THE BLUE MOUNDS AREA PROJECT

Ecological Restoration and Stewardship of Native Habitats

Fall 2000

Message From The Board

Carroll Schaal, President

Hello, and welcome to our fall newsletter.

Autumn is a time for the trees to shine and they have been doing a good job! I think this has been one of the more colorful falls in my recent memory. Adequate moisture, at least early on, mild temperatures and no big windstorms are perhaps why. Or, maybe it's because I've driven over a thousand miles while traversing the state during late September and early October giving me the opportunity to take in a lot of landscape, I'm not sure which. Fittingly, this newsletter focuses on forestry issues.

Under our grants from the DNR and Wisconsin Environmental Education Board, we just wrapped up a series of workshops on forest and savanna management. Some of the contents of the first workshop, a talk by Professor Mark Leach on savanna ecology and restoration, is presented in this newsletter.

Ecologist Bob Wernerehl has immersed himself in "woody" issues recently, ensuring that the whole forest is seen despite the trees. Working closely with forester Mark Mittelstadt, he has recently conducted workshops for forest management professionals and landowners on managing our unique savanna ecosystem resources, providing a balanced holistic ecological perspective to woodland management. On page two of this newsletter he shares the T.E.A.M. approach to forest management that he developed.

Despite the recent forestry focus, the Blue Mounds Area Project remains committed to all landowners in the area, whether or not they have trees on their property. The understanding gained through these current efforts strengthens our overall ability to support all of our members in the long term. In that regard, many of you completed the survey on woodland management issues that we mailed out during August. Thank you. We will be tallying and analyzing the results during the next few months and hope to provide a summary in the next newsletter.

You may have noticed that I said Blue Mounds *Area* Project. Yes, we have finally agreed on a name change, a change that was driven by our recent registration as a nonprofit corporation. The official name comes with the byline "Ecological Restoration and Stewardship of Native Habitats." We hope you agree with the choice. By the annual meeting next March we expect to be able to tell you that we have received independent 501C(3) tax exempt status from the IRS. This will mark a major milestone for the Project, achieving the goal we set last year.

I'm sure there are other things I should be reporting, but it's time to go on the road again! I'll close for now and as always, invite you to contact us through our website or by other means with your comments and questions.

The Impact of Historical Land Use on Southwestern Wisconsin Streams and Rivers

James C. Knox

Note: *Professor Knox will be speaking on this fascinating topic during a BMAP sponsored event on Tuesday January 9, 2001 at 7:30 PM. Please see the calendar of events for details.*

During the last 175 years soil erosion has stripped as much 16 inches of soil from much of the land surface in southwestern Wisconsin. The topsoil that was eroded had a relatively high infiltration capacity compared to soil that is now exposed at the surface. This change produces a feedback effect that further enhances surface runoff and soil erosion.

The replacement of the prairie and forest vegetation with corn, wheat, and hay crops and pasture by the late 19th and early 20th centuries increased the magnitude of high frequency floods 5-6 times above previous natural magnitudes in small tributary watersheds. The accelerated flooding greatly increased erosion and sedimentation. Long-term overbank sedimentation rates during the agricultural period have ranged from 1/2 to 1 1/4 inches per year, but the pre-agriculture long-term average rate was only 0. 0078 inches per year.

Since the 1940s, improved land conservation practices and changes in the way crops are planted and grown have reduced the magnitude and frequency of floods, erosion, and sedimentation from their late 19th and early 20th century peak values. Unfortunately, soil erosion and sedimentation have increased since the early 1990s in many southwestern Wisconsin watersheds in response to several extreme rainfalls on a landscape that is experiencing increases in the acreage of massive corn and soybean fields.

Professor Cox is the Evjue-Bascom Professor, Department of Geography, University of Wisconsin

Board Meeting Schedule

Your voice is important; this is your organization and we value your input. **Please attend a board meeting:**

Dec. 5, 6:30 PM, Evangelical Lutheran Church, Mt. Horeb
Jan. 2, 6:30 PM, Evangelical Lutheran Church, Mt. Horeb.
Feb. 6, 6:30 PM, Evangelical Lutheran Church, Mt. Horeb.

