



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

Property Name: Cassville Bluffs

Property Designation or Type: State Natural Area

SNA Designation Number: 337

Property Location: Grant County

Real Estate:

Project boundary acreage: 273

Fee acres owned: 63

Dedicated acres: 53 (File #D214 (2007), NA-778)

DNR Easement acres: 6 (access through MVC lands)

Partner owned acres: 186

Federal aid interest: None

Land use agreements: None

Maps

A. Project Boundary

B. Existing Cover Types

Property Manager: **Nate Fayram, Southwest Ecologist**

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Fitchburg, WI 53711

608-273-5943

Prepared By (District Ecologist):

Name: Nate Fayram

Title: Conservation Biologist

Date: 4/27/2016

Reviewed/Approved By: (Bureau Director)

Name: Erin Crain-Sullivan

Title: Fish, Wildlife, and Parks Deputy Division Administrator Date: 4/27/2016

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

A. Regional and Property Assessment

1. **General Property Description (topography, soils, vegetation, water resources):** Cassville Bluffs features a rare expanse of undeveloped bluff and sand terrace overlooking the Mississippi River that supports linear strips of dry prairie and rare chinquapin oak savanna. Extremely important and unique to this high quality natural area are the uplands, which remain connected to the river bottoms below and are not separated from it by any roads or highways. Currently, Wisconsin has only one mile of protected Mississippi River-front property that has no highway between the bluffs and the river. One of the rarest savanna types in Wisconsin, the chinquapin oak savanna is dominated by chinquapin oak with some bur oak and contains a diverse, intact groundlayer. The dry prairie is also diverse; dominated by side oats grama with little blue-stem, Indian grass, needle grass, big blue-stem, and *Panicum* grasses. Prairie forbs include flowering spurge, western sunflower, cylindrical blazing-star, compass plant, lead-plant, and short green milkweed. The site also harbors the rare jeweled shooting-star and there are scattered dolomite outcroppings several meters high that support numerous fern species including rusty woodsia and smooth cliffbrake. Along the bluff is an older growth forest that is an important roosting site for bald eagles.
2. **Ecological Landscape:** [Western Coulee and Ridges EL](#) 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:** Adjacent lands include the USFWS Upper Mississippi River National Wildlife and Fish Refuge, a railroad, and rural residential and agricultural lands. Mississippi Valley Conservancy owns 186 acres of the designated SNA directly adjacent to the DNR-owned land. MVC property is open to the public following their guidelines (<http://www.mississippivalleyconservancy.org/>).
4. **Property Management Issues, Trends and Needs:**

Invasives: Garlic mustard, poison hemlock, sweet clover, and bush honeysuckle are known on this property. An effort is made to control priority invasive species on an annual basis.

Forestry/Silviculture: Limited opportunities exist to use commercial timber harvest to help reach ecological goals for the property on current state owned lands. If additional lands are acquired in the future they will be evaluated for opportunities to use commercial timber harvesting opportunities to meet ecological goals.

Prescribed Burning: Frequent prescribed fire is the primary tool for managing this site. A total of 3 prescribed burns have been conducted since the site was designated in 2002 (Spring of 2010, 2012, and 2015).

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

6. **Endangered, Threatened, or Special Concern Species:** One invertebrate, three reptiles, and six plants listed as Endangered, Threatened, or Special Concern in Wisconsin occur here. For details, see Appendix A.

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

8. **Easements:** 6-acre access easement across MVC-owned portion of SNA.

9. **Land use Agreements:** None

10. **Significant Cultural and Archaeological Features:** SNAs 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). For detailed information, see Appendix B.

11. **Refuges and other Closed Areas:** None

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 Goals:

- 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 for dry prairie, oak opening, and oak woodland, as a significant archaeological site, and as an ecological reference area.

