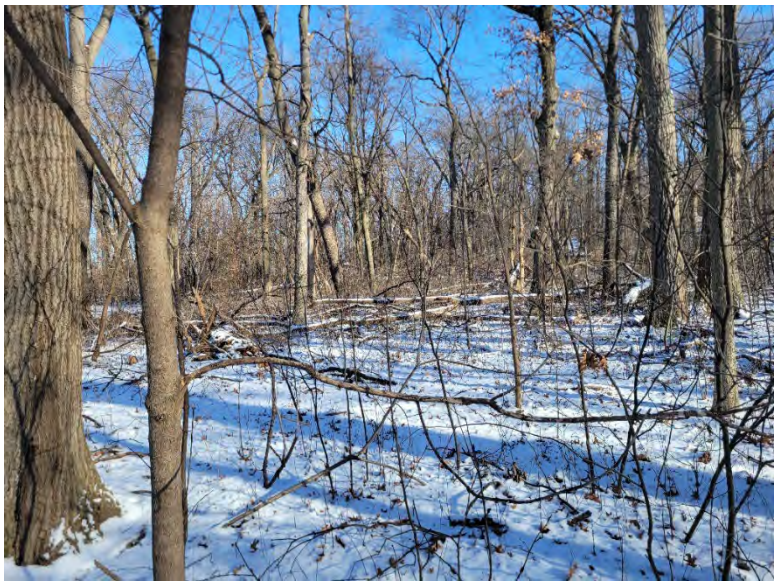
Habitat Management Plan

Hiestand Woods Conservation Park

February 7, 2025



Site information

Address: 4302 Milwaukee Street

Acreage 11.78 acres

Watershed: Starkweather Creek - East Branch

Site summary: Hiestand Woods is located on the east side of Madison, on the northwestern face of a glacial drumlin. The site is dominated by mature red oak, white oak, basswood, and black cherry. Hickory is also present in the southwestern portion of the parcel. The drumlin is the former site of a 20th century US Air Force communications facility, and the hill used to be known locally as "Radar Hill". Prior to that, the drumlin and the surrounding area were farmed by European settlers until the land was converted to residential development in the early 20th century. Pre-settlement vegetation documented by U.S. government land surveyors consisted of large open areas with very young bur oak trees scattered throughout. Restoration efforts to date have included removal of invasive shrubs such as buckthorn and bush honeysuckle.

Adjacent lands: The conservation park is bounded to the south by Hiestand Park, a 46-acre community park that features soccer fields, a sledding hill, a disc golf course, and a playground and sun shelter. The disc golf course occupies the northern 2/3 of the community park, and the fairways are interspersed with natural areas that range from early successional shrubland to mature, closed canopy forest. The center of the park is dominated by very tall, mature bur and white oaks. Efforts to restore the oak-dominated portion of the woods here began in 2024.

The conservation park is bounded by residential development on the east and west, and by Highway 30 to the north. See Appendix A, Figure 1 for an overview of the park.

Alder district: District 3 - Alder Derek Field

Madison Parks' Land Management Plan (2023) defines land cover categories found in the City's parklands and provides general parameters for their management. That document provides a foundation upon which more detailed, site-specific work plans can be built. Hiestand Woods Conservation Park is categorized entirely as Urban Forest – *Woodlands.*

This habitat management plan addresses the ecological management of the natural areas within the park. It considers ecological processes, species lifecycles, and population and community dynamics.

Conservation values

Madison is located within the Southeast Glacial Plains Ecological Landscape as defined by the Wisconsin Department of Natural Resources in The Ecological Landscapes of Wisconsin (2015). Soils throughout most of Hiestand Woods are characterized as Griswold loam. Plano silt loam is found mid-slope on the northwestern face of the drumlin, and Elburn silt loam at the lowest elevations.

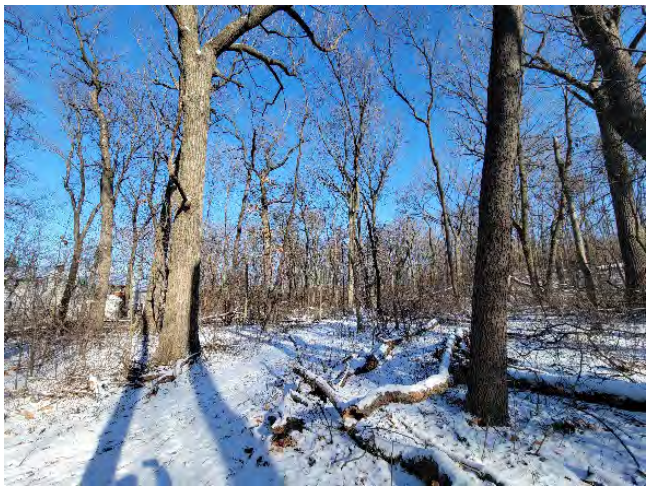
The land cover and habitats at Hiestand Woods can be further described as the following Natural Communities, in part:

Southern Dry-Mesic Forest
Oak Woodland

These recognized Natural Communities described by the Wisconsin Natural Heritage Inventory help provide more technical and specific restoration targets based on the ecology of Wisconsin. These reference communities provide benchmarks that help guide ecologically appropriate restoration efforts.

