



**SITE-SPECIFIC MANAGEMENT SHEET
TIER-3 RESOURCE MANAGEMENT PROPERTY**

Property Name: Trenton Bluff Prairie

Property Designation or Type: State Natural Area

SNA Designation Number: No. 136

Property Location: Pierce County

Real Estate:

Project boundary acreage: 231

Fee acres owned: 114

Dedicated acres: 109 (File #D25 (1987))

Easement acres: 16

Federal aid interest: None

Land use agreements: None

Maps

A. Project Boundary

B. Existing Cover Types

Property Manager: **Dean Edlin, West Central Ecologist**

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Prepared By (District Ecologist):

Name: Dean Edlin

Title: Conservation Biologist

Date: 4/28/2016

Reviewed/Approved By: (Bureau)

Name: Erin Crain-Sullivan

Title: Deputy Division Administrator Fish, Wildlife, & Parks

Date: 4/28/2016

Approved by Natural Resources Board: Date: May 25, 2016

A. Regional and Property Assessment

- 1. General Property Description:** Trenton Bluff Prairie consists of two separate dry prairies situated on steep Mississippi River sandstone bluffs capped by massive limestone cliffs. They are some of the best prairie remaining in the region. The western unit has two prairie openings separated by a wooded draw while the eastern portion is much steeper and contains open cliff grading quickly into shrubby oak woods. The bluff summit rises some 300 feet above the flat, sandy river terrace below with vertical cliffs exposing the bedrock layers showing dolomite limestone atop the basal sandstone. Dominant grasses include Indian grass, little blue-stem, big blue-stem, side-oats grama, and needle grass. Located near the far western edge of the state, the prairie contains several Great Plains species at their eastern range limit here.
- 2. Ecological Landscape:** [Western Coulee and Ridges Ecological Landscape](#) is characterized by its highly eroded, unglaciated topography with steep sided valleys and ridges, high gradient headwaters streams, and large rivers with extensive, complex floodplains and terraces. It offers the best opportunities in the state to maintain many of southern Wisconsin's natural communities. Many rare species have been documented here due to the diversity, scale, types, condition and context of the natural communities present.
- 3. Ownership and Adjacent Land Uses:** The surrounding land use is primarily agricultural with scattered rural residences. A commercial sand/gravel pit is adjacent to the southern unit.

4. Property Management Issues, Trends and Needs:

Invasives: Common buckthorn, bush honeysuckle, black locust, siberian elm, autumn olive, japanese barberry, garlic mustard, sweet clover, dame's rocket, and wild parsnip are known to occur on this property. An effort is made to control priority invasive species on an annual basis.

Forestry/Silviculture: While timber production is not the goal, opportunities do exist to use commercial timber harvest to help reach *ecological* goals for the property.

Prescribed Burning: An intensive prescribed fire regime will be needed to help reach ecological goals for the property. The burn history for this property is incomplete. At least 11 prescribed burns occurred between 1985-1997. The last prescribed burn occurred in the spring of

2005.

5. **Facility/Amenity development:**
 - a. **Existing:** None.
 - b. **Future:** None.

6. **Endangered, Threatened, Special Concern Species or Habitats, and wildlife Species of Greatest Conservation Need:** Located near the far western edge of the state, the prairie contains several Great Plains species at their eastern range limit here. Two invertebrates, one reptile, and eight plants on the Natural Heritage Working List occur here. For detailed data, see Appendix A.

7. **Conservation Opportunity Area:** Mississippi River Bluffs and Floodplain (11.15)

8. **Easements (closed to public access):**
 - a. File #SA 2, Christiansen, 10.4 acres
http://sos.nmtvault.com/pdf/THEOSOS_083/images/00031083.pdf
 - b. File #SA 3, Christiansen, 5.5 acres
http://sos.nmtvault.com/pdf/THEOSOS_083/images/00031107.pdf

9. **Land use Agreements:** None.

10. **Significant Cultural and Archaeological Features:** State Natural Areas may contain historic Native American or Euro-American sites. Activities with potential to disturb archaeological sites will only be undertaken after consultation with the DNR Archaeologist. Any sites with cultural or historical value will be managed in accordance with guidance and statutory requirements (see ss. 44.40 and DNR Manual Code 1810.10). See Appendix B for detailed information.

11. **Refuges and other Closed Areas:** Eased lands are closed to public access.

12. **Primary Public Use:** Recreational uses such as hiking, fishing, skiing, hunting, trapping, scientific research, wild edibles collection, and wildlife viewing are allowed. Reference the State Natural Areas [Visitation Guidelines](#) and the [property's specific webpage](#) for more information.