2. Management Objectives Overview by Natural Community Type:

- a.** Restore approximately 25 acres of oak opening, 5 acres of dry prairie, and 25 acres of open oak woodland, dry forest, or dry-mesic forest.
- b.** Maintain a continuum of fire-dependent native communities from dry prairie and oak opening to oak woodland, dry forest, and dry-mesic forest.
- c.** Natural processes, prescribed fire, and prescribed understory manipulation as described below will determine the structure of the prairie and savanna.
- 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. Expand the size of remnant dry prairie openings to maintain conditions favorable to native prairie vegetation.
- f. Develop and maintain natural transitions between different plant communities. Reduce hard edges between different cover types.
- g. Increase the diversity and abundance of native dry prairie, oak opening, and open woodland vegetation and associated animal species with emphasis on rare species.
- h. Maintain or increase existing populations of Species of Greatest Conservation Need, in particular maintain existing populations of reptiles and remnant prairie dependent invertebrates.
- 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 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.

3. Management Prescriptions by Natural Community Type:

- a. The ecological characteristics of the site will be primarily shaped by an intensive fire management program. Frequent prescribed fire will be used to restore and maintain a continuum of fire-dependent upland communities from dry prairie and oak opening to oak woodland and oak forests.
- b. In the oak openings, oak woodlands, and forests 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. The mostly passive canopy management and understory manipulation will determine the ecological characteristics of the savannas and forests.
- c. Non-commercial canopy and understory manipulation, and potential limited timber harvests, will improve conditions for existing oaks, and focus on removal of shade tolerant central hardwood, northern hardwood, and bottomland hardwood species (such as maple, walnut, ironwood, hackberry).
- d. In the dry prairies, the native species are managed actively through tree/shrub control using cutting, brushing, 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.

- e. Contain or eradicate invasive species through the use of department approved manual, chemical, biological, and mechanical practices, as well as prescribed fire.
- f. Provide opportunities for research and education on the highest quality native prairies and oak openings.
- g. For additional guidance, see the Xeric Prairie, and Oak Savanna, State Natural Areas Management Guides (WDNR, 2010).