Descriptions for Wisconsin's Natural Communities can be accessed at: https://apps.dnr.wi.gov/biodiversity/Home/Index/Communities.

Appendix A, Figure 2 is a map delineating these Natural Communities in the park. Appendix B contains lists of plant species documented from within the park and bird species documented from the immediate surrounding area.



Canopy dominant oaks are declining. The form of individual trees is evidence of a formerly more open canopy. Large hackberry and black cherry have filled canopy gaps, but woody debris and a dense understory of invasive shrubs have prevented development of a native subcanopy. The woods require management to minimize drastic changes to canopy cover and species composition that will occur on the current ecological trajectory.

Ecological threats

Invasive species – Invasive plant species include burdock, garlic mustard, dame's rocket, hedge parsley, common buckthorn, black locust, and bush honeysuckle.

Fire suppression – The legacy of fire exclusion due to incompatible land uses, and the lack of prescribed burning on the site until recent years has contributed to woody encroachment and loss of native herbaceous species in areas that potentially would have supported oak woodland and oak forest habitat.

Conservation goals

1. *Promote sustainable forest structure and species composition.*

   Manage overstory canopy to allow oak recruitment and retention, where already present in overstory. Allow shade tolerant tree species to replace stand of mature black locust, even if this establishes a large mesic area adjacent to potential oak woodland or oak hickory forest.

2. *Restore and maintain native woodland herbaceous plant community.*

   Removal of invasive shrubs and herbaceous plants and establishment of a prescribed fire regime will help restore the appropriate structure and species composition to the fire-suppressed oak woodland and dry-mesic forest.

3. *Monitor amphibians and birds to inform management decisions and increase broader scientific knowledge.*

   Engage students and volunteers to assist with species inventories and surveys.

Management considerations

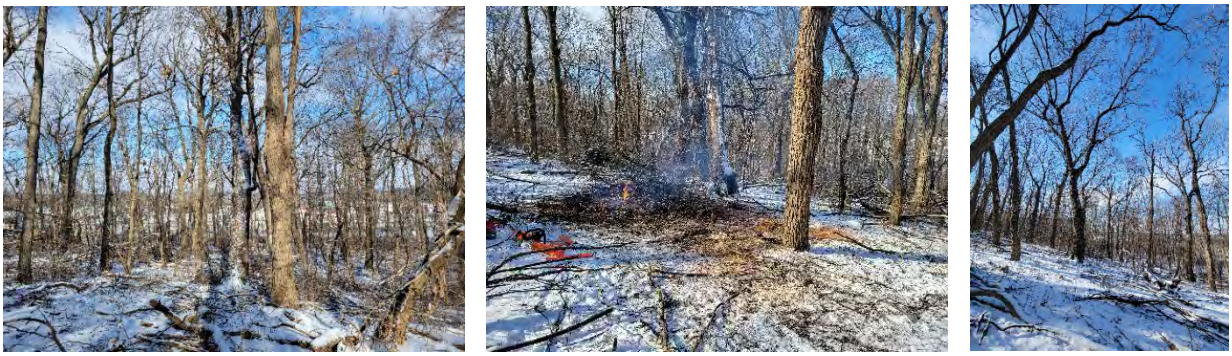
Madison Parks' vision is "to provide the ideal system of parks, natural resources and recreational opportunities which will enhance the quality of life for everyone." Ord. 8.40, Preservation of Conservation Parks, includes, "It is important to the residents of Madison that the City preserve Madison's native landscapes, its plant and animal populations for residents' careful use and full enjoyment."

In pursuit of these goals, we strive to balance ecological management needs with the needs of the community. Ecological management at Hiestand Woods should pay specific attention to the following:

Smoke management – Surrounding residential development and 4-lane highway limit opportunities for burning this site. Care must be taken to minimize smoke impacts to nearby residences and thoroughfares.

Management history

Contractors worked to control invasive shrubs in the western and northeastern portions of the park in 2021 and 2023. No other management has been documented to date.



Some invasive shrub removal work was completed in the northern portion of the park in 2023.

Management units

Please refer to Appendix A, Figure 3 for a map of management units.