The church is located at 315 E. Main Street in downtown Mt. Horeb. Enter through the back door and go up the half flight of stairs on the left. The front door is handicap accessible.

Take a T.E.A.M. Approach to Your Woods

Bob Wernerehl, BMAP Ecologist

I wrote this simple, easy to remember approach to managing you woodlands for the Blue Mounds Area Project members who were attending our September forestry workshop. Of course, the subject is really more complex than this, but these four basics will get you started. They will help you manage almost any oak-dominated woodland in southwestern Wisconsin.

Tackle Invasives

It used to be that our native plants didn't have much to compete against except themselves. Gardeners, nurseries, farmers, and sometimes the DNR have brought in species from other continents or from the distant south or west, and these have taken off and are out-competing our natives. Examples include garlic mustard, dame's rocket, multiflora rose, Asian honeysuckle, buckthorn, black locust, autumn olive, white mulberry, and box elder. If you don't have any of these on your land, consider yourself quite fortunate, but you can bet they are on their way. Learn these plants by having a botanist visit your site and look for them, or learn them in workshops. The best way to prevent them invading is to have a healthy, vigorous, native understory.

Expand Light

Almost all of our woodlands in southwest Wisconsin were once oak savannas. At one time our savannas were quite open, with 6 to 14 trees per acre. Our modern forests often have 140 trees per acre! That makes quite a difference in the amount of light coming through to the understory. Once you begin to learn oak savanna species you'll notice them growing along wooded roadsides. Why?The opening the road makes in the forest canopy mimics the original light regime in a savanna, where large canopy gaps were common. Open up the canopy and the shrub layer. Take out smaller trees to let light into the forest floor. Look for old oak trees with horizontal branches. They grew with a lot of light. Open up the area around them. Fire will help eliminate smaller trees and shrubs, especially prickly ash.

Add Fire

It is hard to over-estimate the importance fire played in forming our native habitats. So many of our species are fire adapted. They flower and set seed much more vigorously after a fire. Seedlings can't grow through the thick thatch of oak leaves built up due to fire suppression. Oaks have very fire resistant bark, and they resprout vigorously when top-killed. Look at oak leaves in the forest. They fall late, and when they dry, they curl, enhancing their flammability. Most other leaves lay flat. Oak leaves are adapted for carrying a fire through a woods. Fire gives oak a competitive advantage. When conducting a prescribed burn, make sure you have an experienced crew to prevent the fire from escaping. Good firebreaks are very important. When planning a timber harvest locate logging roads at the edge of the woods where they can later serve as a firebreak. Avoid mid-slope placement. Whenever establishing trails, try to make them useable as a firebreak, too. Grants are sometimes available to help establish firebreaks.

Manage Deer

Anyone who drives in our area at twilight or at night is keenly aware of how many deer there now are. Yet the old timers all remember a time in their youth when it was rare to see a deer and any sighting was talked about with interest. One recent study documents dramatic losses of native plants attributed to deer browse. This study took place in an old growth forest in Pennsylvania that had been sampled in 1929. Botanists returned in 1995 and duplicated the sampling of 1929. During that interval the deer population in that area of Pennsylvania skyrocketed to about the same level as it is here in southern Wisconsin. What they found was that a startling 80% of the understory species had disappeared. There had been 42 species and now there were 8. They attempted to explain this disappearance by other causes but concluded that deer were primarily responsible. There is just no way around it, we have to reduce our deer herd any way we can. The best way is to have hunters take only doe, and have them take as many as they can.

