SITE-SPECIFIC MANAGEMENT SHEET
TIER-3 RESOURCE MANAGEMENT PROPERTY

Property Name: Hardscrabble Prairie

Property Designation or Type: State Natural Area

SNA Designation Number: 322

Property Location: Lafayette County

Real Estate:

Project boundary acreage: 168
Fee acres owned: 168
Easement acres: 1
Dedicated acres: None
Federal aid interest: None
Land use agreements: None

Maps

A. Project Boundary
B. Existing Cover Types
C. Existing Roads and Infrastructure

Property Manager: **Nate Fayram, Southwest Ecologist**
3911 Fish Hatchery Rd
Fitchburg, WI 53711
608-273-5943

Prepared By (District Ecologist):

Name: Nate Fayram

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 (topography, soils, vegetation, water resources):** Hardscrabble Prairie is a composite of oak opening and very diverse dry prairie situated on a north-facing slope, an unusual exposure for the dry prairie community type. Abundant species include common ninebark, Culver's-root, valerian, mountain mint, lead-plant, showy goldenrod, purple prairie-clover, prairie drop-seed, and side-oats grama grass. Other species are little blue-stem, June grass, pasque flower, alumroot, Illinois tick-trefoil, round-headed bush-clover, and shooting-star. The lower area contains a dry creek bed with large open-grown bur oaks scattered throughout. Habitat heterogeneity and an abundance of nectaring plants makes the prairie attractive to at least 16 species of butterfly including silver-spotted skipper, common wood nymph, painted lady, great spangled fritillary, and meadow fritillary. Uncommon birds include yellow-billed cuckoo and white-eyed vireo. Resident birds include great-crested flycatcher, black-billed cuckoo, alder flycatcher, brown thrasher, and field sparrow.

2. **Ecological Landscape:** Southwest Savanna EL is part of Wisconsin's Driftless Area and is characterized by broad open ridgetops, deep valleys, and wooded, sometimes steep, slopes. It was once dominated by fire-dependent natural communities representing the continuum of prairie, oak savanna, oak woodland, and oak forest. Now dominated mostly by agricultural lands, and with less than four percent in public ownership, this ecological landscape still offers good opportunities to maintain expansive grassland and savanna habitats through public/private partnerships. Restoration and management of the entire continuum of fire-dependent natural communities native to southern Wisconsin is possible here.

3. **Ownership and Adjacent Land Uses:** Agricultural lands and the Village of Hazel Green.

4. **Property Management Issues, Trends and Needs:**

   Invasive Species: Bush honeysuckle, garlic mustard, sweet clovers, wild parsnip, common buckthorn, spotted knapweed, crown vetch, black locust, multiflora rose, and other woody invasive species are known on this property. An effort is made to control priority invasive species on an annual basis.

   Forestry/Silviculture: Opportunities exist to use commercial timber harvests to help reach ecological goals for the property.

Prescribed Burning: Frequent prescribed fire is the primary tool for managing this site. Burn history: Burns were conducted on portions of the site in spring 2001, 2002, 2003, 2006, 2012, and fall of 2015, for a total of 6 burns since the site was designated in 1997. Due to several invertebrate species being state listed, prescribed burning is significantly limited *within the prairie remnants* to that allowed within the state's Grassland and Savanna Incidental Take Protocols: http://dnr.wi.gov/topic/erreview/itgrasslands.html

Grazing: Due to several invertebrate species being state listed, grazing is significantly limited *within the prairie remnants* to that allowed within the state's Grassland and Savanna Incidental Take Protocol: http://dnr.wi.gov/topic/erreview/itgrasslands.html

5. **Facility/Amenity development:**
   - **a.** Existing: 0.4 miles of Village of Hazel Green sewage line maintenance lane, 1 mile of fencing, and 2 access gates.
   - **b.** Future: No change.

6. **Endangered, Threatened, or Special Concern Species:** Four invertebrates, one reptile, and one amphibian listed as Endangered, Threatened, or Special Concern in Wisconsin occur here. For details, see Appendix A.

7. **Conservation Opportunity Area:** Hardscrabble Prairie (13.02)

8. **Easements:** A 1-acre access easement from Buncombe Road to the core of the SNA that lies to the north.

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). More detailed information can be found in 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 our 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 as a reserve for dry prairie, a mesic prairie, oak opening, and oak woodland restoration site, and as an ecological reference area.

