check.

• The use of the area by the public, students, educators, and researchers. Check.

• Protection and management of the area in perpetuity. Check.

• A location near other significant wildlife areas providing habitat connectivity. Check.

In other words, the restoration challenge of a lifetime—potentially with rewards to match. Well, every once in a while in restoration work, all the stars align and dreams come true. The result is good for the natural world, good for business, and good for people. Such is the story of Seneca Meadows Wetland Preserve in northwestern New York.

In 2004 operators of the Seneca Meadows Landfill sought permits for a major expansion of this landfill, which is the largest landfill in New York. Expansion of the landfill was selected as the preferred alternative over options such as developing a new greenfield landfill. However, the expansion involved projected environmental impacts to 0.3 km^2 of wetlands that also encompassed 0.1 km^2 of hardwood swamp.

Applied Ecological Services (AES) of Brodhead, Wisconsin was initially hired only to identify sites for the required mitigation as part of the landfill expansion. They began the process, as they usually do, with a natural resources inventory of the landfill property. In doing so, they discovered ways to reduce impacts to the degraded forested wetlands as well as ample opportunities for the restoration of 5.0 km^2 adjacent land consisting of 1.4 km^2 of wetlands and 2.4 km^2 of drained agricultural fields.

Agricultural fields adjacent to the Seneca Meadows project site before restoration.

In a precedent-setting move, Seneca Meadows committed to the major restoration effort proposed by AES. As District Manager Don Gentilcore explained: "We decided to forego the standard 3:1 wetland mitigation ratio and instead dedicated over eight times the required acreage. A large area of high quality wetland will benefit the local ecology far more than one with limited acreage." Andy Buss, contracting project superintendent with AES described the project as being "so large in scale that it allowed us to create everything we could dream of."

The Vision

To begin the project, AES developed hydrological and ecological restoration plans. They facilitated applications for Clean Water Act Section 404 from the U.S. Army Corps of Engineers and for Chapter 24 Freshwater Wetland Act permits from the New York State Department of Conservation. Permits were granted in 2007 and construction began.

The restoration design called for reconfiguring agricultural land to create 0.2 km^2 of emergent wetlands, 0.7 km^2 of wet prairie, 0.1 km^2 of wet mesic prairie, and 0.1 km^2 of forested wetlands. The restoration of approximately 0.1 km^2 of upland habitat consisting of oak savanna, mesic prairie, and mesic forest were also planned. The incorporation of the upland habitat restoration was intended to result in the development of an integrated wetland-upland ecological landscape, which is an aspect often given short-shrift in wetland mitigation projects.

Planting of native plants on former agricultural fields

The scale of the project set a precedent for permitting large impact projects in the state of New York. At a national level, the U.S. Environmental Protection Agency called the project a model of how large-scale mitigation can be used to address large wetland impacts.

The Challenge

It was not only a unique restoration opportunity, it was also one that presented enormous challenges. Collaboration was key. "How on earth am I going to do this?" floated through the minds of the client, AES contractors, consultants, and nursery staff repeatedly throughout the process.

There were other questions and challenges. How can we create an understandable and eminently usable design? What is the academic scientific research that will provide the foundation for the restoration design? Who are our potential long-range partners? How will this area be managed and maintained after construction and after the landfill is closed?

The above are just a sampling of the questions and accompanying angst that occurred well before the construction crew encountered the "surprises" inherent in any restoration project. For example, the discovery of the federally endangered Indiana bat (*Myotis sodalist*) on site caused immediate modifications in the wetland enhancement protocols and dictated the strategic preservation of all viable roosting trees within the project site.

Through it all, repeating like a leitmotif was the constant updating and coordination from AES with the client, regulatory agencies, non-profit groups, and the public. Think symphony. Looking back, there are those who might even think: "opus."

The Hard Work

Earthwork involving moving 535,188 cubic meters of soil was necessary to transform flat farm fields into a varied terrain that could support a diversity of wetland and upland native habitats. The plan called for disabling several miles of drain tiles in former agricultural lands as well as blocking and reconfiguring surface drainage swales. In the process deposits of glacial sand were discovered and subsequently left *in situ* to provide habitat for burrowing animals.

AES installed 169,750 herbaceous plugs, 9,487 trees and shrubs, and selectively removed buckthorn with chainsaws within 1.1 km^2. AES also seeded 1.7 km^2 of newly created wetland and upland habitats using 1,361 kilograms of approved native seed materials. Thirty percent of this seed consisted of a customized mixture coming from seed collected locally onsite or within a 8.0 km radius of the project site. The Montezuma National Wildlife Refuge occurred within this 8.0 km radius and served as a local seed source. AES's Taylor Creek Restoration Nurseries coordinated and conducted seed collections, and processed seed materials from its Brodhead, Wisconsin location.