West Unit (5 ac) – Western portion of the conservation park. This unit features several large white oaks and an abundance of smaller diameter hickory. Native herbaceous community includes shade tolerant woodland species and spring ephemerals. There is good potential to restore the native herbaceous plant community here, through canopy management and prescribed burning.

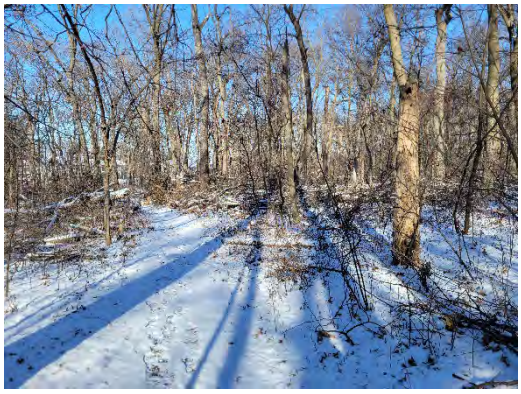
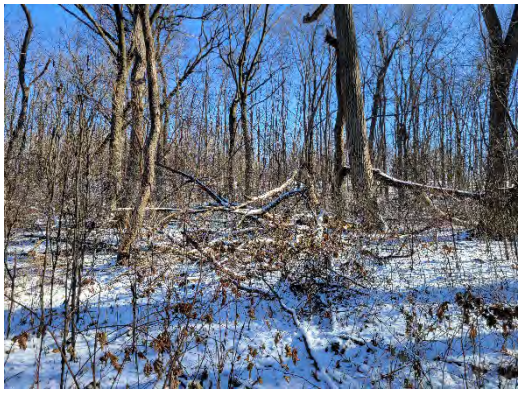
East Unit (7 ac) – Eastern portion of the conservation park, extending eastward to the summit of the drumlin, and down the east face. This unit is very degraded. While there is some mature oak, cherry, and hackberry, the higher elevations become dominated by mature black locust, which is competing with bur oaks in a small remnant oak woodland on the summit. The understory in this unit is heavily invaded by bush honeysuckle and garlic mustard. Native herbaceous species are far less abundant here.

Note that management of Hiestand Woods will include the 2-acre wooded portion of Hiestand community park located between the conservation park boundary and the northernmost disc golf fairway. This area contains large bur oaks in the SW corner, then becomes heavily dominated by black locust to the east. Including this area in management prescriptions for the East Unit described above will complement woodland management planned and occurring throughout 4 acres in the central portion of the community park.

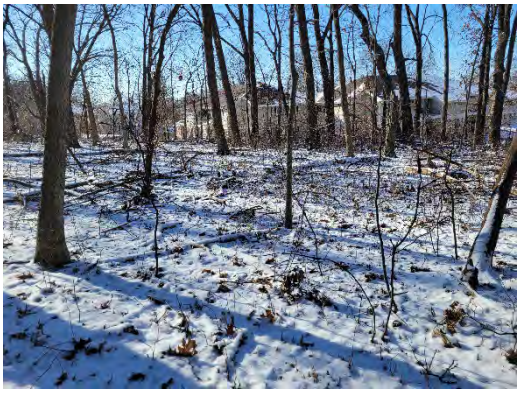
Objectives

The following objectives are recommended to repair and sustain the natural communities at this site:

- Continued control of invasive shrubs and invasive biennial species.
- Reduction of excessive woody debris.
- Re-introduction of fire.
- Sow native seed to increase diversity, augment native plant community, and provide fine fuels for prescribed burns.
- Canopy management to ensure longevity and reproduction of oak species.
- Underplant black locust stand to ensure succession by desirable native species as overstory declines. Select shade tolerant species such as witch-hazel, pagoda dogwood, viburnums, hop-hornbeam, basswood, hackberry and red oak. Consider assisted migration of shellbark hickory for a shade tolerant tree that would thrive in future expected climate.

Excessive amounts of woody debris have accumulated in the absence of fire or any other management.



Reducing debris will allow access for invasive species control and native plant establishment, and will ensure safer, cleaner prescribed fires, and reduce fuels that could potentially increase wildfire risk.