2. Management Objectives Overview by Natural Community Type

a. Restore approximately 20 acres of dry prairie, 28 acres of mesic prairie reconstruction, and 120 acres of oak opening and open oak woodland.

b. Restore and maintain a continuum of fire-dependent native communities from dry prairie and oak opening to oak woodland.

c. Restore, enhance, and maintain the ecological structure, composition, and function of prairie and savanna communities with specific emphasis on habitat for prairie, oak opening, and oak woodland dependent plants, birds, herptiles, and invertebrates.

d. Natural processes, prescribed fire, and prescribed canopy manipulation as described below will determine the structure of the prairie and savanna.

e. Expand the size of remnant dry prairie openings to maintain conditions favorable to native prairie vegetation.

f. Restore closed canopy forests and other degraded woodlands to oak opening or oak woodland. Restore structure of the oak savanna communities to mimic pre-settlement conditions where practical.

g. Restore former agricultural fields (some currently planted to conifers), to mesic prairie reconstructions.

h. Provide early successional forest/shrub habitat in places where oak savanna or prairie opportunities do not exist.

i. 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.

j. Improve conditions for, and extend the life of, mature oak trees.

k. Develop and maintain natural transitions between different plant communities. Reduce hard edges between different cover types.

l. Increase the diversity and abundance of native dry prairie, oak opening, and open woodland vegetation and associated animal species with emphasis on rare species.

m. Maintain or increase existing populations of grassland and savanna Species of Greatest Conservation Need.

n. Manage the site to maintain existing populations of reptiles and remnant prairie dependent invertebrates.

o. Provide habitat for wildlife that requires early successional shrubby habitat such as Brown Thrasher and Bell's Vireo.

p. Restore and maintain oak opening to provide long term hard mast food sources and habitat for wildlife and game species such as turkeys, deer, and squirrels.

q. Prevent introduction of new invasive species, and ensure long-term limitation of the spread, reproduction and impact of existing invasive species.

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.

b. In the dry prairies, the native species are managed actively through tree/shrub control using tree harvest, 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.

c. Outside the remnant prairies, the native dominant savanna tree species (primarily oaks) form the basis for an oak savanna restoration. Thinning of the canopy, understory manipulation, and shrub control may be needed to mimic natural disturbance patterns.

d. Use combinations of timber harvests, cutting, brushing, mowing, grazing, interseeding, chemical application, and fire to restore oak opening or oak woodland.

e. Prescribed grazing may be used to manipulate vegetation, to control shrubs, and to control invasive species. Restrict grazing from high quality remnant prairies.

f. In the oak opening and oak woodland restorations the native dominant savanna tree species (primarily oaks, as well as shagbark hickory, and some cherry) are managed passively. Timber harvests and non-commercial canopy and understory manipulation will improve conditions for existing oaks, and focus on removal of conifers and shade tolerant central hardwood, northern hardwood, and bottomland hardwood species (such as maple, walnut, ironwood, hackberry).

g. Remove shade tolerant tree competition from around and under mature oaks.

h. Following timber harvests, use frequent prescribed fire in combination with cutting, brushing, mowing, grazing, interseeding, and chemical application to restore the ground layer, control brush, and restore desired composition, structure, and function; and to control invasive species at a large scale.

i. Remove conifer plantations. Use commercial timber harvests if possible.

j. Return old fields, and former agricultural fields planted to conifers, to agricultural production to prepare the fields to be planted to prairie.

k. Following site preparation, plant agricultural fields to mesic prairie. Follow SNA guidelines for appropriate seed genotype.

l. Girdle aspen that are on, and adjacent to, prairie openings.

m. Contain or eradicate invasive species through the use of department approved manual, chemical, biological, and mechanical practices, as well as prescribed fire.

n. Provide opportunities for research and education on the highest quality native prairies.

o. For additional guidance, see the Xeric Prairie State Natural Areas Management Guide (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. Maintain appropriate patches of native brush within savanna and grassland communities for birds such as Bell's Vireo and Brown Thrasher.

f. Follow Incidental Take Protocols for listed species.

g. Consider impacts to reptiles regarding timing and ignition patterns of prescribed burns.

h. Retain snags as important habitat features, unless they conflict with other objectives (such as hazard trees near roads, or prescribed fire hazards).

i. Salvage of trees after a major wind event can occur if consistent with management objectives.

j. Roadside easement area may be managed sporadically by township.

k. Although removal of hazardous trees from over and near field roads is an allowed activity, manipulation/removal of vegetation and soil disturbance should be minimized to the extent possible.

l. Other allowable activities throughout the site include maintenance of existing facilities, and access to suppress wildfires.