4. Special Management Issues and/or constraints:

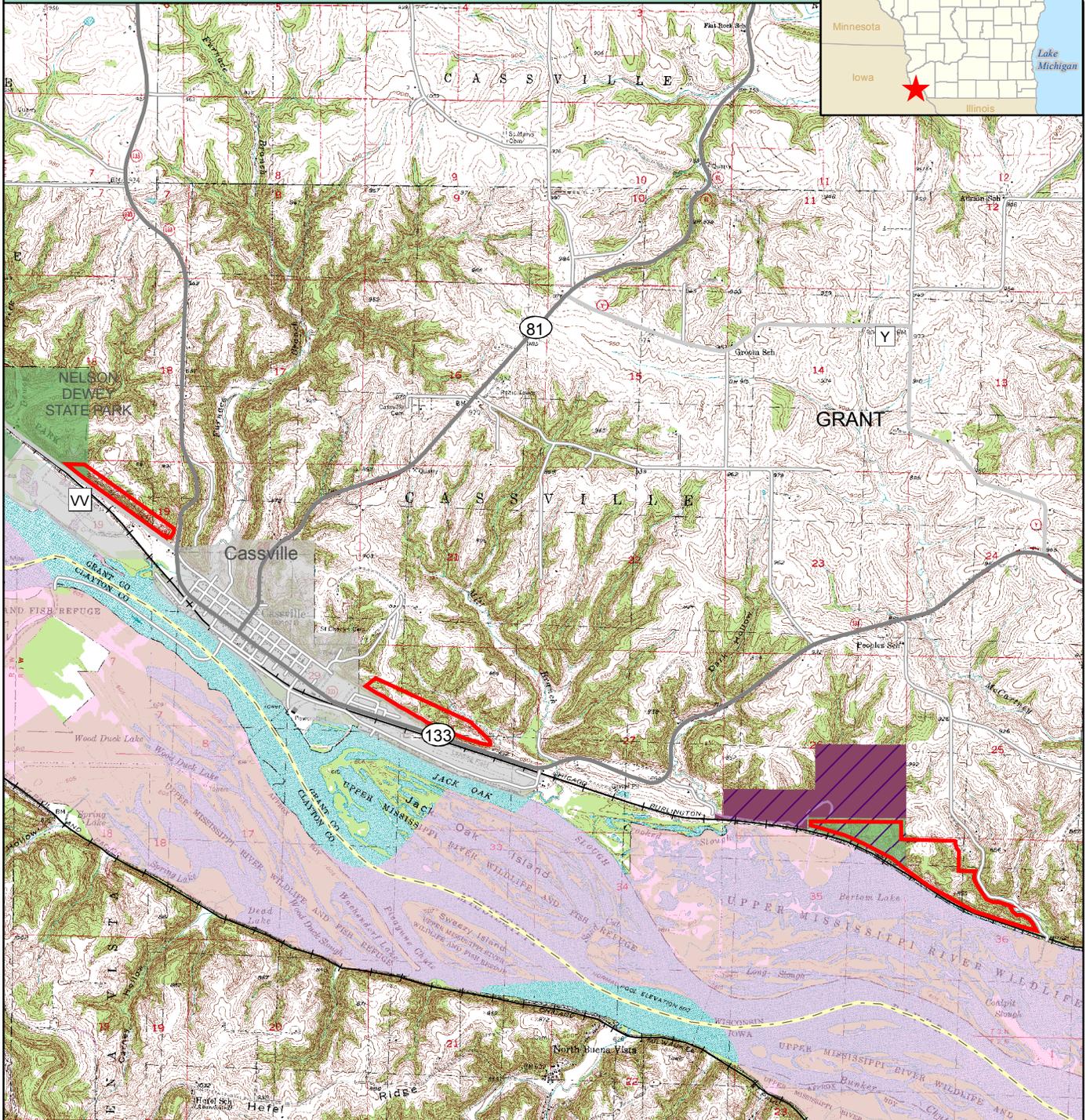
- a. Augmentation of the ground layer will only add species that historically would have been found on the site, using seeds or plugs from local genotype sources.
- b. On remnant sites follow the steps below based on seed availability:
 - (1) Collect seed on-site, distribute to depauperate areas.
 - (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 about criteria. Consult with NHC Botanist to ensure appropriateness of any nursery introductions.
- c. On reconstruction sites follow the progression of steps below based on seed availability:
 - (1) Collect seed on-site and use to plant reconstructions.
 - (2) Collect seed from sites within 50 miles east/west and within 25 miles north/south.
 - (3) Purchase seed from local nurseries that can identify source location.
- d. Leave appropriate unburned refugia for remnant prairie dependent invertebrates within prescribed burn units.
- e. Follow Incidental Take Protocols for listed species.
- f. Consider impacts to reptiles regarding timing and ignition patterns of prescribed burns.
- g. Retain snags as important habitat features, unless they conflict with other objectives (such as hazard trees near roads, or prescribed fire hazards).
- h. Salvage of trees after a major wind event can occur if consistent with management objectives.
- i. Other allowable activities throughout the site include control of invasive plants and animals, planting native prairie species in the old field areas, maintenance of existing facilities, and access to suppress wildfires.

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			

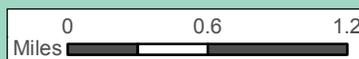
C. Additional Comments: None

Cassville Bluffs State Natural Area PROJECT BOUNDARY



-  Project Boundary
-  State Natural Area
-  DNR Owned
-  DNR Easement
-  US Fish & Wildlife