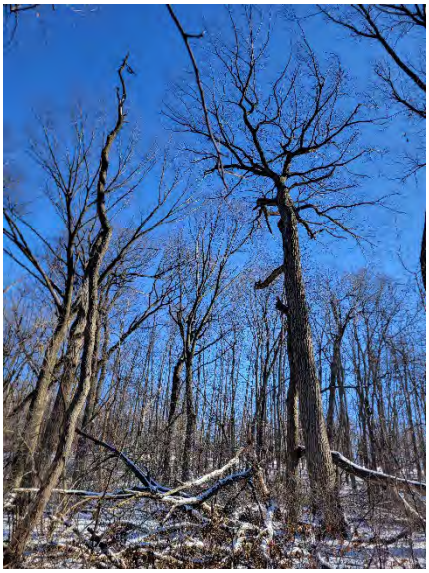
Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Spring 2025	West	• Prescribed burn (west of trail)
	East	• Spray burdock, garlic mustard, dame's rocket, and hedge parsley (contract)
Winter 2026	East	• Cut and treat remaining buckthorn and honeysuckle
	West	• Downed woody debris management
Spring 2026	All	• Spray burdock, garlic mustard, dame's rocket, and hedge parsley (contract)
Summer 2026	All	• Monitor plant community (volunteers) • Collect and disperse seed from native woodland species
Fall 2026	East	• Spray biennial rosettes
Winter 2027	East	• Downed woody debris management
	West	• Thin midstory and overstory canopy to approach 70% cover in areas classified as Oak Woodland
Spring 2027	All	• Spray or hand pull burdock, garlic mustard, dame's rocket, and hedge parsley; spray woody invasive re-sprouts (staff and volunteers)
	West	• Rx burn (entire unit)
Summer 2027	West	• Collect and disperse seed from native woodland species
Fall 2027	East	• Spray biennial rosettes
Winter 2028	East	• Thin midstory and overstory to reduce shading and competition on oaks ("daylight" oak trees.)
Spring 2028	East	• Rx burn
	All	• Spray or hand pull burdock, garlic mustard, dame's rocket, and hedge parsley; spray woody invasive re-sprouts (staff and volunteers)
Summer 2028	All	• Monitor plant community (volunteers)
Fall 2028	East	• Spray biennial rosettes • Sow native seed mix with high proportion of grasses and sedges
Spring 2029	East	• Underplant black locust stand with native trees and shrubs (staff and volunteers) • Sow native seed mix
	West	• Rx burn • Evaluate natural oak regeneration, supplement as needed with bare-root seedlings
	All	• Spray or hand pull burdock, garlic mustard, dame's rocket, and hedge parsley; spray woody invasive re-sprouts (staff and volunteers)

In addition to the objectives outlined above for stewardship of this natural area, the following initiatives would advance the restoration trajectory of the park, resulting in greater benefit, achieved sooner. These actions would be accomplished through implementation of capital improvement projects, special initiatives directed at a specific goal, or a general, longer-term increase in resources, including volunteer labor.

- Engage volunteers to control biennial invasive species, thus reducing the need for herbicide treatments.

- Purchase and plant herbaceous plugs to advance the establishment of a diverse herbaceous plant community.
- Plant additional trees and shrubs throughout East unit.



Existing canopy gaps provide opportunity to establish oaks and retain this important species component.

Monitoring and Evaluation

Measuring results is critical to determining success. Refer to Appendix C for an outline of the goals for monitoring natural areas in Madison Parks.

Parks staff currently have very limited capacity to conduct monitoring. However, Parks is supported by a network of volunteers and researchers. Community science programs collect data on sensitive ecological indicators and provide crucial information on which to base management decisions.

A few key metrics that should be tracked at Hiestand Woods include plant and animal diversity, and abundance of invasive species.

As part of a wider monitoring program, the following tasks should be completed:

- Add to plant and animal species lists.
- Sample plant communities to collect data on richness and cover, and track development of herbaceous plant community and overstory canopy.
- Conduct photo monitoring on 5-year intervals.

Budget

The work outlined in this plan is accomplished through financial and in-kind support from the City's General Operating budget, special Capital Improvement Project funding, and volunteer labor.

Typical Annual Budget Estimate:

Task	**Labor required** *(staff and volunteer hours only)*	**Annual cost** *(includes labor, materials, and contracts)*
Prescribed burn	40	$3,000
Native seed, bare-root trees	32	$500
Invasive species control (in-house and contracted)	120	$5,000
Canopy management (contracted)		$3,000
Woody debris management	320	$5,000
Monitoring (@ $25/hr)	32	$800
Trail maintenance and repair (@ $20/hr plus materials)	10	$400
Totals		**$17,700**

Citations

GBIF.org (28 June 2023) GBIF Occurrence Download https://doi.org/10.15468/dl.jxrwfs Accessed June 28, 2023.

Madison General Ordinance 8.40, Preservation of Conservation Parks https://library.municode.com/wi/madison/codes/code_of_ordinances?nodeId=COORMAWIVOICH1--10_CH8PUPR_8.40PRCOPA

Madison Parks. 2023. *City of Madison, Parks Division Land Management Plan*. City of Madison, Parks Division, Madison.

USDA Natural Resources Conservation Service. 2025. Soil Survey Map. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx Accessed January 3, 2025.

