



# Interim Forest Management Plan

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**DRAFT**

## Property Identifiers

Property Name and Designation: Morgan Coulee State Natural Area, SNA No. 205  
Trenton Bluff Prairie State Natural Area, SNA No. 136

Property Manager: Jim Woodford

County: Pierce

Property Acreage: Morgan Coulee – 54 Acres  
Trenton Bluff Prairie – 113 Acres

Forestry Property: Morgan Coulee - # 4806  
# 4807

Master Plan Date: No master plan on file.

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## Property Assessment

### General Property Description

#### Morgan Coulee Prairie State Natural Area

The second largest dry prairie in the west central region, Morgan Coulee Prairie extends for over a half-mile along a steep, south-facing bluff in a coulee opening onto the Rush River valley. The large expanse of relatively undisturbed dry prairie is broken up with scattered islands of bur oak savanna dominated by open grown, gnarly oaks and shallow wooded draws. Limestone outcrops are scattered about the area and support a community of lichens and ferns. Dominant grasses include big and little blue-stem, side-oats and hairy grama, Indian grass, needle grass, prairie drop-seed, and several muhly grasses. The forbs are equally diverse, highlighted by showy species such as asters, milkweeds, white and purple prairie-clover, blazing-star, Great Plains lady's-tresses, and prairie larkspur. Wild bergamot, bastard-toadflax, and western sunflower are found under the oaks. The prairie also harbors two rare plant species: yellow evening primrose (*Calylophus serrulatus*) and prairie thistle (*Cirsium hillii*). Much of the prairie is remarkably free of shrubs; those present include hazelnut, bittersweet, smooth sumac, and dogwoods. At the bluff is a southern dry oak forest. Animal species of concern include eastern bluebird (*Siala sialis*), field sparrow (*Spizella pusilla*), and Reakert's blue butterfly (*Hemiargus isola*). Morgan Coulee Prairie is owned by the DNR and was designated a State Natural Area in 1986.



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## Trenton Bluff Prairie State Natural Area

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: foothill bladder-pod (*Lesquerella ludoviciana*), prairie sage-wort (*Artemisia frigida*), ground plum (*Astragalus crassicaarpus*), plains muhly (*Muhlenbergia cuspidata*), and prairie larkspur (*Delphinium carolinianum*). The state-threatened prairie thistle (*Cirsium hillii*) is also found here. The upper cliff area has numerous outcrop crevices that harbor several interesting fern species including slender lip fern and smooth cliff brake. Animal species of concern include the state-endangered peregrine falcon (*Falco peregrinus*), bullsnake (*Pituophis melanoleucus*), hognose snake (*Heterodon platyrhinus*) and two butterfly species – olive hairstreak (*Callophrys gryneus*) and Reakert's blue (*Hemiargus isola*). Trenton Bluff Prairie is owned by the DNR and was designated a State Natural Area in 1977.

### **Landscape and Regional Context**

Morgan Coulee Prairie and Trenton Bluff Prairie SNA's are located in the Western Coulee and Ridges Ecological Landscape and has the following Land type association – 222Lc12 - Eroded pre Illinoian Ground Moraines, which is typified by highly eroded topography with steep sided valleys and ridges and high gradient streams with dendritic drainage patterns.

### **Current Land Cover**

The Western Coulee and Ridges Ecological Landscape is a mosaic of forest, cropland, and grassland with wetlands mostly in the river valleys. Primary forest cover is oak and hickory. Maple and basswood forests, dominated by sugar maple, basswood, and red maple, are common in areas that were not burned frequently. Bottomland hardwoods, dominated by silver maple, swamp white oak, river birch, ashes, elms and cottonwood, are common within the floodplains of the larger rivers. Relict “northern” mesic conifer forests composed of hemlock, white pine and associated hardwoods such as yellow birch are rare but do occur in areas with cool, moist microclimates. Dry rocky bluffs may support xeric stands of native white pine, sometimes mixed with red or even jack pine. Prairies are now restricted to steep south or west facing bluffs, unplowed outwash terraces along the large rivers, and a few other sites. They occupy far less than 1% of the current landscape. Mesic tallgrass prairies are now virtually nonexistent except as very small remnants along rights-of-way or in cemeteries.