 Stewardship Grant Land



WISCONSIN DEPARTMENT
OF NATURAL RESOURCES



Bureau of Natural
Heritage Conservation
Jun 08, 2016

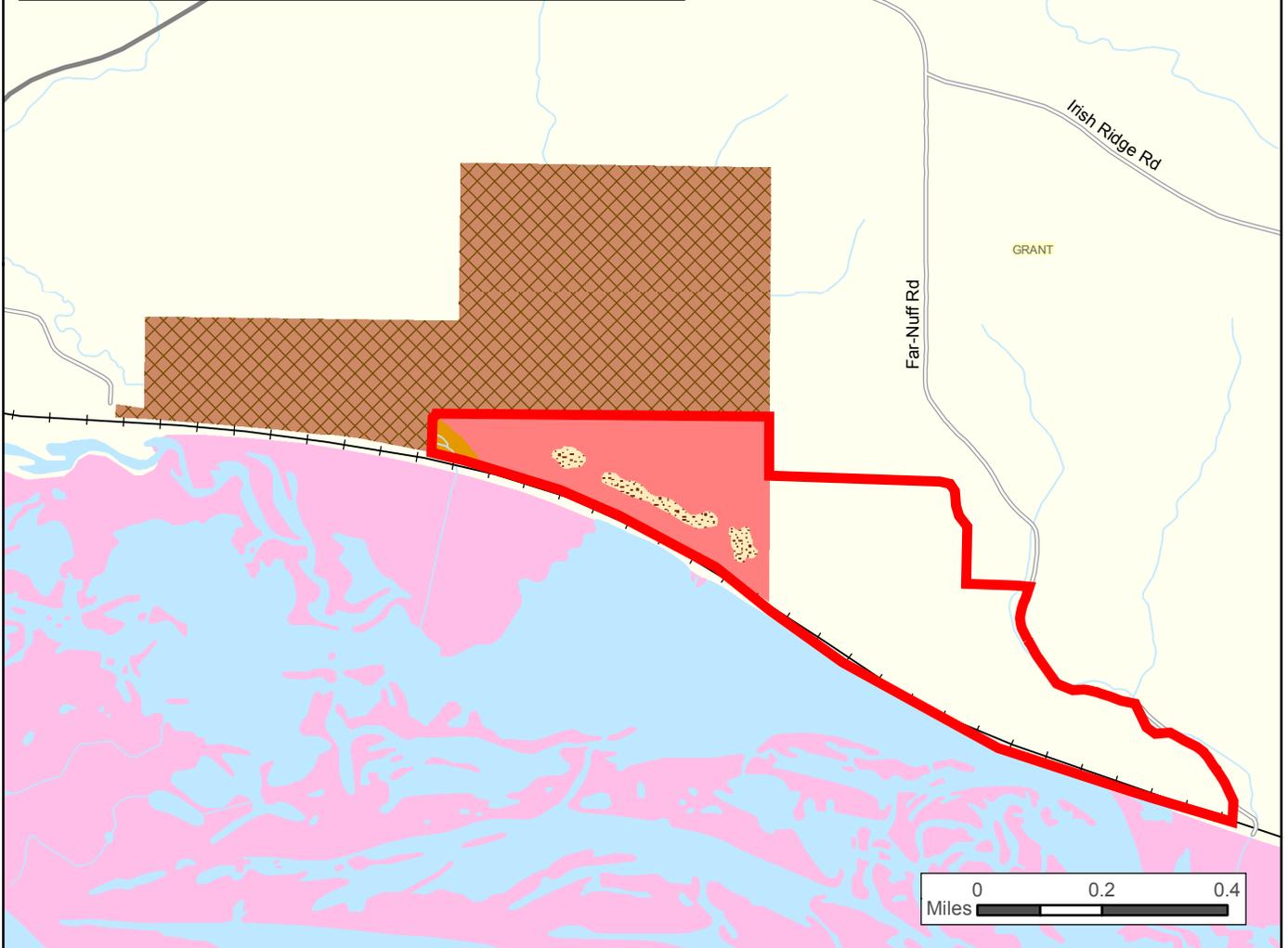
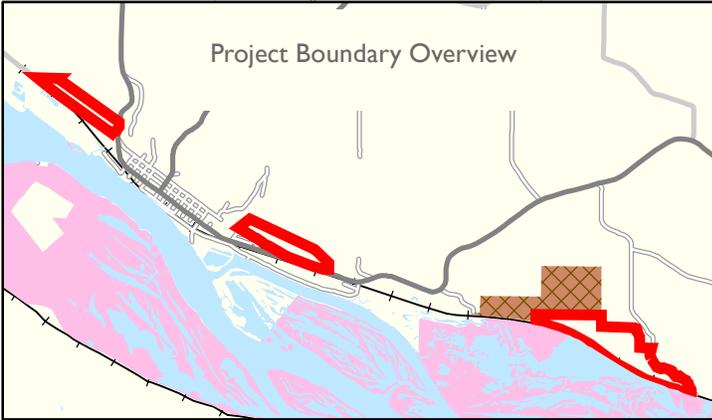
SNA Tier 3 dnh

MAP A

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Cassville Bluffs State Natural Area

EXISTING COVER TYPES



- | | | | |
|---|---------------------------|---|---------------------|
|  | Project Boundary |  | Oak |
|  | US Fish & Wildlife |  | Dry Prairie |
|  | Private Conservation Land |  | Bottomland Hardwood |

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Bureau of Natural Heritage Conservation
May 26, 2016

SNA Tier 3 dnh

MAP B

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