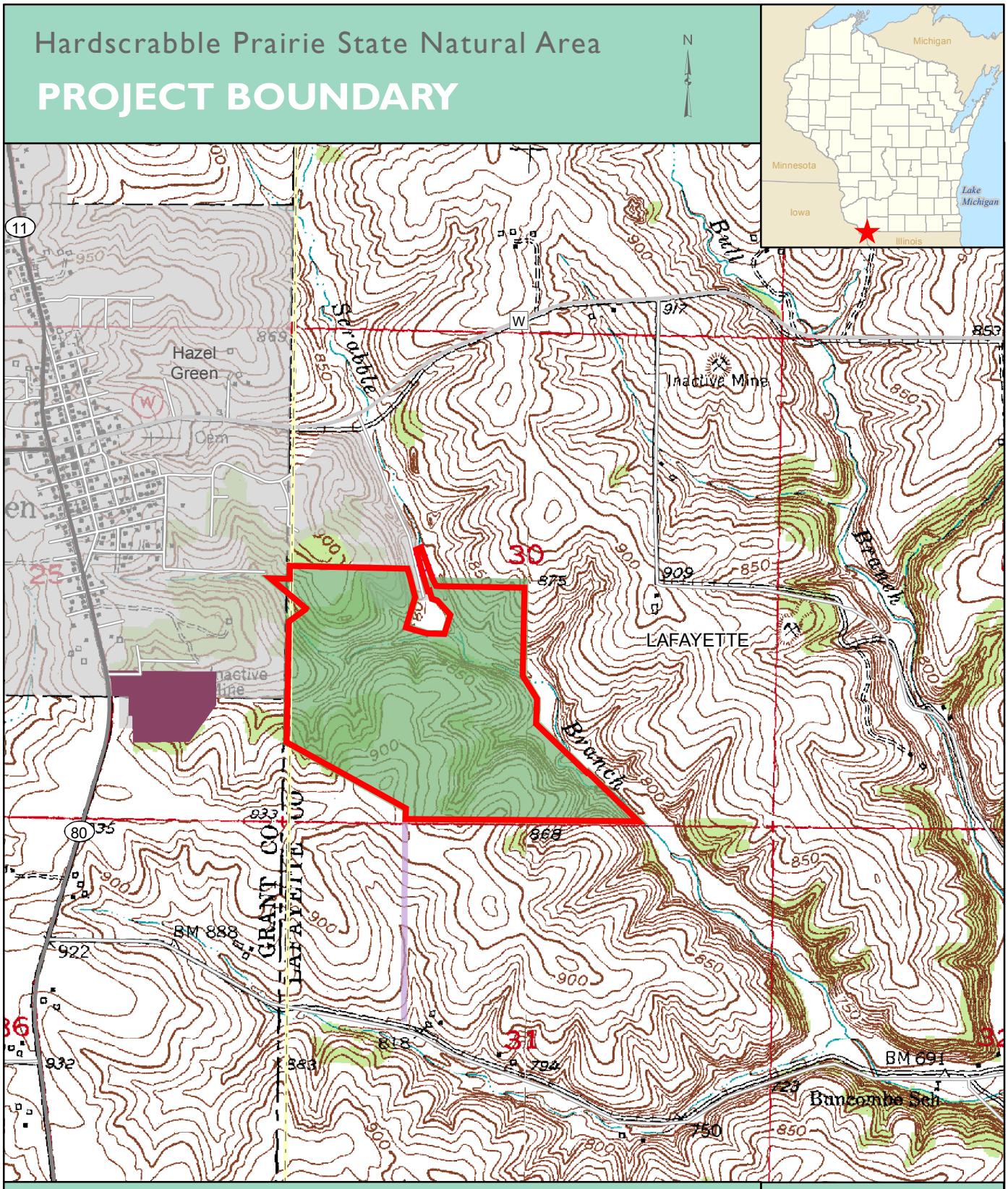
Table 1: Current Facilities or Infrastructure

Type of Facility	**Total** (number/length)	**Management Activities**	**Management Issues and Constraints**
Roads – public	None		
Roads – maintenance/service	0.4 mi.		This is the Village of Hazel Green sewer line.
Parking lots	None		
Boat landings	None		
Designated trails	None		
Dikes, ditches	None		
Dams	None		
Other	Fencing – 1 mi. Access gates – 2		