Wisconsin Department of Natural Resources. 2015. *The ecological landscapes of Wisconsin: An assessment of ecological resources and a guide to planning sustainable management.* Chapter 18, Southeast Glacial Plains Ecological Landscape. Wisconsin Department of Natural Resources, PUB-SS-1131T 2015, Madison, WI.

Wisconsin Department of Natural Resources. 2023. Wisconsin's Natural Communities. https://apps.dnr.wi.gov/biodiversity/Home/Index/Communities Accessed August 2, 2023.

Document History

This Habitat Management Plan is consistent with Madison Parks' Land Management Plan. This Habitat Management Plan has a 5-year lifespan and should be reviewed yearly. It can be revised whenever new information is discovered. If no changes have been made, it should be updated in its 5th year.

Version	Description
2/7/2025	First draft, presented to Habitat Stewardship Subcommittee on 2/11/2025

Appendices

A. Maps
   - Figure 1. Park Overview
   - Figure 2. Natural Communities
   - Figure 3. Management Units

B. Species Lists
C. Natural Areas Monitoring Goals

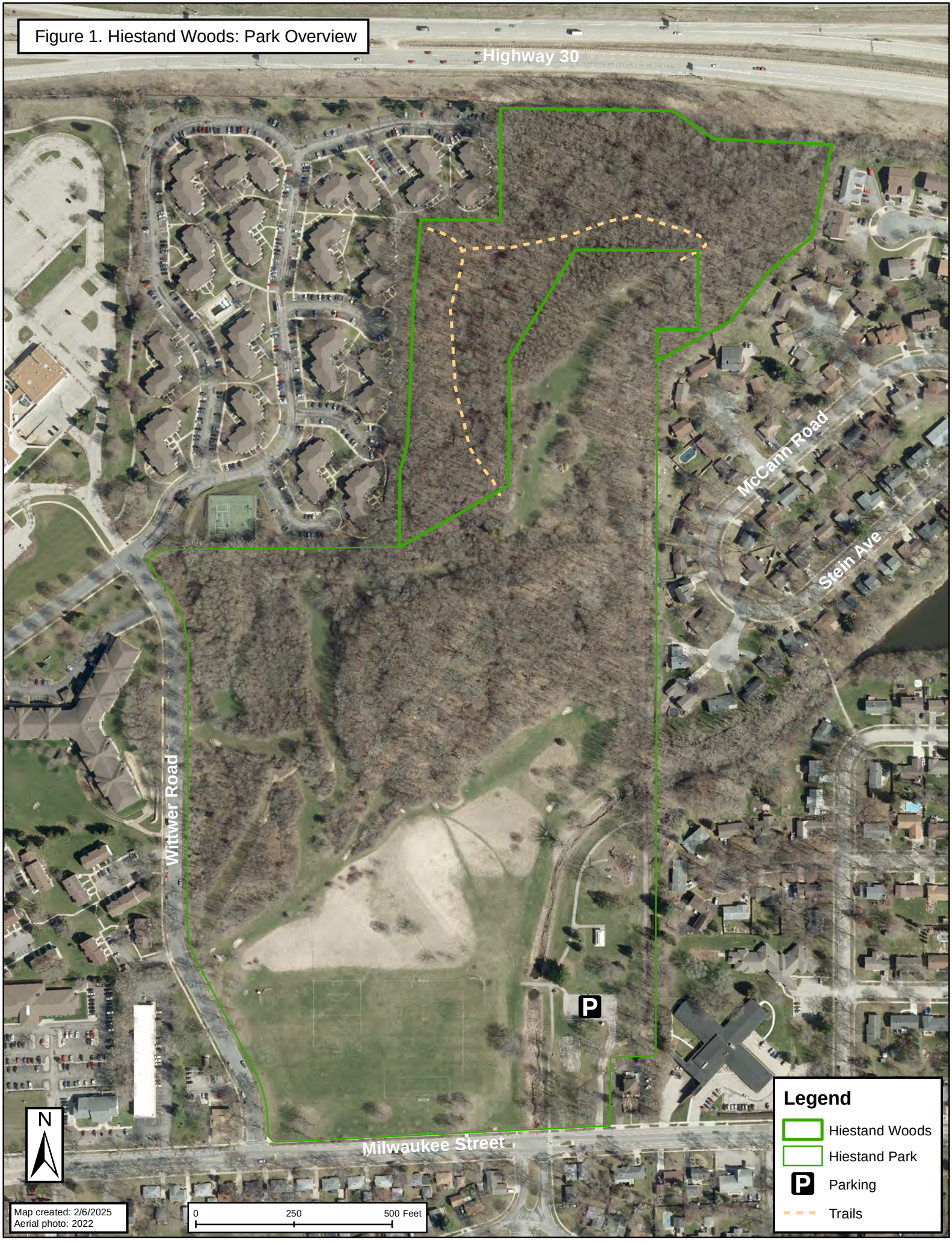


Figure 1. Hiestand Woods: Park Overview
Highway 30
McCann Road
Stein Ave
Wittwer Road
Milwaukee Street
P
N
Map created: 2/6/2025
Aerial photo: 2022
0
250
500 Feet
Legend
Hiestand Woods
Hiestand Park
Parking
Trails