### **Wildlife Action Plan/Species of Greatest Conservation Need**



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Both properties fall within Continentally Significant “Conservation Opportunity Areas” (COA) identified in the Wildlife Action Plan’s Implementation document for the Western Coulee and Ridges Ecological Landscape (WCREL)

<http://dnr.wi.gov/topic/WildlifeHabitat/COA.html>. Trenton Bluff Prairie falls within the “Upper Mississippi Bluffs and Floodplain” COA and Morgan Coulee Prairie falls within the “Rush River Bluffs and Floodplain” COA. Three priority natural community types found on the properties are listed in the document: Southern Dry Forest, Oak Opening, and Dry Prairie. Species of Greatest Conservation Need for the WCREL associated with these 3 communities include: prairie racerunner, timber rattlesnake, bullsnake, yellow-bellied racer, Bell’s vireo, blue-winged warbler, brown thrasher, field sparrow, red-headed woodpecker, whip-poor-will, wood thrush, worm-eating warbler, yellow-billed cuckoo, eastern red bat, northern long-eared bat, prairie vole, woodland vole, dusted skipper, wild indigo dusky wing, columbine dusky wing, Leonard’s skipper, ottoe skipper, cobweb skipper, marbleseed leafminer, mulberry wing, Whitney’s underwing, hickory hairstreak, wing snaggletooth, red-tailed leafhopper, prairie leafhopper, duck-billed leafhopper, 10 additional SGCN leafhoppers, Colaspis leaf beetle, and Saxinus beetle.

## **Natural Heritage Inventory (NHI)/Rare Species**

The NHI data base currently lists 3 state endangered plants, 4 state threatened plants, and 7 special concern plants, and 1 special concern (SC/N) butterfly as known within the general vicinity of the property.. Likely habitat is present on this property for most of these species. Prescribe burning and maintenance of open conditions is beneficial for those most likely to occur on this property. Trenton Bluff Prairie lies within a mile of the Mississippi River and a number of aquatic species (no suitable habitat on this property) are listed also. Natural Heritage Inventory screenings will be conducted prior to all management for both rare species and natural community types.

## **Biotic Inventory Status**

Master Plan Biotic Inventory is not complete.

## **Deferral/Consultation Area Designations (refer to the following website)**

Not applicable.

## **Invasive species**

Buckthorn, honey suckle, garlic mustard, and Siberian elm, are known to occur on this property.

## **Soils**

The soils are predominantly Doerton very stony-Elbaville complex, Brodale-Bellchester-rock outcrop complex, Plainfield sand, Beaver Creek cobbly fine sandy loam, Finchford loamy sand, Renova fine sandy loam, 5 Points silt loam, Seaton silt loam, Pepin silt loam, and Church Town silt loam, occurring primarily on hills, but also valley trains and alluvial fans.



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## **Recreational Uses**

Hunting, trapping, and hiking are the primary recreation uses of this property. Due to these properties generally steep topography, they receive minimal to moderate public use.

## **Cultural and Recreational Considerations**

No known archeological or historic sites are known to occur on this property.

Allowed recreational activities include hiking, cross country skiing, hunting trapping, wildlife viewing, and outdoor education. Other activities may be allowed through permits and special rules.

## **Site Specifics**

The ecological characteristics of the site will be primarily shaped by an intensive fire management program. The native prairie species are managed actively through tree/shrub control using tree harvest, 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. The native dominant oak woodland tree species are managed passively. However, some thinning of the canopy, understory manipulation and shrub control via harvest, brushing or fire may be needed to mimic natural disturbance patterns. Other allowable activities throughout the entire site include control of invasive plants and animals, augmentation of native prairie species after careful review, maintenance of existing facilities, and access to suppress wildfires.

A Wisconsin DOT scenic easement is in place along Highway 35; the area may be managed sporadically by the state. Roadside easement areas may be managed sporadically by state and township. Cliff access is prohibited due to the extremely friable nature of the rocks; they pose a significant safety hazard and are ecologically fragile.