Two New Publications

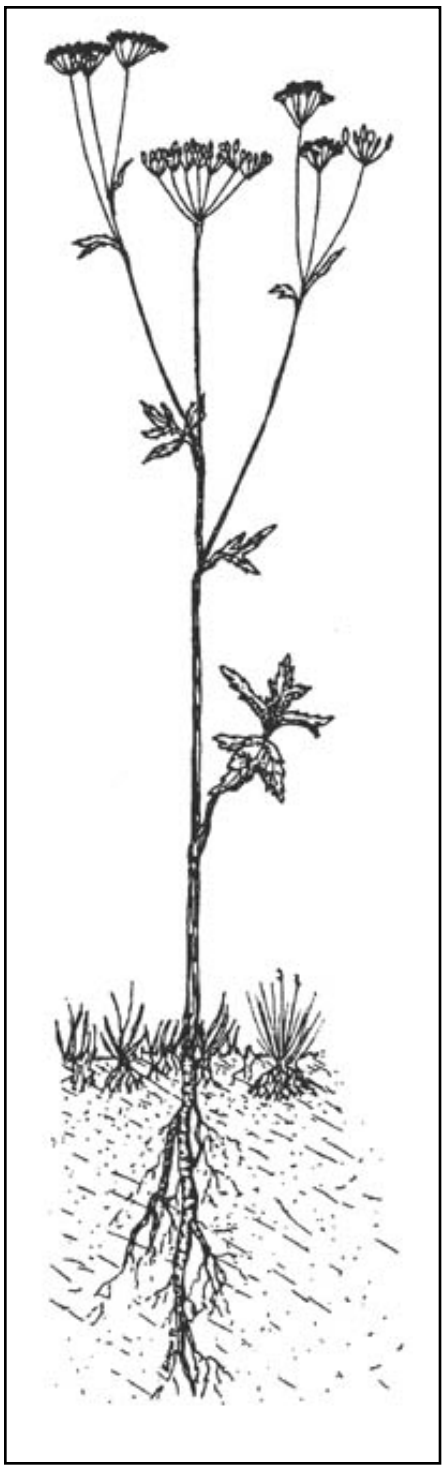
Wisconsin Wetlands Association (WWA) recently published the "Wetland Restoration Handbook for Wisconsin Landowners." The 110-page handbook is "targeted at landowners with degraded or previously destroyed wetlands who want to restore the health and integrity of their land. " The book provides the landowner with background information on wetlands, leads him or her through the steps necessary to unravel the past history of their site, and makes recommendations on planning and implementing a restoration project. The handbook is $5 and is available from WWA, 222 S. Hamilton St. Suite 1, Madison, WI 53703. Join WWA and the handbook is free, a classic win-win situation!

Have you ever wondered which snake you just crossed paths with?Then check out "Snakes of Wisconsin", a recent DNR publication. The 32-page publication provides biological and behavioral information such as how snakes see, feed, shed their skin, locomote, defend themselves, and their ecological benefits, which are many. The publication also contains tips on identifying 20 Wisconsin snakes, including detailed physical descriptions and color photographs, their habitat and food preferences, and their range within the state. To get a copy send a check for $3 made out to WDNR with "Snakes pub. ER-100 00" on the memo line to WDNR, Bureau of Endangered Resources, Box 7921, Madison, WI 53707. Snakes are our friends; here's your chance to meet them.

Zen and the Art of Parsnip Pulling

Stuart Stotts

I spent a few days in late June and early July pulling Wild Parsnip. We have an open area on our ridge, in front of our trailer. It's not native prairie by any means, just old pasture and cornfield. We've found some native plants—Vervain, Bergamot, Poison Ivy—but mostly it's grass and non-native wildflowers. We've talked about restoring it to a more native state, but for now it's not a priority. However, keeping the Parsnip out is a priority. I've seen it take over fields and roadsides, and I don't want it in our field.



Two years ago, I cut it with a scythe. While wearing shorts. My legs looked like something out of a horror movie, as I got a quick education in parsnip's more painful attributes. That year, a lot of it went to flower.

Last year, more suitably attired in long pants and gloves, I cut and pulled it. Parsnip can be pulled out, if soil conditions are right. If you just cut it, it will often flower again. So pulling it seemed to be getting at the root of things. It's a biennial, so pulling this year reduces the crop that would flower in two years.