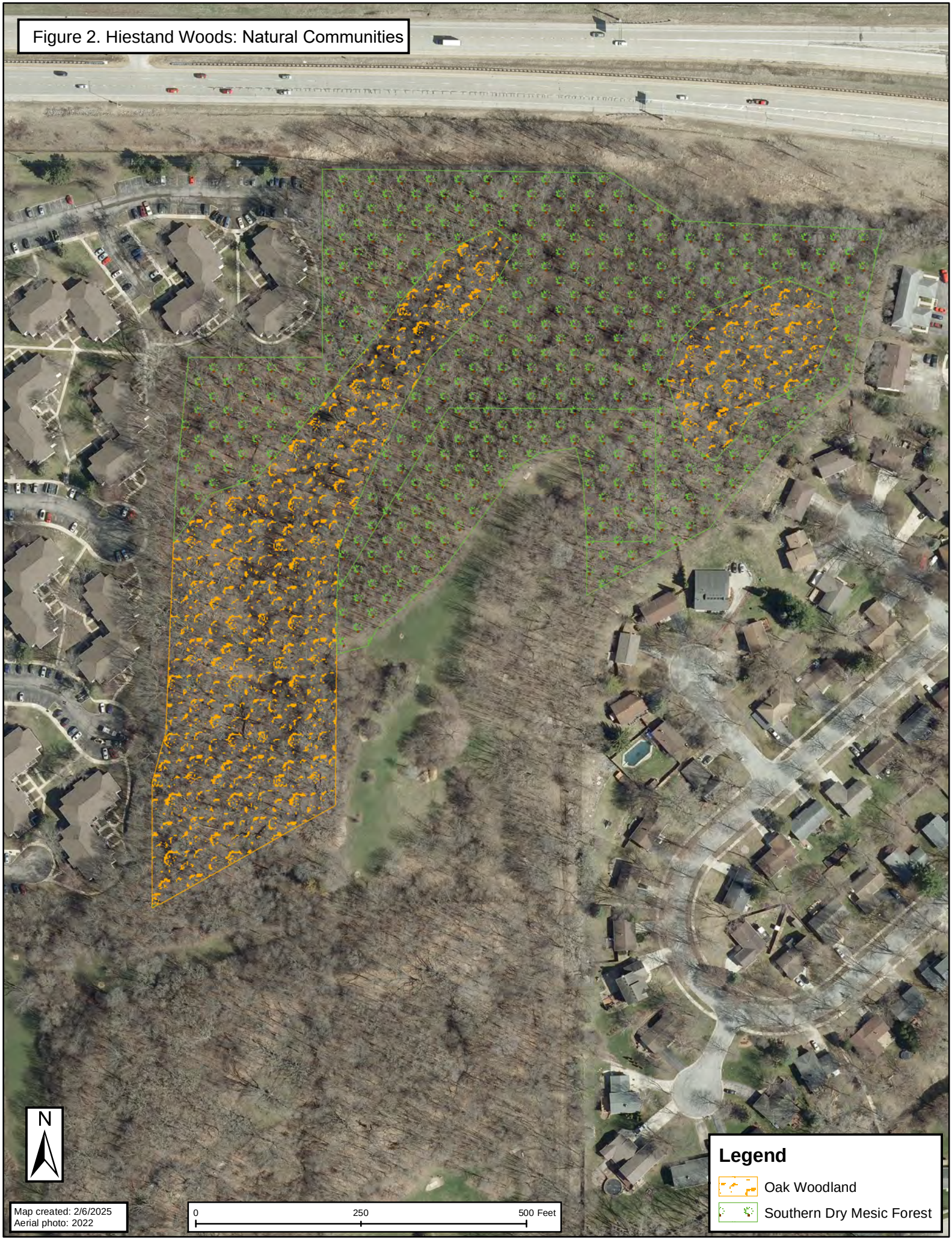


Figure 2. Hiestand Woods: Natural Communities
N
Legend
Oak Woodland
Southern Dry Mesic Forest
Map created: 2/6/2025
Aerial photo: 2022
0
250
500 Feet