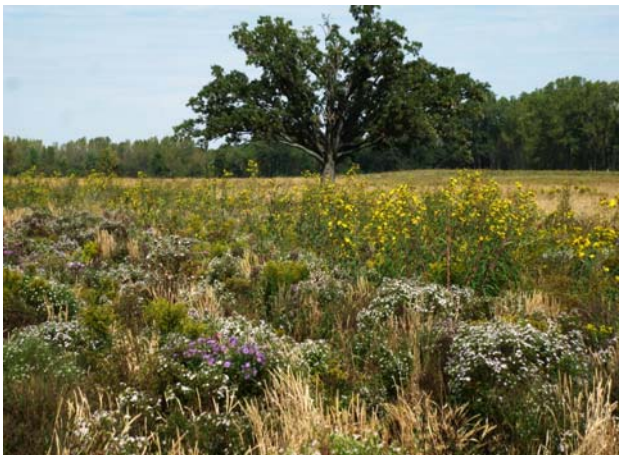
Strategic enhancement of 0.6 km^2 of existing forest and forested wetlands was also part of the planned restoration. Invasive species, such as buckthorn (*Rhamnus* spp.), were removed through cutting and targeted herbicide application. Early successional native species, such as red maple (*Acer rubrum*), cottonwood (*Populus* spp.), ashes (*Fraxinus* spp.),, and cherry (*Prunus* spp.) trees, were also planted to provide an ecological vanguard to foster colonization of later successional tree species such as oak (*Quercus* spp.) and hickory (*Carya* spp.).

And They Have Come

Another noteworthy component of this eight million dollar project is the commitment the owner Seneca Falls provided for long-term monitoring. This has translated to a rare

opportunity to assess how aquatic and terrestrial animals responded to the restoration. AES ecologists have initiated long term monitoring of macroinvertebrates, fishes, amphibians, reptiles, mammals, birds and water quality within the restored site.

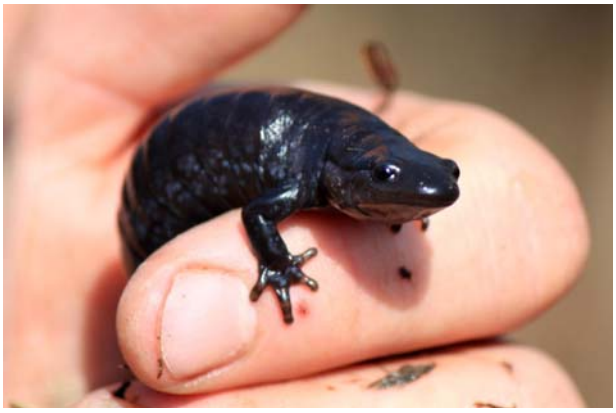
The first biological inventories were conducted on the old farmland and degraded wetlands before construction. Ecologists found 2 reptile species, 7 amphibian species, and 68 bird species. The birds were generalists typically associated with agricultural lands, such as crows, gulls, geese, and blackbirds. No threatened or endangered species were recorded.



Former agricultural fields after planting native plants

At only one year post-construction (2009) bird species richness had already doubled. Additionally, two bird species (pied-billed grebe and least bittern) considered threatened in New York were found breeding in the site!

Fast forward to 2012 - four years post-construction. The species list has burgeoned to 5 reptile species and 10 amphibian species. Additionally, the majority of the Ambystomatid salamanders captured on the site consist of the blue spotted salamander hybrid (*Ambystoma jeffersonianum* x *A. laterale*).



Blue-spotted hybrid salamander captured at the Seneca Meadows Wetland Preserve

The bird list now stands at 187 bird species, representing over a third of all species recorded for New York. All expected marsh birds have been documented except the king rail. Many New York endangered, threatened, or special concern species are found on the preserve including regionally rare grassland species such as bobolink, the state threatened Henslow's sparrow, and two species of special concern in New York – the vesper sparrow and grasshopper sparrow.

