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slow, labor-intensive process often taking 3-5 years. On LTC's 11-acre Meadowgate Preserve near Harbor Springs, grassland restoration of an old farm field that has become infested with invasive exotic species and is undergoing succession to pine trees is planned using this method. The goal is to improve wildlife habitat and re-establish a visually attractive open meadow vegetated with diverse native species. The restoration will involve the following basic steps:

1. Cut and remove some fairly large trees in Spring.
2. Mow down sumac and other woody shrubs and tree seedlings after August 1st.
3. Apply herbicides in early September to kill undesirable herbaceous vegetation.
4. Till/disc the fields in mid-late Fall.
5. Continue to till/disc the fields with interim herbicide treatment throughout Spring and Summer of the following year.
6. Purchase seeds and plant them the second Fall. On some fields, "warm season" grasses and wildflowers will be established, and "cool season" grasses and wildflowers on others to obtain maximum diversity

and aesthetic beauty throughout the growing season.

7. Conduct post-planting monitoring and maintenance (e.g. spot treatment with herbicide, periodic mowing, hand-pulling, and spot re-seeding) the spring of the third year and beyond.

GRASSLAND MANAGEMENT ON YOUR EASEMENT PROPERTY

Most conservation easements allow landowners to use one of the methods mentioned above to manage existing fields or non-forested areas for enhancing wildlife habitat, biodiversity, or other natural resource values. However, because each easement is unique, please be sure to check the language in your easement **and** consult with LTC Stewardship staff to clarify what your easement allows with regard to managing grasslands on your property. LTC Stewardship staff would also be happy to provide more information about grassland management techniques.

Stew Crew 2010



Doug Fuller



Cindy Mom



Charles Dawley

On-line Resources for More Information

Prairie Restoration Handbook for Minnesota
<http://files.dnr.state.mn.us/assistance/backyard/prairierestoration/goingnative.pdf>

Comparison of Warm and Cool Season Grasses (Natural Resource Conservation Service leaflet)
<http://teamhabitat.sjrcd.org/WSGMaryland.pdf>

Native Warm-Season Grasses and Wildlife (NRCS leaflet)
<ftp://ftp-fc.sc.egov.usda.gov/WHMI/WEB/pdf/TechnicalLeaflets/WarmGrass.pdf>

Using Native Grasses for Ecological Restoration (U.S. EPA)
http://www.epa.gov/reg3hscd/risk/eco/restoration/workshops/Using_Native_Grasses_for_Ecological_Restoration.pdf

Managing Michigan's Wildlife: A Landowners Guide, Chapter 5—Grasslands (MDNRE & MUCC)
http://www.dnr.state.mi.us/publications/pdfs/huntingwildlifehabitat/landowners_guide/habitat_mgmt/grassland/Intro_to_Grassland_Mgmt.htm

Managing habitat for grassland birds: A guide for Wisconsin
<http://www.npwrc.usgs.gov/resource/birds/wiscbird/index.htm>

website about Michigan's natural communities, including grassland/prairie ecosystems
<http://web4.msue.msu.edu/mnfi/communities/index.cfm>

Northern Prairie Wildlife Research Center website
<http://www.npwrc.usgs.gov/>

Michigan Wildlife Conservancy website
<http://www.miwildlife.org/h-prairies.asp>

Monitoring Schedule Spring, 2010

Ground & Aerial Monitoring

On-the-ground easement monitoring will be conducted at unspecified times between April 12 and October 29, 2010. By leaving our schedule open ended, we can often combine an easement monitoring visit with other nearby nature preserve management. The end result is that we can save time, money, and fuel. We tried this approach in 2009, and found it worked better than our previous technique of scheduling certain windows of time for each county. As always, we would be happy to meet with you and walk your property together, or discuss something face to face. Even if you don't want to meet, upon your request we will certainly give you a call or email to let you know when we will be stopping by. Please contact us at 231.347.0991 to make an appointment, or to request a "heads up." Our aerial monitoring will be completed this spring and is generally reserved for large (more than 40 acres) and remote properties.