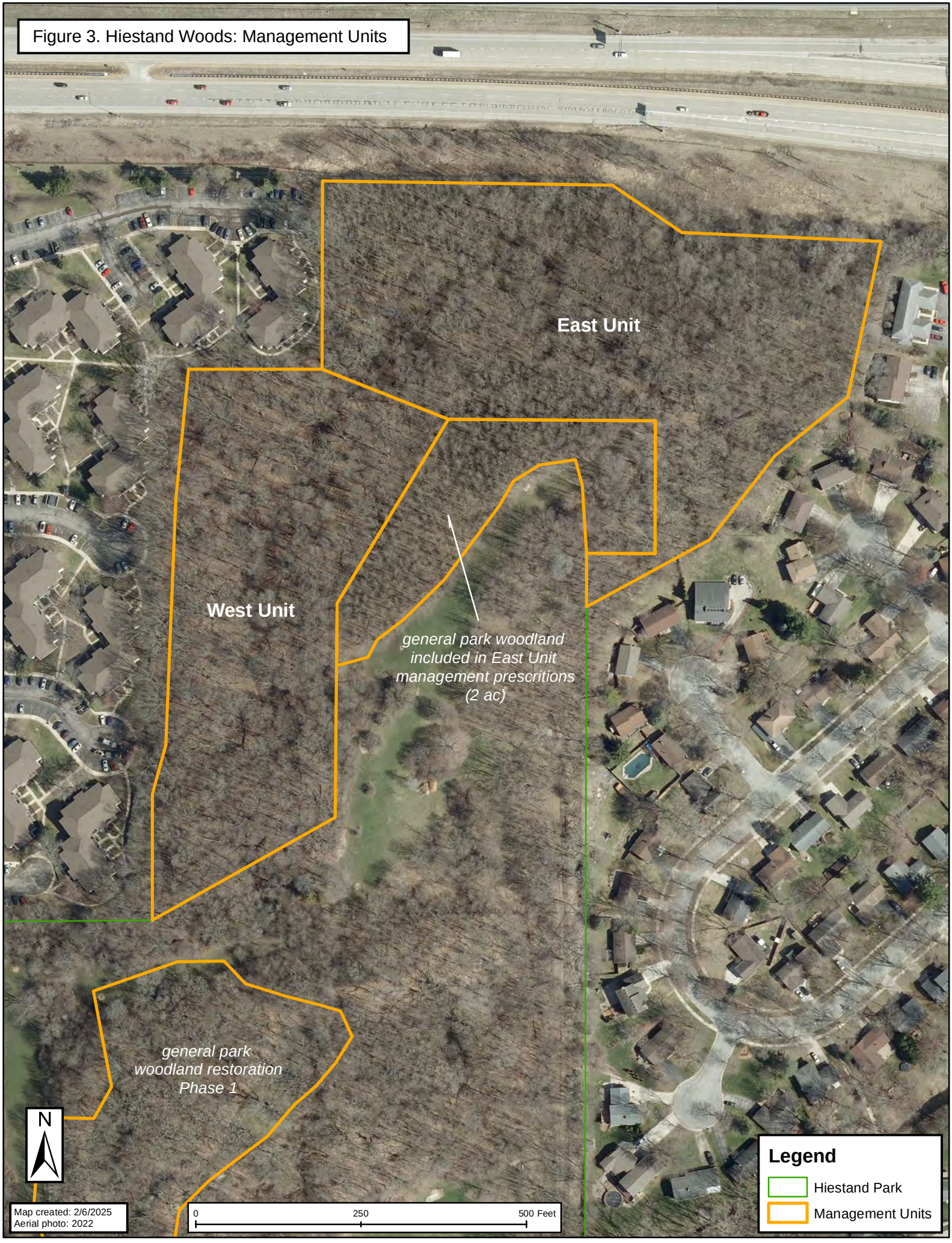


Figure 3. Hiestand Woods: Management Units
East Unit
West Unit
general park woodland included in East Unit management prescritions (2 ac)
general park woodland restoration Phase 1
N
Map created: 2/6/2025
Aerial photo: 2022
0
250
500 Feet
Legend
Hiestand Park
Management Units

