



Management Plan

for

Zoerb Prairie

La Crosse County, Wisconsin

The
Prairie
Enthusiasts



Coulee Region Chapter

August 2019

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I. BACKGROUND

OWNERSHIP

City of La Crosse

PRESERVATION STATUS

This site is part of the City of La Crosse Hixon Forest Park. Hixon Forest lies along the bluffs on the east side of the city. At present, the Hixon Forest/Grandad Bluff area consists of more than 800 acres, much of which was donated to the city by Ellen Hixon in 1912 to protect the bluff. It is part of the much larger Driftless Area which is host to unique biodiversity supporting more than one quarter of Wisconsin's endangered, threatened, or special-concern species. Less than 1% of Wisconsin's original dry prairie remains today. Formally adopted management plans for Hixon include "Restore and retain existing remnant prairie sites" among the major policy recommendations and noted that "of the eight state listed species identified in the forest, five are restricted to prairie (dry prairie), and the other three are closely associated to prairie." It also noted that "all of the sites will likely disappear...absent management efforts.". Most recent plans include expansion as a desired condition. The property is managed for multi-use purposes, but trails through the hill prairies are minimal.

LOCATION

Hixon Forest is in La Crosse County, Wisconsin. The forest occupies much of section 34, as well as portions of sections 33 and 35 of Township 16 North, Range 7 West.

See attachments for a property map for additional reference and location of Zoerb Prairie.

ACREAGE

The entire Property encompasses approximately 854 acres with the following breakdown by cover type:

Zoerb Prairie (including buffer)	2.8
Other prairie remnants	19.0
Fields	86.0
Woodland/forest	747.5

DESCRIPTION and SIGNIFICANCE

Zoerb Prairie currently has 1.25 acres of open prairie and the rest is a buffer of open woodlands defined in the current Land Management plan for Hixon Forest. The open area is facing southwest and, as is typical for hill prairies, has thin rocky soil supporting a good representation of common hill prairie plant species based on the initial survey (Attachment 10). Species with the highest coefficient of conservation index include: Smooth cliff brake (*Pellaea glabella*) and Hoary puccoon (*Lithospermum canescens*). Many other species that are typically found on hill prairies are present, and some examples include: short green milkweed (*Asclepias viridiflora*), silky aster (*Aster sericeus*), aromatic aster (*Aster oblongifolius*), white camass (*Zigadenus elegans*), shooting-star (*Primula fassettii*), and birds-foot violet (*Viola pedata*). No species have been introduced as far as can be determined. An extensive plant inventory list was developed for Hixon Forest in the past but did not include details on location of species within the Park.

LAND USE AND MANAGEMENT HISTORY

Zoerb Prairie has been protected as part of the City of La Crosse's Hixon Forest since 1912. In the absence of fire and other woody plant suppression mechanisms, encroachment the forest and a closed canopy forest resulted since the early 1900s. No formal trails have been established through the prairie, although some minor trails have developed periodically from hikers. A multi-use trail skirts near the upper edge of the prairie and includes a dead-end trail across the ridge for an overlook. These trails are a source of seeds from invasive species.

Driftless Area Land Stewardship was hired to clear woody species in and along the edges of the prairie by Hixon Forest Nature Center/Myrick Hixon EcoPark, with U.S. Fish and Wildlife Service funding in 2007. Burns were conducted by the Hixon Forest Nature Center in 1994/1995 (west first year and then east half the following), March 1999, November 2001, and spring 2006. An aspen clone in the upper west corner was girdled and treated with herbicide in the winter of 2018-19. Buckthorn was cut and treated with herbicide in a buffer area on the bottom in winter of 2018-19. Sumac has been cut periodically through the years. A double-cutting of sumac clones that cover nearly the entire prairie began in 2019.

II. MANAGEMENT PLAN

GOAL

Primary

- The overriding management goal for the Property is to recover and maintain as much of the site's original prairie ecosystems, as is feasible, for the ecological health of the La Crosse area.