Conservation Easement

Landowner Newsletter

A newsletter for owners of land protected with a conservation easement.



Spring 2010

CONSERVATION EASEMENT LANDOWNER PROFILE Grasslands for Wildlife

Conservation easement landowners Doug and Bernie Whitcomb have been managing many forms of grasslands on their 287-acre property for more than 25 years.

Sitting on the edge of the Pigeon River Country State Forest, Doug and Bernie Whitcomb's land is a mecca for wild creatures. This region is home to Michigan's elk herd, supporting a population of about 1,100-1,400 large grazing animals that require large blocks of undeveloped land for ranging and feeding. At this time of year, the Whitcombs start to see the elk return from their wintering grounds. The elk know they are welcome at Stewart Creek Ranch.

As a retired Michigan DNR wildlife biologist of more than 25 years, it is natural for Doug to make his own land as attractive as possible for wild plants and animals. The Whitcombs have devoted significant resources to these efforts, but it is a labor of love.

winter wheat and turnip. Other plots are planted to alfalfa and clover which may last up to 5 or 10 years before replanting. The goal is to have food of high value from spring right on through until the snow finally covers everything.

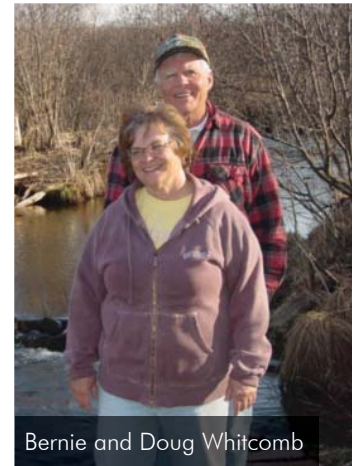
Large meadows have been planted to native grasses and wildflowers. Native prairie grasses such as big and little bluestem, Indian grass, and switch grass are self-perpetuating and little is done to maintain them. It's not only very pleasing to look at but provides summer grazing for deer and elk and nesting and feeding areas for many species of birds that need grasslands to survive.

All planting is done for wildlife. No harvesting takes place so unutilized plant residue is worked back into the soil. "We have seen a remarkable difference in the richness of the soils over the years," Doug said.

At the time the native grasses were planted, wildflower seeds were sown at the ends of the fields and in one field interspersed throughout the field.

Doug has noticed that each year a different species seems to grow that hadn't shown itself before. Just last year a whole crop of purple prairie clover grew for the first time.

"I have always enjoyed planting crops and watching wildlife, I'm very fortunate to have a place to do just that," Doug said. "We both enjoy our evening rides and walks to see what is happening. Our children, grandchildren, and many other people who have shared our land make the long hours of work worthwhile. And knowing that the land is protected by a conservation easement may be the best part of all."



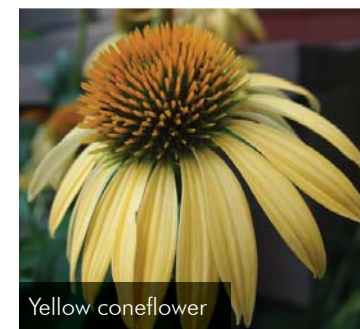
Bernie and Doug Whitcomb



Elk standing at the edge of one of the food plots planted by Doug Whitcomb.

The property has a variety of habitat types which support a diversity of plants and wildlife. Managed woodlands include northern hardwood, aspen, and swamp conifer. Vernal ponds, springs, marshlands and streams, each with their own cover types, provide cover and nesting for many species of wildlife.

The grasslands provide the bulk of food for many of the wildlife species. Planted food plots are strategically placed near wooded cover. These plots often contain annuals such as buckwheat, oats,



Yellow coneflower

Gail Meizinger



Big bluestem

Scott Skinner



Rough Blazing Star

Ed Loesch



Indian Paintbrush

John Dykstra

Grasslands and Their Management

GRASSLANDS IN NORTHERN MICHIGAN

When people think of natural habitats in Northern Michigan, hardwood forests, conifer swamps, lakes, and streams probably come to mind. To find grasslands or prairie habitats, better head to Kansas or Nebraska—right? Well, yes and no.