13. **Biotic Inventory Needs:** New and updated records for flora and fauna tracked in the Natural Heritage Inventory are routinely submitted by DNR staff, volunteers, partners, and the general public. Currently no additional

plant or vertebrate inventory needs have been identified beyond normal monitoring including the established SNA Site Inspection protocol. There is however a lack of knowledge regarding prairie dependent invertebrate diversity and potential impacts to these species through management techniques such as prescribed fire, mowing, and grazing. Research is needed to help determine both the diversity of invertebrates at these remnant sites and especially the impacts of management techniques. The Department acknowledges this and is moving forward with research to address this to help improve management outcomes for these species.

B. Property Purpose and Goals/ Management Objectives and Prescriptions

1. Property Purpose and Goal:

- a. Purpose:** The purpose of the State Natural Areas (SNA) Program is to protect outstanding examples of Wisconsin's native landscape of natural communities, significant geological formations and archeological sites. Natural areas are valuable for research and educational use, the preservation of genetic and biological diversity, and for providing ecological benchmarks for determining the impact of use on managed lands. They also provide habitat for numerous rare plants and animals.
- b. Goal:** Manage the site as a reserve for dry prairie, dry cliff, and oak opening, and as an ecological reference area.

2. Management Objectives by Natural Community Type

- a.** Restore approximately 14 acres of oak woodland, 10 acres of oak opening, and 19 acres of dry prairie. Manage to create early successional forest/shrub habitat on approximately 40 acres.
- b.** Maintain a continuum of fire-dependent native communities from dry prairie and oak opening to oak woodland.
- c.** Expand the size of remnant dry prairie openings to maintain conditions favorable to native prairie vegetation.
- d.** Create overstory conditions that allow enough light to penetrate the canopy and reach the forest floor to stimulate light dependent understory oak opening and oak woodland species that are currently suppressed from inadequate light.
- e.** Develop and maintain natural transitions between different plant communities. Reduce hard edges between different cover types.
- f.** Create early successional forest/shrub habitat in places between the prairie remnants and forested areas where oak savanna opportunities do not exist (Central Harwood stands) to improve

exposure of bluff prairie remnants to both light and wind at the base and sides.

- g.** Increase the diversity and abundance of native dry prairie, oak opening, and open oak woodland vegetation and associated animal species with emphasis on rare species.
- h.** Maintain or increase existing populations of Species of Greatest Conservation Need.
- i.** Restore and maintain oak opening and oak woodland to provide long term hard mast food sources and habitat for wildlife and game species such as white-tailed deer and wild turkeys.
- j.** Prevent introduction of new invasive species, and ensure long-term limitation of the spread, reproduction and impact of existing invasive species.
- k.** Restore and maintain open areas around appropriate rock structures as an important habitat component for herptiles.
- l.** Retain ground juniper as an important habitat component for herptiles.
- m.** Retain snags as important habitat features, unless they conflict with other objectives (such as hazard trees near roads, or prescribed fire hazards).
- n.** Maintain red cedar in appropriate locations (cliffs) where protected from historical fires.
- o.** Protect Dry Cliffs and associated rare species from human disturbance, and specifically rock climbing.

3. Management Prescriptions by Natural Community Type

- a.** The ecological characteristics of the site will be primarily shaped by an intensive fire management program. Prescribed fire will be used to restore and maintain a continuum of fire-dependent native communities native to Southern Wisconsin.
- b.** In the oak openings and oak woodlands the native dominant tree species (primarily oaks) are managed passively. However, some thinning of the canopy, understory manipulation, and shrub control may be needed to mimic natural disturbance patterns.
- c.** In the dry prairies, the native species are managed actively through tree/shrub control using cutting, brushing, prescribed grazing, and especially fire to mimic natural disturbance patterns. Occasional fire-tolerant oaks, hickories, and native shrubs such as hazelnut may be retained at low densities.
- d.** Monitor effects of grazing on community structure and composition, and rare species.

- e. Contain or eradicate invasive species through the use of department approved manual, chemical, biological, and mechanical practices, as well as prescribed fire.
- f. Use commercial timber harvest to create early successional forest/shrub habitat in forested areas where oak savanna opportunities do not exist.
- g. Leave appropriate unburned refugia for remnant prairie-dependent invertebrates within prescribed burn units.
- h. Follow Incidental Take Protocols for listed species.
- i. Consider impacts to both reptiles and prairie invertebrates regarding both timing and ignition techniques of prescribed burns.
- j. Increase access to the site for management purposes through access easements or land purchases.
- k. Work with law enforcement to enforce rock climbing prohibition.
- l. Continue outreach to secure volunteer site stewards to help reach management objectives and strengthen the joint public/private partnership.
- m. For additional guidance, see the Xeric Prairie, and Oak Savanna, State Natural Areas Management Guides (WDNR, 2010).