This year, I pulled even more. I'd go out in the late afternoon, after the sun was past its peak, and pull. I'd circle through the field finding patches and, one by one, pull out the plants. Nine out of ten came out by the roots. It occurred to me that this was very much a Zen exercise: focusing on the subtleties of pulling the stems, noticing the growth stages of the plant, and becoming thoroughly absorbed in the task. I'm sure I pulled well over a thousand plants from our little two-acre opening.

I was somewhat obsessed with the work. But I had a thought that helped me to put it into a larger context: The invasion of non-native species is the invasion of the lowest common denominator into our local ecologies. These species are widely adapted to a variety of conditions, but as they grow, they displace the plants specifically adapted to that same local ecology. We who value the distinctiveness of our places, we who know the unique characteristics of the land we steward, don't want to see it overrun with species that can flourish just anywhere.

I find in it a metaphor for the rise of global corporations, whose appeal is to the lowest common denominator, and whose effect is to make one place very much like another. Wild Parsnip along our roadsides is not unlike the "strip" of fast food restaurants and chain stores you can find in just about any town or city of a certain size in the United States.

I want to keep what's distinctive about where I live, to preserve what's special. It's not about being an isolationist, but it is about actively choosing what occupies a place, rather than just passively accepting whatever the wind blows in–whether in the form of a garlic mustard seed or yet another chain store.

Pulling Wild Parsnip seems like one very small way to make a stand for the integrity of local places. If you're interested, I'm glad to give lessons. I'll be in my field next June. Wear long pants.

This article originally appeared in the Fall 2000 edition of Oak Openings, the Sustainable Woods Cooperative's newsletter.

Websites of Interest to Conservationists

All of these sites are accessible through the link section of the BMAP website: www. bluemounds. org.

NatureServe, a new "online encyclopedia of life" developed by the Association for Biodiversity Information, is now available on the Internet at www. natureserve. org. NatureServe provides authoritative conservation information in a searchable database of more than 50,000 plants, animals, and ecological communities of the United States and Canada. The database includes vascular plants, birds, reptiles, amphibians, fishes, mussels, crayfish, butterflies, skippers, moths, beetles, dragonflies, damselflies, freshwater snails, many nonvascular plants, plant communities, and exotic species information. A true treasure-trove.

Recent articles in the New York Times and the Wisconsin State Journal have highlighted a University of Minnesota professor's research into the effects of invasive, Eurasian earthworms on forest ecosystems. See www. nrri. umn. edu/worms for more details.

Savanna Restoration Opportunities Abound

We often use the native landscape as a benchmark or goal for our land restoration efforts. Here in SW Wisconsin that means understanding the oak savanna. Mark Leach is an ecologist for

the UW Arboretum who has extensively researched and challenged some of the traditional notions about Wisconsin's native oak savanna. The following are some key points from a talk that he gave at a Blue Mounds Area Project workshop during June. Portions of this article appeared in a July 20 article in the Mt. Horeb Mail©. We are grateful for their permission to reprint and for their support of BMAP.

Knowledge of the oak savanna, and especially its ground layer vegetation, is surprisingly limited considering it was the predominate land cover in historical SW Wisconsin. To a large degree, this is because nearly all of the savannas had been converted to other uses, such as farmland, before anyone systematically studied them. Much of our popular thinking about oak savanna is based on the ecological work done by John Curtis and J. Roger Bray during the 1950s. While the tree canopy composition of oak savanna is generally agreed upon, Leach feels the characterization of a savanna as a "prairie with trees" is too limited. He suggests this belief is an artifact from Curtis and Bray's limited studies which were biased by their selection of study sites with a grassy understory. By looking at a wider selection of sites with savanna tree canopy characteristics Leach found that grasses are dominant only in sandier soils and sunnier sites. Forbs, or flowering plants, dominate all the other sites.