Secondary

- Preserve the remnant as an outstanding example of a unique native ecosystem, serving as a "showcase prairie" in Hixon Forest.
- To provide habitat for native species that are associated with treeless grassland/prairie ecosystems and preserve the genetic and biological diversity that is found in that ecosystem.
- For the benefit of current and future generations so they may experience, enjoy, and learn from such natural areas.

THREATS/CONCERNS (highest to lowest)

- 1) Woody species invasion, including both native and non-native trees and shrubs.
- 2) Non-native invasive forbs on the prairie and adjacent woodlands.
- 3) Non-native shrub invasion in adjacent woodlands, primarily buckthorn.
- 4) Erosion caused by rogue trails developing through hiker use.

OBJECTIVES (highest to lowest priority)

- 1) Maintain the remnant prairie as an open prairie free of trees and shrubs.
- 2) The prairie should be as free of non-native species as possible.
- 3) Expand the prairie into adjacent areas where possible.
- 4) Maintain and create buffers of low canopy cover woodlands as free of invasive species as possible.

METHODS

The Site Steward shall manage the property in accordance with the requirements set out above. The Site Steward may, but is not required to, implement the management actions recommended below. The City of La Crosse hereby consents to and authorizes these recommended actions but recognizes that the ability of the Site Steward to implement these management actions will be dependent upon the availability of funding or volunteers for this purpose. The Site Steward will develop an annual work plan, which can be modified during the year to address urgent needs, with specific details on what actions are to take place and where those actions are needed. The Site Steward shall assure that actions of contractors and volunteers follow accepted methods. It is expected that large volunteer work groups may be used, and caution must be used to assure management actions are performed satisfactorily. The recommended use of specific herbicides listed below are examples of currently available and known herbicides for these uses. The Site Steward can assess whether the recommendations are still preferred in the future or use equivalent methods/herbicides.

Method Discussions:

Trees/shrubs (non-clonal)

In the designated prairie area of Zoerb Prairie, the goal is to remove and stop invasion by trees and shrubs with a few exceptions. Those exceptions include: 1) retain all leadplant (*Amorpha canescens*), 2) retain a few low prairie shrubs (e.g., Ninebark, Prairie willow and Sand cherry). Cut and treat most trees and shrub species with an appropriate herbicide such as Triclopyr at a concentration of 16-20% in basal oil. All cut stems should be cut lower than 3 inches above the ground for safety. Herbicide should be applied directly to the cut stump and not sprayed from a distance. Cutting and treating can be done most times of the year except for spring for most species, but buckthorn is best done in late fall and winter. No cutting should be done without herbicide application immediately after the cut. The cut material generated by this work can be removed to wooded areas if possible or left in place if only small cuttings result. No burn piles should be located on existing prairie.

Areas of cuttings should be monitored for resprouts and a follow up herbicide application may be needed. Foliar spraying on re-sprouts should not be needed if management keeps up with invasions but may be needed initially in buffer areas with low presence of prairie species where the seed bank and resprouting of invasive species may be dense. Buckthorn is currently the most common invader and will continue to be a problem because of the dense coverage on adjacent lands. Some gray dogwood is the only native shrub invading a small area currently. Native tree species invading include oak, hickory, cherry, walnut, elm and birch.

Native clonal species (aspen and sumac)

The preferred method of control is double cutting. The cuttings are to be done about July 1 and August 1 and continued each year until controlled to a desired level (eradication is not needed if management continues annually). The cut height should be near the ground or could at a height of 2-3 ft for mature clones (which should not be present after initial cut). The cutting can be done with a handheld brush cutter or loppers. Cut as little of the surrounding vegetation as possible and minimize trampling while cutting. Large aspen stems (“trees”) in adjacent woodlands that are part of the invading clones should be girdled in spring. Never cut any part of these clones in the winter, even if treated with herbicide.

Non-native clonal species (Black Locust)

Presently there are at least two young clones on Zoerb, with one on the upper west peak and one on the lower west slope. Currently, basal bark spraying with Triclopyr (20% in bark oil) at least 6” wide about a foot off the ground is the preferred treatment. Follow-up treatment in subsequent years will be needed before the entire clone is killed. Black locust is on the nearby Birch Point and probably scattered within nearby woodlands, so continued monitoring and controlling new clones is needed into the future. Early detection is critical, and eradication should follow the current best practices. Never cut any part of the clone without using an herbicide treatment.