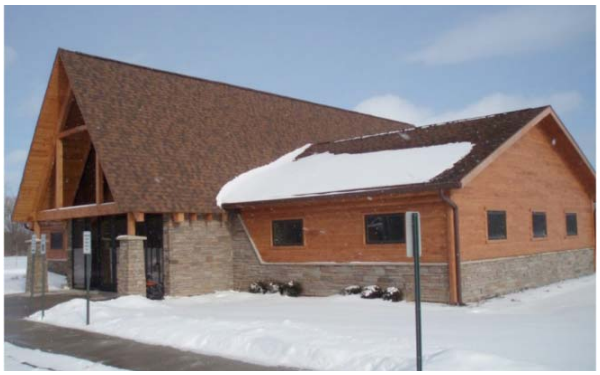
With Cornell University and State University of New York-Environmental Science and Forestry (SUNY-ESF) each only about an hour's drive from the site, Seneca Meadows is poised to serve as an important research location. A student from SUNY-ESF has begun a study of native bees and is focusing on the diverse microhabitats within the preserve.

Take a Bow

"An ecological treasure"—that's what Mickey Flood, chief executive officer of the parent company of Seneca Meadows called the Seneca Meadows Wetland Preserve when the preserve was officially opened to the public in 2010.

In fact, the Seneca Meadows Landfill so thoroughly embraced their restoration wetlands that in 2009 they built the LEED Gold-certified

Seneca Meadows Education Center adjacent to preserve, with easy access to the 7 miles of foot trails, boardwalks, and wildlife overlook stations. New York Audubon currently staffs the education center and oversees the educational outreach efforts. Audubon has also stepped forward for the role of permanent steward of the preserve and will assume responsibility for managing the preserve after the Seneca Meadows Landfill is no longer in operation.



The Seneca Meadows Education Center

All this hard work is being recognized. The wetland preserve was honored in 2012 with a "Design by Nature" award presented by the Brownfields Coalition of the Northeast. Seneca Falls Landfill also received the 2012 Gold Excellence Award for Landfill Management bestowed by the Solid Waste Waste Association of North America in part for its forward-looking approach to its landscape management and commitment to environmental education. Also in 2012, the project received Audubon New York's Donald G. Colvin Conservation Award recognizing the company's preservation and advancement of the environment. Seneca Meadows also had a U.S. Congressional Proclamation bestowed on it in recognition of its commitment to preserve and protect the environment.

The influence of the restored wetland extends even to the arts. "Life of the Wetland," a mural by regional Connecticut artist Linda Thomas and commissioned for the Seneca Meadows Education Center is featured in a show at the New York Hall of Science running through February 2013. The painting places particular emphasis on the threatened and endangered species that give Seneca Meadows its extra special cachet.

The regional community has enthusiastically embraced the restored natural area, posting pictures and lists of plant and animal species on the Web and eagerly participating in organized tours and other events. It is truly a gift to the Finger Lakes region.

Moving Forward

In 2012, a pair of dickcissels, a grassland bird species more commonly found in Midwestern prairies, showed up at Seneca Meadows Wetland Preserve. This sent the birding hotlines humming and caused some to speculate whether this species might find a breeding refugia from the drought in the East. A Cornell ornithologist was dispatched from nearby Ithaca to document the event in photos and sound recordings. More than a single rare bird event, the dickcissel sighting might be seen as a harbinger of all that a restored wetland complex such as Seneca Meadows Wetlands Preserve can contribute to the ecology of the region—and in this particular case, maybe even the continent.

After all, isn't making a tangible improvement on earth the underlying dream that motivates the restoration ecologist? Sometimes we actually can see it.

Troy Anderson, Elizabeth R. Tiller, and Michael J. McGraw, Applied Ecological Services.

SELECTED CONTENTS OF THE DECEMBER 2012 ISSUE OF ECOLOGICAL RESTORATION

**This is a special issue that focuses on "Design Approaches to Ecological Restoration"*

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M. D. White & K.Penrod. The Tehachapi Connection: a case study of linkage design, conservation, and restoration.

F. Rovero & T. Jones. Wildlife corridors in the Udzungwa Mountains of Tanzania.

D. Powell & J. Maschinski. Connecting fragments of the Pine Rockland Ecosystem of South Florida: the connect to protect network.

J. P. Alvez, A. L. S. Filho, J. Farley, G. Alarcon & A. C. Fantini. The potential for agroecosystems to restore ecological corridors and sustain farmer livelihoods: evidence from Brazil.

C. Schlotterbeck. The Coal Canyon story.

H. Locke & W. L. Francis. Strategic acquisition and management of small parcels of private lands in key areas to address habitat fragmentation at the scale of the Yellowstone to Yukon region.

A. Rosenthal, H. Stutzman & A. Forsyth. Creating mosaic-based conservation corridors to respond to major threats in the Amazon headwaters.