Restorable Savanna Indicators:

- Open grown trees
- Diverse groundlayer
- Disturbance history
- Diverse site conditions
- Diverse light conditions

Many scientists regard the savanna as a successional landscape-prairie trying to become woodland and vice versa. Leach, however, believes it was a more stable system, an "ecotone", where succession only occurs in the absence of fire. His research shows that savanna, as a transition between the heartland tallgrass prairies and eastern deciduous forests, is not just a mixture of trees and prairies but a much more dynamic landscape. The oak savanna ecotone has greater plant diversity and species richness than either prairie or forest because it supports species from both ecosystems.

Despite the savanna's richness it supports few endemic species–those plants or animals that occur only in savanna. One exception might be the ornate box turtle, a threatened species, whose decline may be linked to the decline in the amount of savanna habitat. Actually a land dwelling tortoise, they may require savanna like conditions for survival because of the mixture of sun and shade it provides over short distances. This makes it easy for the turtles to regulate their body temperature by moving between shady and sunny areas.

The wide range of microclimates supported by savanna raises a unique challenge for conservation. Large connected sites with wide ranging topography are needed to restore and protect a true savanna. Unfortunately, with intact savanna remnants estimated by some to comprise less than one half of one percent of its original range, no such sites currently exist.

Yet, Dr. Leach believes that the "driftless region abounds with opportunity to restore remnant oak savanna, especially on steep slopes." It is here that savannas have had the most exposure to fire and the least disturbance from plowing and grazing. To locate highly restorable remnant oak savanna, he suggests that landowners should look for:

- Open grown (trees with low, horizontal growing limbs) white oak, bur oak, or hickory trees
- Fairly diverse ground layer species-especially a mixture of sun and shade loving species
- Areas with a disturbance history-preferably fire, but even limited grazing, logging, or mowing
- A diversity of site conditions-slope, moisture, and soil
- Continuous variations of light condition

Once you find a site and begin to restore it you'll need to be patient. Clearing and burning will increase light penetration to the ground and are good management options, but will have varying results from site to site. The range of results is due primarily to how degraded a site is when you start restoring it. Highly degraded sites are less able to respond to management.

One piece of advice is to not open a site too quickly. A common response on sites that are opened too quickly is an explosion of a single plant species, often an exotic, which fills the open niche. This is especially true on very degraded sites where very few native savanna species remain. Leach suggests one approach might be to burn for five years in a row or more and then check for oak regeneration.

Dr. Leach commended and encouraged the work of the Blue Mounds Area Project and its members who are working to raise awareness and restore our unique and diverse landscape. He concluded by remarking that savanna conservation maximizes species conservation. Maybe someday a large contiguous savanna in SW Wisconsin will be a reality.

To read the details of Dr. Leach's savanna research see: Leach, Mark K. and Thomas J. Givnish, 1999. *Gradients in the Composition, Structure, and Diversity of Remnant Oak Savannas in Southern Wisconsin*. Ecological Monographs, 69(3), pages 353-374 or Leach, Mark K. and Thomas J. Givnish, 1998. *Identifying Highly Restorable Savanna Remnants.* Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, Volume 86, pages 119-127.

How Time Flies . . . .

Alert readers of the last newsletter may have noticed it was entitled Spring 2000 rather than Summer 2000, as it should have been. The editor regrets the error, but reserves the right to think spring-like thoughts at any time of the year.

Don't forget to visit your website: www. bluemounds. org.

Calendar of Events

Program and Education Committee

Mike Anderson, Wendell Burkholder

Barneveld Prairie Work Party
Nov 11 and Dec 2, Saturdays, 9:00 AM to noon
Barneveld Prairie, Iowa County near Barneveld

Join this Nature Conservancy work party at Barneveld

Prairie, a high-quality hillside prairie featuring rare plants and butterflies, and a diversity of birds nesting in the grassland and shrub habitat. Both parties will cut brush to open nesting areas for grassland birds, the December party may also burn brush piles. Directions: One mile west of Barneveld on Highway 18/151, go south on Cty Hwy T for about 0. 3 mile. Park along the eastern side of the road and look for the preserve entrance about 0. 25 mile east of the roadside. Contact Kristen Westad (608/967-2402) or Amy DeMars McDaniel (608/238-0450) for more info.