Before European settlement, natural grasslands did occur in Michigan, but they were primarily limited to Southern Michigan. Only limited areas of grasslands were known to exist in Northern Michigan at that time. These occurred mostly in the form of lakeplain prairies (found on sites flooded seasonally, cyclically, or periodically), sand prairies (a vegetation zone separating fire-dependent uplands and open-wetland systems), pine barrens (a fire-dependent mix of scattered/clumped trees interspersed with grasslands on droughty sand soils), forest openings caused by fire or windstorms, or associated with the gardens of Native Americans.

As Northern Michigan was settled and the forests cleared for agriculture and other purposes, grasslands and the wildlife associated with them became common. Today, many grasslands exist throughout Northern Michigan mostly in the form of hayfields, pastures, or fallow farmlands.

Grasslands can provide good habitat for ground-nesting birds, good forage for plant-eating animals, and good hunting sites for predators, especially certain hawks.

Grasslands also provide scenic landscape views not available in a completely forested landscape, wildlife viewing opportunities, and beautiful aesthetic benefits (especially if they contain a diversity of attractive wildflowers). As such, even though most of Northern Michigan's grasslands are not naturally occurring, they are considered valuable habitats worth protecting, enhancing, restoring, or even creating.

Grassland habitats in Northern Michigan have been declining in recent decades as a result of land fragmentation and development and succession back to forested covertypes as farming diminishes. As a result, in recent decades populations of grassland birds and other wildlife have declined. In fact, this is a nationwide trend (grassland bird populations in North America have declined more than any other group of birds).

Because of ample rainfall, moderate climate, and productive soils, most grassland or open areas in Michigan will eventually revert to forested covertypes without some sort of human intervention.

Please call us, if...

...you are selling your property that is protected with a conservation easement. This will ensure that the new owners are aware of and understand the conservation easement.

...you plan to exercise one of the rights retained in your conservation easement.

In Southern Michigan, land trusts and other conservation organizations and agencies routinely work toward protecting and restoring

prairie remnants. Although that focus is not present in Northern Michigan, maintaining and managing the grasslands that have appeared in the last couple hundred years can be a worthwhile pursuit for landowners interested in a biologically diverse, high-quality grassland that will be attractive to wildlife and perhaps more visually attractive as well.

TECHNIQUES FOR GRASSLAND MANAGEMENT

Mowing

Periodic mowing, cutting, or otherwise killing woody plant seedlings is the most basic way to maintain a grassland or open area. LTC mows selected fields on nature preserves every few years with a brush mower (commonly termed a "brush hog"). This periodic brush cutting prevents succession by woody plants, although some species like sumac and blackberry re-sprout quickly, so a true grassland does not result. However, brush cutting every few years keeps the land in very early-successional, meadow-like condition. LTC does not own a big brush mower for efficient cutting of large acreage. Instead, we contract for this service with a landscape professional or local farmer.

Mowing annually is an effective way to establish vegetation dominated almost exclusively by grasses and forbs. LTC collaborates with local farmers on several preserves to maintain areas as grassland by managing them as hayfields. Unfortunately, modern mechanized mowing conducted between May and August can kill the young of ground-nesting birds and other wildlife (which is one reason why grassland birds are disappearing). To minimize wildlife mortality, in some areas we require late season mowing, use of mowing techniques that improve chances for wildlife to escape (slow-speed, high cutter height, or a non-corralling pattern), or by establishing "set-aside" areas that are not mowed every year, thus providing a safe refuge. Conversely, large lawns maintained by frequent (bi-weekly) mowing provide very little grassland habitat, and habitat can be improved by reducing mowing frequency.