Crown vetch

Currently this species is not on Zoerb Prairie itself but is on the edge along the path from the east. It should be eradicated as soon as possible using a foliar spray with Transline or a similar selective herbicide. Initial pulling of plants can increase the efficiency of treatment and allow individual sprouts to be treated. Remove flowering plants and those with seeds from the site or dispose into wooded areas that will remain forest. Annual surveys for invasives should look for missed plants or new invasions and follow-up with herbicide treatment as needed.

Biennial and monocarpic nonnative forb species

Currently there are few plants of a few species present, but these can invade and spread fast. Common invaders include Queen Anne’s lace, sweet clovers (yellow and white), nonnative thistles, and wild parsnip, some of which are already present in low density. The key to controlling these obligate biennials is preventing them from setting seed in their second year. They may be controlled by hand pulling or cutting below the root crown (1-3” below ground). Plants pulled or cut that are in flower or have seeds should be removed from the site. With the exception of Wild parsnip, these species tend to not persist in high quality prairie and should be considered a lower priority management need.

Non-native grass

Non-native cool-season grasses are generally in low density on dry areas with good warm-season grass cover like Zoerb has. If they start to become dense, an April burn, or an occasional early May burn, may be very helpful. The exception is that Reed Canary Grass requires more aggressive approaches (i.e., a grass-specific herbicide), although it is not typically found on these dry sites except perhaps on the woodland edges.

Additional invasive species

Leafy spurge, spotted knapweed, and other several other non-natives have not yet been found on Zoerb but may invade in the future. They should be routinely looked for, and when found selectively treated with an herbicide, following label instructions, that is appropriate for the species and setting.

Prescribed burns

Burn units may include adjacent woodlands with firebreaks established by leaf blowing. Where possible, patches of non-burned refugia can be used within the burn unit. These refugia can be burned asynchronously with the rest of the burn unit so that all areas of the burn unit are eventually burned. The optimum average-fire-return interval for healthy dry-mesic prairie or savanna is most likely 3 to 5 years. Highly degraded areas may benefit from more frequent fires until well established. In general, it is probably best for these south and west facing slopes to be burned in early spring (mid-March to early April), although late fall burns should also be considered. Burns should be scheduled by considering other planned management actions, such as avoiding burns during years when actively working on reducing clonal species.

Seed collection and planting

The only seeding on Zoerb prairie to be done would be inter-seeding into newly opened areas that lack prairie in the understory. The seed for the inter-seeding would be collected on Zoerb Prairie and broadcast in fall into the prairie expansion areas. No seed from other sources should be brought into Zoerb unless future plans determine it is warranted, and then only native seed from nearby remnants, and preferably Hixon Forest remnants. Zoerb Prairie may be used as a seed source for other prairies in Hixon Forest but only seed from abundant species and only a small proportion of the seed at Zoerb Prairie is to be removed. All seeding and seed collecting must be approved by the site steward.

INVENTORY/MONITORING

These actions will be undertaken as time and resources permit.

- 1) Take documentation photos before management work begins and periodically thereafter.
- 2) Annually search for aggressive non-native plants, both those currently known to be present and those that may have yet to arrive.
- 3) Compile plant species lists for each of the delineated management units. Survey visits should be spread out over the growing season and repeated over several years.
- 4) Conduct surveys for selected biota as interests become known.

USE

The Property is open to the public. Restrictions on use are guided by the City of Ls Crosse. Additional restrictions by the City may be developed upon recommendation of the Site Steward to preserve the natural values associated with the Property.

The Property may be used by the public for research with the written consent of The City of La Crosse after recommendation by the Site Steward. Researchers shall possess a valid research permit issued by the City while on the property.

The Site Steward may suggest additional public use of the site for approval from the City provided that such uses are not inconsistent with this land management plan, or written restrictions by the City.