C. Additional Comments:

Hardscrabble Prairie State Natural Area

PROJECT BOUNDARY



Project Boundary

DNR Owned

DNR Easement

Land Exchange in-progress

Stewardship Grant Land

0 0.2 0.4
Miles

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Natural Heritage Conservation

Jun 08, 2016

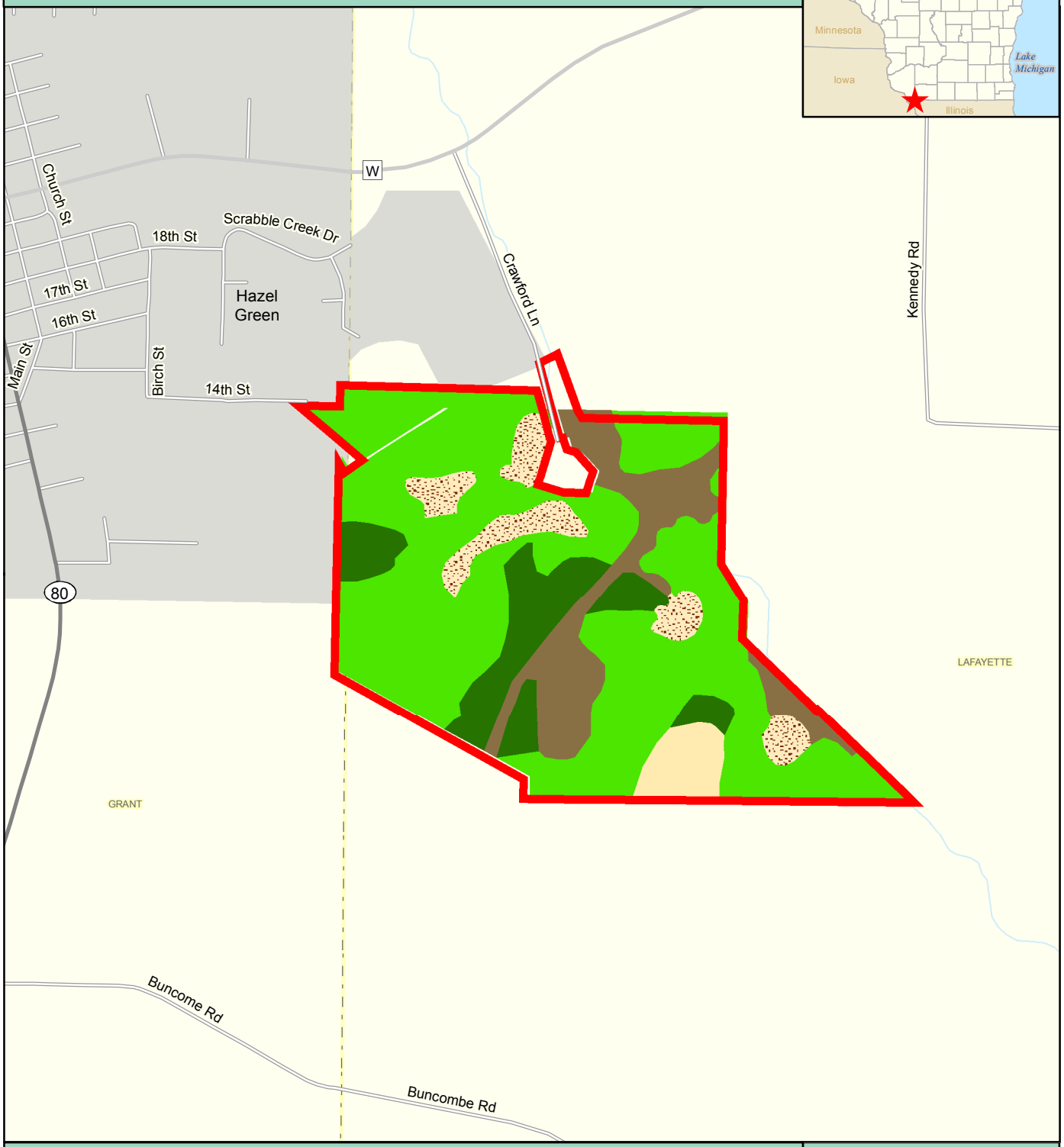
SNA Tier 3 dmh

MAP A

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Hardscrabble Prairie State Natural Area

EXISTING LAND COVER



Project Boundary
Grassland
Prairie
Shrub
Upland Conifer
Upland Hardwood

0 0.1 0.2
Miles

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Natural Heritage Conservation
May 26, 2016