4. Special Management Issues and/or constraints

- a. Access to suppress wildfires is allowed.
- b. Salvage of trees after a major wind event can occur if the volume of woody material inhibits fire prescriptions.
- c. Roadside easement area may be managed sporadically by township.
- d. Cliff access is prohibited due to the extremely friable nature of the rocks; they pose a significant safety hazard and are ecologically fragile.
- e. Eased lands are closed to public access.
- f. Augmentation of the ground layer after careful review and documentation would only add species that historically would have been found on the site, using seeds or plugs from local genetic material. Follow the steps below based on seed availability:
 1. Collect seed on-site, distribute to depauperate areas.
 2. Collect seed from remnant sites within 50 miles east/west and 25 miles north/ south.
 3. Purchase seed from local nurseries who can identify source location that meets the above criteria. Consult with NHC

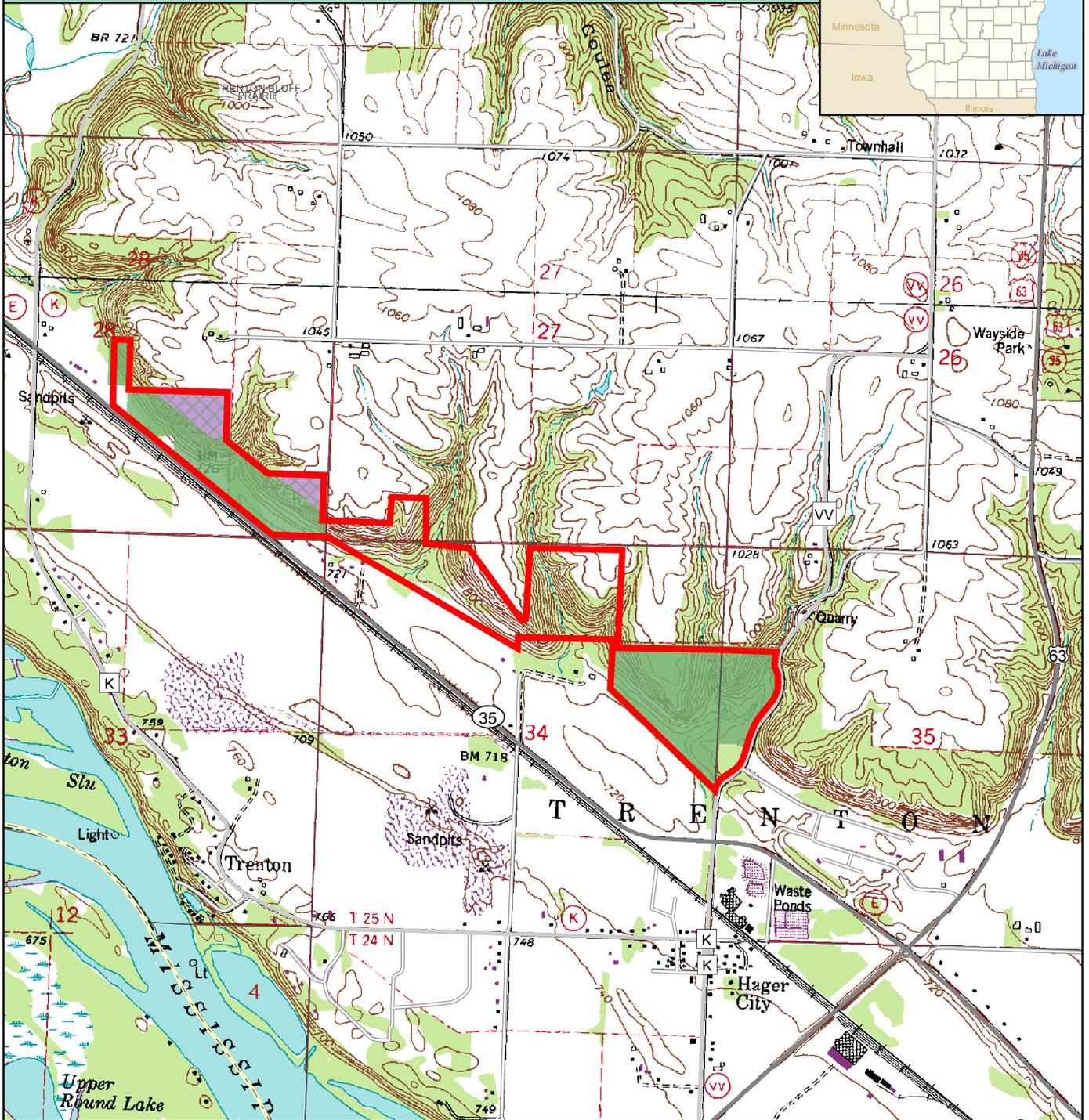
Botanist to ensure appropriateness of any nursery introductions.