III. MANAGEMENT RECORDS

A site steward of the Property will be designated. The steward will keep records of all management activities (i.e., what, where, when, and how). A site base map should be used to show where an activity was conducted. All management activities must be reported to the steward for record keeping.

IV. APPROVALS

MANAGEMENT PLAN AUTHOR

By: _____
(name)

The Prairie Enthusiasts Land Management Committee Member

Date: _____

FRIENDS OF THE BLUFFLANDS

By: _____
(name)

Title: Chair

Date: _____

CITY OF LA CROSSE

By: _____
(name)

Date: _____

V. ATTACHMENTS

1. Oblique photo (2009)
2. List of prairie plant species present

Attachment 1. Oblique photo of Zoerb Prairie taken April 2, 2009



Attachment 2. List of prairie plant species found during plant surveys on June 17 and September 17, 2019 by Jim Rogala.

Prairie grasses, sedges

Big bluestem	<i>Andropogon gerardii</i>
Little bluestem	<i>Andropogon scoparius</i>
Prairie brome	<i>Bromus kalmii</i>
Canada rye	<i>Elymus canadensis</i>
Northern dropseed	<i>Sporobolus heterolepis</i>
Porcupine grass	<i>Hesperostipa spartea</i>
Scribner's Panic	<i>Dichanthelium oligosanthes</i> var. <i>scribnerianum</i>

Total 7

Prairie forbs, shrubs, vines

Leadplant	<i>Amorpha canescens</i>
Hog-peanut	<i>Amphicarpaea bracteata</i>
Thimbleweed	<i>Anemone cylindrica</i>
Pussytoes	<i>Antennaria plantaginifolia</i>
Columbine	<i>Aquilegia canadensis</i>
Lyre-leaved rock cress	<i>Arabis lyrata</i>
Common milkweed	<i>Asclepias syriaca</i>
Whorled milkweed	<i>Asclepias verticillata</i>
Short green milkweed	<i>Asclepias viridiflora</i>
Heath aster	<i>Aster ericoides</i>
Aromatic aster	<i>Aster oblongifolius</i>
Sky blue aster	<i>Aster oolentangiensis</i>
Silky aster	<i>Aster sericeus</i>
Harebell	<i>Companula rotundifolia</i>
Coreopsis	<i>Coreopsis palmata</i>
Purple prairie clover	<i>Dalea purpureum</i>
Illinois tick-trefoil	<i>Desmodium illinoensis</i>
Daisy fleabane	<i>Erigeron strigosus</i>
Flowering spurge	<i>Euphorbia corollata</i>
Northern bedstraw	<i>Galium boreale</i>
Pale-leaved sunflower	<i>Helianthus strumosus</i>
Alumroot	<i>Heuchera richardsonii</i>
False boneset	<i>Kuhnia eupatorioides</i>
Rough blazing-star	<i>Liatris aspera</i>
Grooved yellow flax	<i>Linum sulcatum</i>
Hoary puccoon	<i>Lithospermum canescens</i>
Pale spiked lobelia	<i>Lobelia spicata</i>
Wild bergamot	<i>Monarda fustulosa</i>
Ragwort	<i>Packera paupercula</i>
Smooth cliff brake	<i>Pellaea glabella</i>
Jeweled shooting-star	<i>Primula fassettii</i>
Mountain mint	<i>Pycnanthemum virginianum</i>
Yellow coneflower	<i>Ratibida pinnata</i>
Rose	<i>Rosa</i>
Small skullcap	<i>Scutellaria parvula</i>
Blue-eyed grass	<i>Sisyrinchium campestre</i>
Field goldenrod	<i>Solidago nemoralis</i>
Stiff goldenrod	<i>Solidago rigida</i>
Cliff goldenrod	<i>Solidago sciaphila</i>
Showy goldenrod	<i>Solidago speciosa</i>
Hoary vervain	<i>Verbena stricta</i>
Birds-foot violet	<i>Viola pedata</i>
White camass	<i>Zigadenus elegans</i>

Total 43