Forest inventory shows 41 acres of Morgan Coulee typed as forest with 13 acres typed as grasses. The 41 acres of forested cover type is oak (100%). Both of the oak stands identified are over 100 years old. Oak wilt is thinning many of the black and red oak from these stands. Over half of the stocking in Stand 2 is bur oak. Approximately 25% of the sawtimber stocking in Stand 3 is bur and white oak. Central hardwood tree species dominate the understories in these stands but some seedling, sapling, and poletimber oak is present. The oak stands are prescribe burned together with the grassland. The combination of oak wilt mortality of red and black oak, and prescribe burning will produce a savanna structure. Invasive species (primarily buckthorn and honey suckle) are present and are being controlled through prescribed burning and mechanical/chemical operations.

Forest inventory shows 95 acres of Trenton Bluff Prairie typed as forest with 18 acres typed as grasses. Of the 95 forested acres, 29 acres are oak (30%), 35 acres are bottomland hardwoods (37%), and 31 acres are central hardwoods (33%).



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15 Acres of the oak type is 70 – 80 years old, and 14 acres is 120 – 130 years old. The central hardwoods stand contains small inclusions of aspen/birch, and red pine plantation. The bottomland hardwoods lie along the flood plains of dry runs.

Buckthorn, honey suckle, garlic mustard, and Siberian elm, are some of the invasive species present.

## **Management Objectives**

Manage the site as a dry prairie and oak woodland reserve and as an ecological reference area. Natural processes, processes that mimic natural disturbance patterns, and prescribed fire will determine the structure of the prairie and associated southern dry forest/oak opening. Manage to create overstory conditions that allow enough light to penetrate the canopy and reach the forest floor to stimulate light dependent understory savanna and oak woodland species that are currently suppressed from inadequate light. Additionally, provide early successional forest/shrub habitat in places between the prairie remnant and forested areas where oak woodland opportunities do not exist. This will provide a “feathered edge” and a more gradual transition between the forest and the prairie. Also manage to improve exposure of prairie remnants to both light and wind at the base and sides of the sites. Provide opportunities for research and education on the highest quality native prairies.

**Note:** Property manager/forester must notify District Ecologist to discuss proper timing of commercial harvest and before setting up any sales on the property. Generally, marking of trees should be a cooperative effort to assure goals of harvest are met.