The History and Mystery of Bison and Elk in Wisconsin
Nov 16, Thursday, 7:30-9:30 PM
Middleton Community Bank, 3207 West Beltline Highway, Middleton

If you haven't had the chance to hear this talk given by Rich Henderson, Wisconsin DNR, this is your chance! Richwill discuss why bison might not have been as abundant as commonly believed during pre-settlement times in Wisconsin, their effects on our prairies and savannas, and why they almost disappeared not once, but twice. Sponsored by Friends of Pheasant Branch, www. pheasantbranch. org. Free.

The Impact of Historical Land Use on Southwestern Wisconsin Streams and Rivers
James C. Knox, Evjue-Bascom Professor, Department of Geography, University of Wisconsin
January 9, 2001 Tuesday, 7:30-8:30 PM
Amcore Bank, Corner of Main St. and First St. , Mt. Horeb

Soil erosion has run rampant in southwestern Wisconsin during the last 175 years striping as much as a foot and a half of soil from upland sites and depositing it in low land sites. This has caused enormous changes in soil fertility and porosity, resulted in more frequent and severe flooding, changed stream channels, and degraded or extirpated natural communities.

Come hear Professor Knox talk about this legacy, its effects on the landscape, and how it continues today. Your vision of the landscape will be changed forever.

BMAP Annual Meeting
March 10, 2001 Saturday

Mark the date on your calendar and stay tuned for details.

Our Mission:

The Blue Mounds Area Project is a community-based organization that seeks to inspire, inform and empower private landowners in the Southwestern Wisconsin region to enjoy, protect and restore native biodiversity and ecosystem health.

Our objectives:

1) Promote understanding, appreciation and conservation of native woodlands, prairies, wetlands and savannas and their special species in an economically viable manner, through community outreach programs and private contacts.

2) Act as a clearing house for information from people and organizations involved in preserving native biodiversity including information about plant, animal and habitat identification, management, restoration, seed sources, native plant nurseries and invasive, non-native species.

3) Encourage cooperative, volunteer restoration and management activities.

4) Identify public and private land use changes that may affect ecosystem health and promote community-based stewardship of the unique natural heritage of the Blue Mounds and the Southwestern region of Wisconsin.

The Blue Mounds Area Project is sponsored by Community Conservation, Inc. , a nonprofit organization.

The Blue Mounds Area Project Newsletter is published quarterly. Send your comments, suggestions, submissions, and advertisements to: Michael Anderson, Blue Mounds Area Project, PO Box 332, Mount Horeb, WI 53572.

Blue Mounds Area Project Membership Form

NAME(S):

ADDRESS:_____CITY:

STATE: _____ ZIP:_____E-MAIL ADDRESS:

MEMBERSHIP STATUS:

_____ Renewal. _____ New member. _____ I cannot join at this time, please keep me on your mailing list.

MEMBERSHIP LEVEL:

General (individual or family)	$25. 00 / Year	_____
Student/limited income (individual or family)	$15. 00 / Year	_____
Other contribution to further the BMAP mission		_____
	TOTAL	_____

All contributions are tax-deductible to the fullest extent of the law

SITE VISIT REQUEST:

_____ Check if you would like to receive a site visit from the BMAP ecologist (we will contact you for additional information and to arrange the visit).

MAKE CHECK PAYABLE AND RETURN TO:
BLUE MOUNDS AREA PROJECT, PO BOX 332, MT. HOREB, WI 53572

Prairie is much more than land covered with grass. It is a slowly evolved, highly complex organic entity, centuries old. . . . Once destroyed it can never be replaced by man.

–J. E. Weaver, 1954
The North American Prairie

The Blue Mounds Area Project
PO Box 332
Mount Horeb, WI 53572

TIME TO RENEW??

Please check the address label for your membership expiration date.
If you're receiving a complimentary copy, please consider joining.