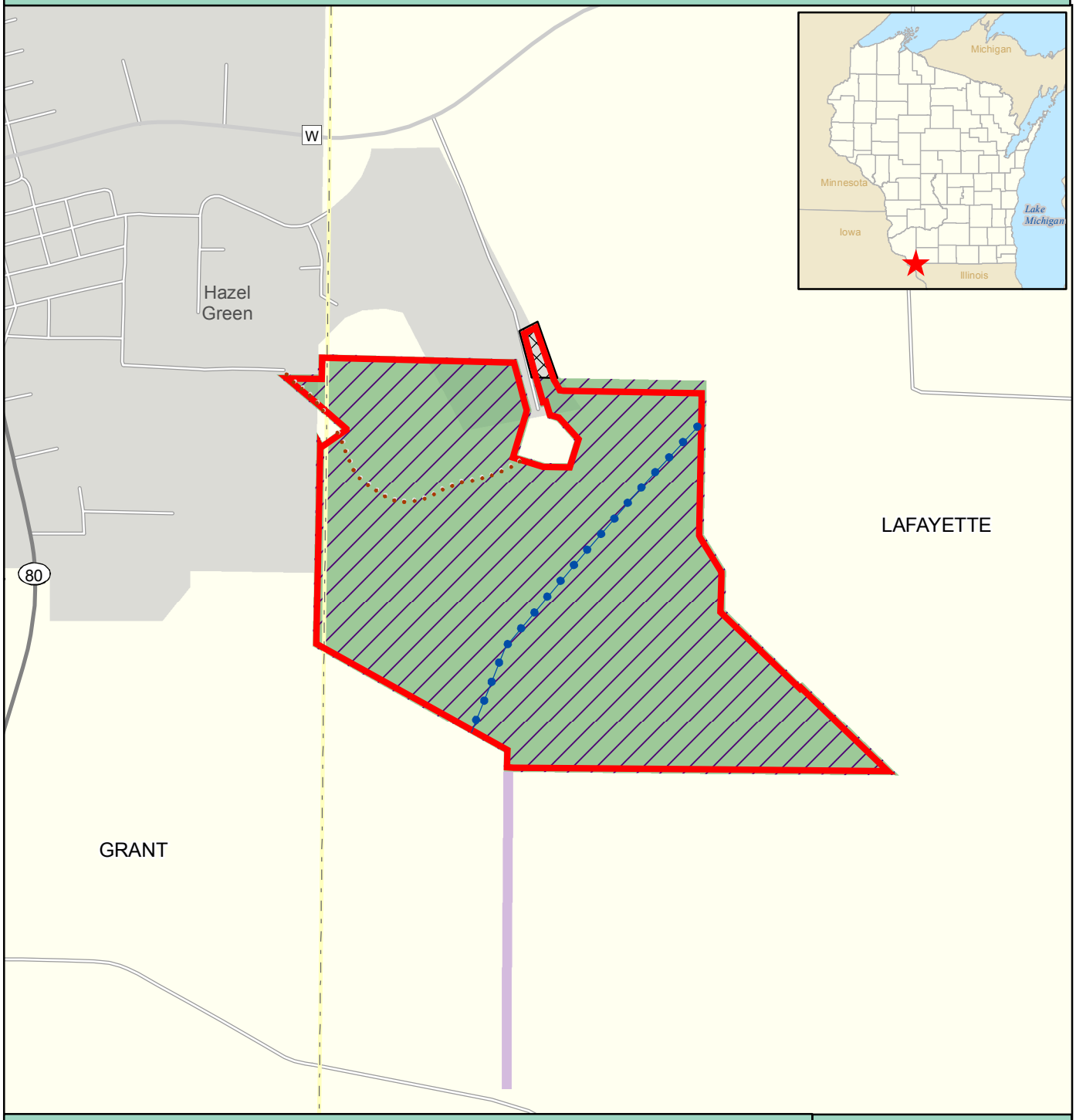
SNA Tier 3 dmh

MAP B

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Hardscrabble Prairie State Natural Area

EXISTING ROADS AND INFRASTRUCTURE



Project Boundary
DNR Owned
DNR Easement
Gas Line (not maintained by DNR)
Sewer Line (not maintained by DNR)
State Natural Area
Land Exchange in-progress

0 0.1 0.2
Miles

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Natural Heritage Conservation
May 26, 2016

SNA Tier 3 dmh

MAP C

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.