## **Property Prescriptions**

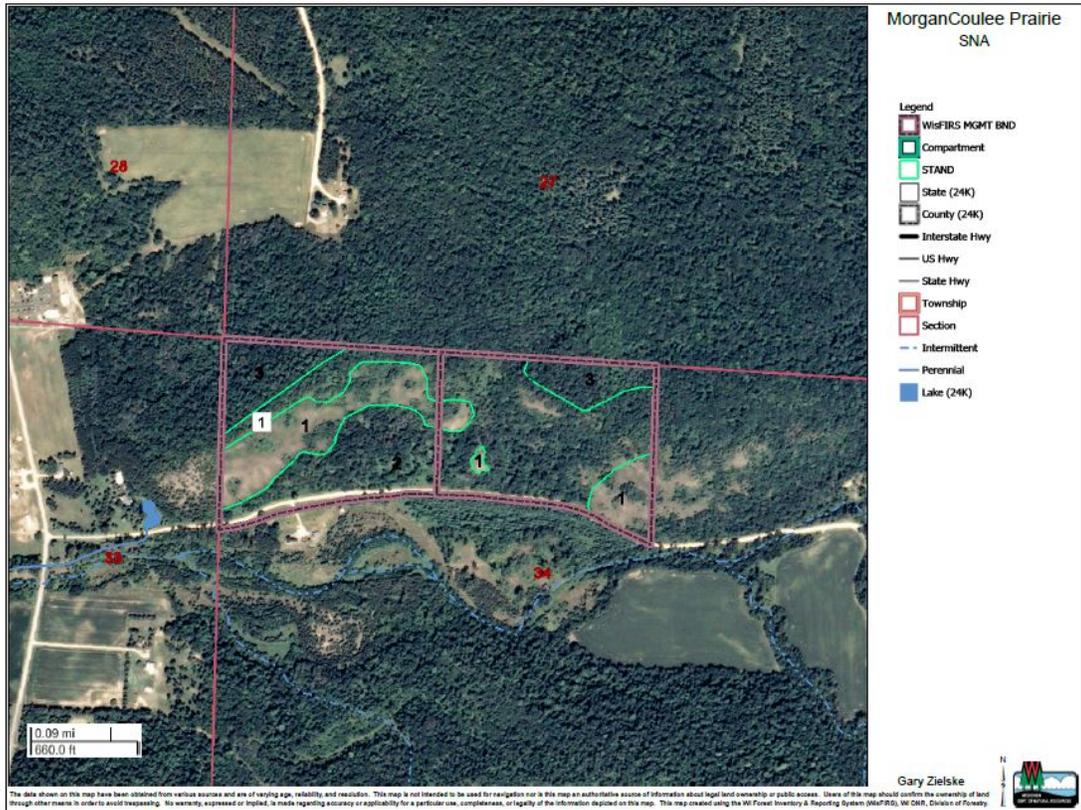
South and east/west facing slopes and more level areas (or areas with quality understory savanna/woodland species) will be managed through prescribed fire, non-commercial understory manipulation, and timber harvests to enhance the oak woodland ecotype, provide young forest edge, and expose remnants to light and wind.. Timber harvests will focus on removal of central and bottomland hardwood species (primarily non-oak and non-hickory species), aspen where not adjacent to the prairie, some thinning of suppressed oak where dense patches occur (leaving largest diameter/crowned individuals) or where small crowned individuals are shading open grown, larger crowned trees. Selection and small patch clearcuts will be used to mimic natural disturbance patterns.

Property is continually monitored for invasive plant species and control practices such as prescribed fire, hand pulling, chemical and mechanical control will be implemented to eliminate or reduce negative impacts.

Limited fuelwood harvest permits may be used (accessible areas near roads) to reduce heavy fuels in the burn units to reduce mop-up time and labor following prescribe burns.