Herbicide Application

Herbicides are typically used in land management to control noxious or aggressive weeds and woody vegetation. The changes in a vegetation community resulting from use of these chemicals can be beneficial for biodiversity or wildlife habitat. LTC applies herbicides at a few selected locations on nature preserves annually to control invasive exotic plants. However, the use of herbicides can be controversial, and non-target toxicity impacts (including groundwater contamination and human health concerns) have been documented. Chemicals that biodegrade quickly should be used in preference to those that do not. Correct application is most important to minimize damage to non-target vegetation or to wildlife. Michigan State University Extension can provide more information on the types, use, and applications of herbicides.

Grazing

Grazing livestock (horses, cattle, sheep, goats, etc.) selectively eat some plants and avoid others. Frequently, grazing preference includes the leaves or bark of woody shrubs and tree saplings. As



New England Aster



Eastern Mole



Eastern Meadowlark



Yarrow

such, careful use of grazing animals can help create or maintain a grassland without the use of mechanized equipment or herbicides. Slow-moving livestock are less likely to destroy nests of animal young than mechanized equipment. However, overgrazing can be counter-productive and must be avoided. Repeated annual but short-term grazing is best for enhancing grassland wildlife habitat. Grazing has not been used on LTC nature preserves, however, it could be an effective and appropriate grassland management tool on easement properties.

Burning

North American prairie ecosystems evolved in the presence of fire. Controlled or prescribed burning can duplicate the effect of a prairie wildfire, getting rid of undesirable exotic vegetation and woody plants which are not fire-resistant, and promoting the growth of desirable plants.

While fire can be a very effective tool, needless to say it can also be very dangerous. Burns need to be conducted by individuals who are experienced and trained in the use of fire. They need to be well-planned and can only be used under very specific conditions, using very specific techniques. State and possibly local permits are required. LTC has not used burning as a grassland management tool due to cost, small area size, or nearby development, but as with grazing it could be suitable for some easement properties (LTC staff can connect you with prescribed burn professionals if you are interested in this technique).

Restoration by site preparation and seeding

Sometimes, completely eliminating existing vegetation and essentially starting over can be the best approach, especially when a lot of undesirable vegetation is present. While grassland creation or restoration by this method can be effective and rewarding, it is also a

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Conservation Easements by County as of March 2010	# Easements	Acres
Charlevoix County	66	3,306
Cheboygan County	50	7,095
Chippewa County	16	4,231
Emmet County	104	4,121
Mackinaw County	17	774
TOTAL	253	19,527

GRASSLAND BIRDS ARE SPECIES THAT USE GRASSES for food, nesting material, cover, or foraging habitat at some point during the year. These species can be distinguished into two groups: dependent and independent. Dependent species use grasslands for all of their habitat needs. Independent species use grasses for one or two habitat components while also utilizing other areas, such as forests or wetlands. Grassland dependent species are most in decline, since all of their needs are tied directly to the existence and health of this one habitat type.

GRASSLAND DEPENDENT

- Northern Harrier
- Greater Prairie Chicken (extirpated in MI)
- Upland Sandpiper
- Short-Eared Owl
- Horned Lark
- Sedge Wren
- Vesper Sparrow
- Lark Sparrow (extirpated in MI)
- Savannah Sparrow
- Grasshopper Sparrow
- Henslow's Sparrow
- LeConte's Sparrow
- Bobolink
- Eastern Meadowlark



Common Yellowthroat

GRASSLAND INDEPENDENT

- Sharp-Tailed Grouse (in the U.P.)
- Red-Tailed Hawk
- Rough-Legged Hawk (winter)
- American Kestrel
- Merlin
- Gyr Falcon (winter)
- Killdeer
- Long-Eared Owl
- Eastern Bluebird
- Common Yellowthroat
- Indigo Bunting
- Field Sparrow
- Song Sparrow
- Red-Winged Blackbird
- American Goldfinch



Sedge Wren

Finca las Brisas

Ken Schneider