Research Articles

A. P. Clevenger. Mitigating continental-scale bottlenecks: how small-scale highway mitigation has large-scale impacts.

P. Beier. Conceptualizing and designing corridors for climate change.

S. J. Ryan & J. Hartter. Beyond ecological success of corridors: integrating land use history and demographic change to provide a whole landscape perspective.

K. E. Gunson & F. W. Schueler. Effective placement of road mitigation using lessons learned from turtle crossing signs in Ontario.

Perspectives

K. Fields, R. Ament, D. Johns, J. Davis & K. Bowers. Policy foundations for a path forward in large landscape connectivity conservation.

Design Approaches to Ecological Restoration

N. E. Lister. Crossing the road, raising the bar: The ARC International Design Competition.

S. Apfelbaum, R. Rock & T. Zoli. A simple structure supports a complex habitat in wildlife crossing design.

R. Askins. Tying a wildlife bridge into the ecological landscape.

D. Balmori & D. K. Skelly. Crossing to sustainability: a role for design in overcoming road effects.

A. Dobson. Crossing to sustainability: bridge of sighs, or sizable bridge?

J. Rosenberg & R. Justewicz. Imagining a wildlife crossing structure from an animal's perspective: The ARC International Competition's finalist Janet Rosenberg Team Entry 'R-E-D'.

K. C. Seto. Seeing R-E-D: making a place for human ecology in highway crossing design.

M. Berkers, R. Torsing, M. Knuijt & S. Jansen. "Landshape"—modular constructions of wildlife crossings.

D. Drake. Can precision in ecological science match elegance of design?

For more information on current and past issues of Ecological Restoration see:
http://er.uwpress.org/

UPCOMING ECOLOGICAL RESTORATION RELATED CONFERENCES AND EVENTS – JANUARY TO MARCH 2013

2013 No-Spills Conference. Northern Michigan Waterways Hazardous Materials Spill Planning Committee. January 6, 2013. Traverse City, MI. no-spills.org/Conference.html

Indiana Green Expo 2013. January 9, 2013. Indianapolis, IN. www.indianagreenexpo.com/

Free Webinar: Yellow Rail Conservation, Research, and Monitoring in the Upper Midwest. January 9, 2013 from 1 pm to 2:30 pm. See webpage for details midwestbirdmonitoring.ning.com/events/webinar-on-yellow-rail-conservation-research-and-monitoring-in-th

2013 Leave No Child Inside Conference. The Chicago Wilderness. January 12, 2013. River Grove, IL. www.chicagowilderness.org/what-you-can-do/attend-2012-leave-no-child-inside-conference/

Volunteer Opportunity: Brush control to assist with Oak Savanna restoration at The Nature Conservancy's Ottawa Bluffs Preserve. Six workdays from January 12, 2013 to March 23, 2013. Le Sueur County, MN. For information contact the Conservancy at 612-331-0751.

Volunteer Opportunity: Assist The Nature Conservancy with prairie restoration at its Kankakee Sands, Indiana site by assisting with brush control and transplanting native plants in its green house. Three work days from January 12 to March 9, 2013. Contact Tony Capizzo at 219-285-2184 with questions.

Free Webinar: Preparing Your Land Trust to Manage Risk. Instructor Leslie Ratley-Beach. January 14, 2013 from 3:00 pm to 4:00 pm ET. See website for more information - www.landtrustalliance.org/events-news/calendar/preparing-your-land-trust-to-manage-risk-effectively-1

Free Webinar: Climate and Carbon Impacts on Productivity , Chemistry, and Invasive Species in the Great Lakes. Instructor Galen A. McKinley. January 17, 2013 from 12:00 to 1:00 pm EST, See website for more information - changingclimate.osu.edu/webinars/

Lake Erie Center Public Lecture: Dr. Thomas Johengen, Thirty Years after Ballast Water Exchange: Pending Changes and Challenges for Controlling Invasive Species Introductions via Shipping over the Next Decade. January 17, 2013 at 7:00 pm ET. LEC room 155, Oregon, OH.