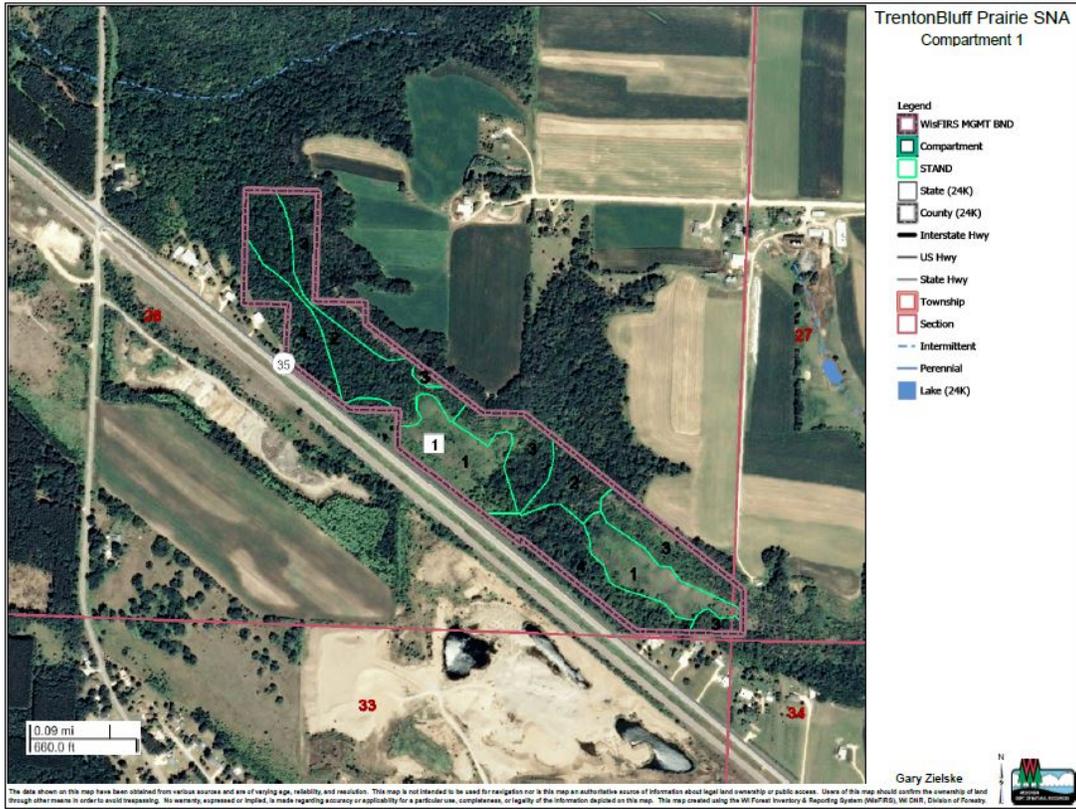


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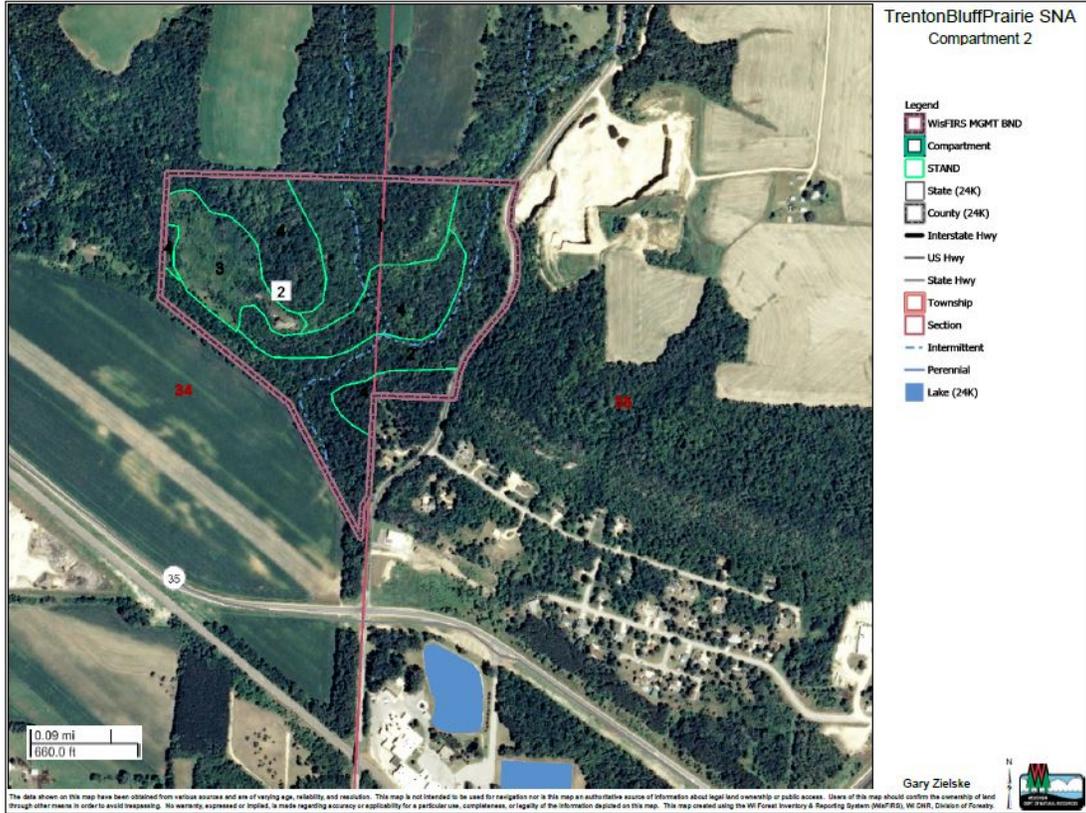


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Approvals:

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Regional Ecologist Date

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Forester Date

\_\_\_\_\_  
Property Manager Date

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Area/Team Supervisor Date