Table 1: Current Facilities or Infrastructure

Type of Facility	Total (number/length)	Management Activities	Management Issues and Constraints
Roads – public	None		
Roads – maintenance/service	None		
Parking lots	None		
Boat landings	None		
Designated trails	None		
Dikes, ditches	None		
Dams	None		
Other	None		

C. Additional Comments:

Trenton Bluff Prairie State Natural Area PROJECT BOUNDARY



-  Project Boundary
-  DNR Owned
-  DNR Easement (Closed to public access)



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Bureau of Natural
Heritage Conservation
Jun 08, 2016

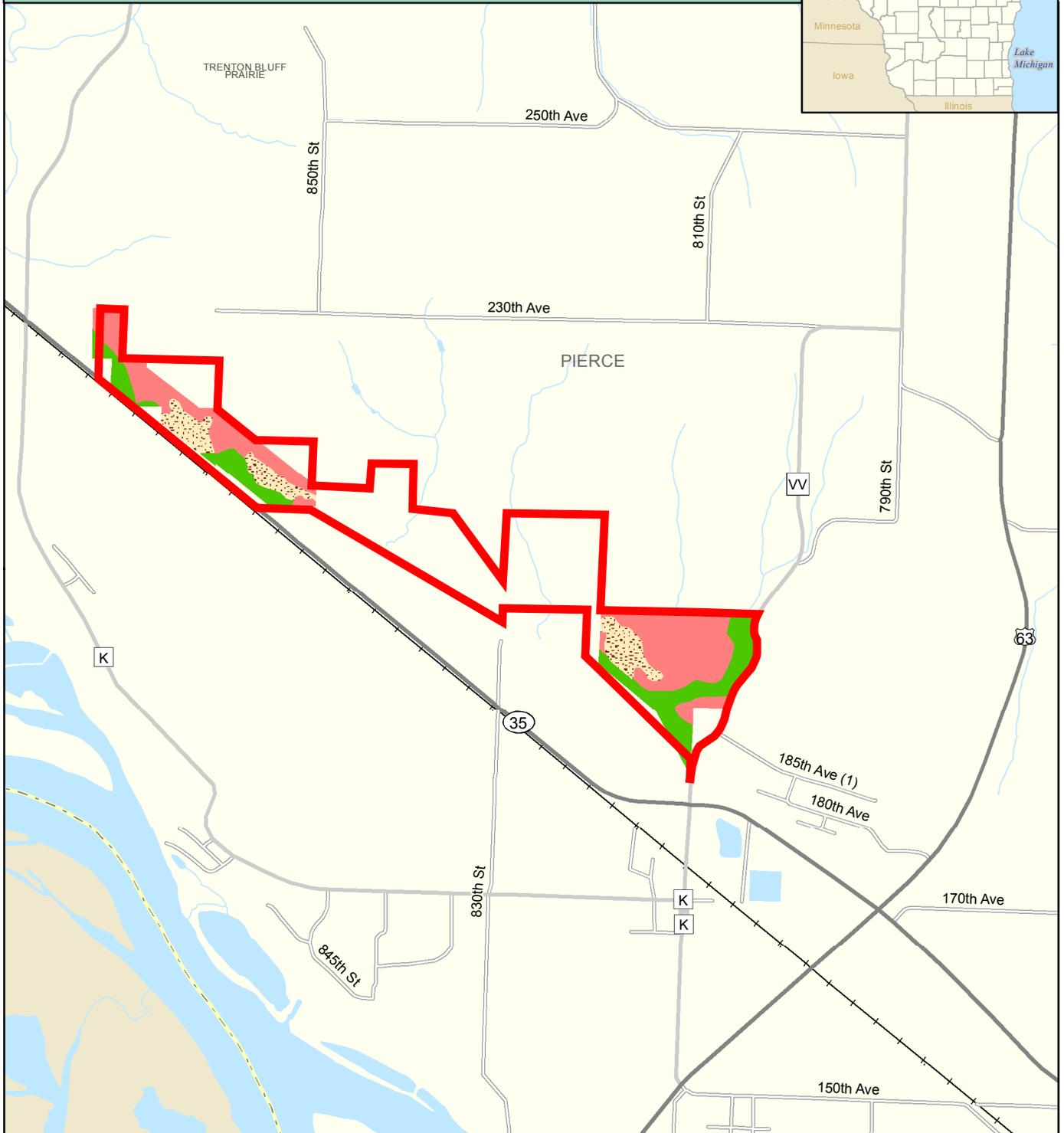
SNA Tier 3 dnh

MAP A

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Trenton Bluff Prairie State Natural Area

EXISTING COVERTYPES



-  Project Boundary
-  Oak
-  Central Hardwoods
-  Dry Prairie



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Bureau of Natural Heritage Conservation
May 26, 2016

SNA Tier 3 dmh

MAP B

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