Sixth Annual Science, Practice, and Art of Restoring Native Ecosystems. January 18 to 19, 2013. East Lansing, MI. www.stewardshipnetworkconference.org/site/c.7oIDJSPuGcIWF/b.8055237/k.BE8B/Home.htm

2013 Ohio Fish and Wildlife Management Association Conference. February 1, 2013, Columbus, OH. https://sites.google.com/site/ohiofwma/

Wild Things 2013. A Chicago Wilderness Conference. February 2, 2013. Chicago, IL. www.habitatproject.org/WildThings2013/overview.html

Free Webinar: Partnering with Trout Unlimited for Conservation and Restoration. Instructors

Chris Herman, Damon Hearne, Kevin Anderson. February 5, 2013 from 2:00 pm to 3:30 pm ET. See website for more information - www.landtrustalliance.org/events-news/calendar/partnering-with-trout-unlimited-for-conservation-and-restoration

Joint Expo of the Michigan Section of the American Water Works Association and the Michigan Water Environment Association. February 5 to 6, 2013. Lansing, MI. www.mi-wea.org/

Central States Water Environment Association Eigth Annual Midwest Water Industry Expo. February 5 to 6, 2013. Wisconsin Dells, WI. www.cswea.org/events/

Lunch and Learn – Native Plant Strategies for Drought. February 12, 2013. South Bend, IN. inasla.org/meetinginfo.php?id=70&ts=1354641053

Great Wetlands, Healthy Watersheds. 18th Annual Conference of the Wisconsin Wetlands Association. February 12 to 14, 2013. Sheboygan, WI. www.wisconsinwetlands.org/2013conference.htm

Case Studies in Fisheries Management. 2013 Meeting of the Michigan Chapter of the American Fisheries Society. February 19 to 21, 2013. Gaylord, MI www.fisheriessociety.org/miafs/upcoming_meet.html

Ohio Invasive Plants Council Research Conference. Feb. 21, 2013. Columbus, OH. mipn.org/OIPC_ResearchConference_1stNotice.pdf

Fourth Annual Upper Midwest Stream Restoration Symposium. Partnership for River Restoration and Science in the Upper Midwest. February 24 to 27, 2013. La Cross, WI. www.prrsum.org/content/home

2013 Annual Conference of the Midwest Ecological Landscaping Association. February 28, 2013. Grayslake, IL. www.melaweb.org/

Reading Our Landscape. Wild Ones 2013 Design with Nature Conference. March 2, 2013. Plymouth, MN. www.designwithnatureconference.org/

2013 Wildflower Association of Michigan Annual Conference. March 3 to 4, 2013. East Lansing, MI. www.wildflowersmich.org/index.php?menu=5

26th Annual Conference of the Michigan Stormwater-Floodplain Association. March 4 to 8, 2013. Battle Creek, MI. mi.floods.org/conference.html

Beyond Design: Weathering the Challenges of Tomorrow. Spring Conference 2013 of the Wisconsin Chapter of the American Society of Landscape Architects. March 7 to 8, 2013. Milwaukee, WI. www.wiasla.com/annual-conference/

2013 Annual Meeting of the Minnesota American Fisheries Chapter. March 11 to 13, 2013. St. Cloud, MN. *Deadline for abstracts is February 14, 2013*. http://mnafs.org/

The Prairie Enthusiasts 2013 Annual Conference and Banquet. March 16, 2013. Mankato, MN. www.theprairieenthusiasts.org/events.htm

Lake Erie Center Public Lecture: Dr. Alan Steinman, Ecosystem Restoration from the Everglades to the Great Lakes: Fact, Fiction, and (occasional) Frustration. March 21, 2013, 7:00 pm ET. LEC room 155, Oregon, OH.

If you have a conference or event that you would like listed in this section in future newsletters please email the information to Troy Anderson (TCA.ecology@gmail.com).

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Society for Ecological Restoration

5th World Conference on Ecological Restoration

"Reflections on the Past, Directions for the Future"

Madison, Wisconsin, USA October 6-11, 2013

About the Conference

The Society for Ecological Restoration (SER) is pleased to announce its 5th World Conference on Ecological Restoration and 21st Annual Meeting, "Reflections on the Past, Directions for the Future", to be held October 6-11, 2013 in Madison, Wisconsin, USA. We invite your company, organization or institution to partner with us at this exciting and important event, and have outlined in this prospectus a number of opportunities for marketing your products and services to conference attendees and the larger SER membership. Please contact us for more information about any of these opportunities or to share your own ideas about how we might collaborate: info@ser2013.org

SER 25th Anniversary

The SER2013 World Conference marks the 25th Anniversary of the Society for Ecological Restoration (SER) and represents an opportunity to celebrate not only the Society's achievements over the last two and a half decades, but also the great strides and important advancements made in the field of ecological restoration during this period.

Important Dates

January - April 2013: Call for Abstracts

April - May 2013: Call for Student Grant Applications

July 2013: Deadline for Presenter Registration

July - September 2013: Online Regular Registration

www.ser2013.org