Hiesteand Woods
9/9/2024

Vascular Plants

SCIENTIFIC NAME	COMMON NAME	Native	Introduced
Acer negundo	Box elder	X	
Actaea rubra	Red baneberry	X	
Agrimonia gryposepala	Tall agrimony	X	
Alliaria officinalis	Garlic mustard		X
Amphicarpa bracteata	Hog peanut	X	
Anemone quinquefolia interior	Wood anemone	X	
Arctium minus	Common burdock		X
Arisaema triphyllum	Jack-in-the-pulpit	X	
Asclepias exaltata	Poke milkweed	X	
Asclepias syriaca	Common milkweed	X	
Aster lateriflorus	Calico aster	X	
Carya ovata	Shagbark hickory	X	
Caulophyllum thalictroides	Blue cohosh	X	
Celtis occidentalis	Hackberry	X	
Circaea alpina	Small enchanter's nightshade	X	
Circaea quadrisulcata canadensis	Enchanter's nightshade	X	
Cornus alternifolia	Alternate-leaved dogwood	X	
Cornus racemosa	Gray dogwood	X	
Corylus americana	American hazelnut	X	
Cryptotaenia canadensis	Honewort	X	
Eupatorium rugosum	White snakeroot	X	
Geranium maculatum	Wild geranium	X	
Geum canadense	Wood avens, White avens	X	
Hesperis matrionalis	Dame's rocket		X
Hystrix patula	Bottlebrush grass	X	
Impatiens biflora	Spotted touch-me-not	X	
Juglans nigra	Black walnut	X	
Lactuca canadensis	Wild lettuce	X	
Leonurus cardiaca	Motherwort		X
Lonicera tatarica	Bush honeysuckle		X
Monotropa uniflora	Indian pipe	X	
Morus alba	White mulberry		X
Osmorhiza claytoni	Halry sweet cicely	X	
Osmorhiza longistylis	Smooth sweet cicely	X	
Ostrya virginiana	Hop hornbeam	X	
Parthenocissus quinquefolia	Virginia creeper	X	
Phytolacca americana	Pokeweed	X	
Polygonatum canaliculatum	Smooth solomon's seal	X	
Polygonum pensylvanicum laevigatum	Pennsylvania knotweed	X	
Populus grandidentata	Large-toothed aspen	X	

SCIENTIFIC NAME	COMMON NAME	Native	Introduced
Populus tremuloides	Quaking aspen	X	
Potentilla norvegica	Rough cinquefoil	X	
Prenanthes alba	Lion's foot	X	
Prunella vulgaris	Lawn prunella		X
Prunus pensylvanica	Pin cherry	X	
Prunus serotina	Wild black cherry	X	
Prunus virginiana	Choke cherry	X	
Quercus alba	White oak	X	
Quercus macrocarpa	Bur oak	X	
Quercus rubra	Red oak	X	
Rhamnus cathartica	Common buckthorn		X
Rhus radicans	Poison ivy	X	
Ribes missouriense	Wild gooseberry	X	
Robinia pseudo-acacia	Black locust		X
Rubus allegheniensis	Common blackberry	X	
Rubus occidentalis	Black raspberry	X	
Rudbeckia hirta	Black-eyed susan	X	
Sambucus canadensis	Elderberry	X	
Scrophularia lanceolata	Early figwort	X	
Smilacina racemosa	False solomon's seal	X	
Smilax lasioneura	Common carrion flower	X	
Solanum dulcamara	Bittersweet nightshade		X
Tilia americana	Basswood	X	
Torilis japonica	Hedge parsley		X
Ulmus americana	American elm	X	
Ulmus ruba	Slippery elm	X	
Urtica chamaedryoides	Nettle	X	
Uvularia grandiflora	Bellwort	X	
Vitis riparia	Riverbank grape	X	

total species	**69**
total native	**58**
total exotic	**11**

Animals- Birds

Source: eBird Field Checklist generated by eBird on 6/28/2023. (GBIF.org 2023)

State listings:
END = endangered
THR = threatened
SC/M = special concern, but fully protected by federal and state laws under the Migratory Bird Act

SGCN = Species of Greatest Conservation Need, as identified in the Wisconsin Wildlife Action Plan
SINS-Monitoring = Species has numerical conservation status ranks and sufficient information to be assessed, but does not meet SGCN criteria.
SINS-Ranking = Species for which there is basic information, but not enough to assign a numerical rank

See Wisconsin natural heritage working list website for more information:
https://dnr.wi.gov/topic/NHI/WList.html

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
American Crow	*Corvus brachyrhynchos*		
American Goldfinch	*Spinus tristis*		
American Redstart	*Setophaga ruticilla*		
American Robin	*Turdus migratorius*		
American Tree Sparrow	*Spizelloides arborea*		
Bald Eagle	*Haliaeetus leucocephalus*		
Baltimore Oriole	*Icterus galbula*		
Barn Swallow	*Hirundo rustica*		
Black-and-white Warbler	*Mniotilta varia*		
Black-billed Cuckoo	*Coccyzus erythropthalmus*		
Blackburnian Warbler	*Setophaga fusca*		
Black-capped Chickadee	*Poecile atricapillus*		
Black-throated Blue Warbler	*Setophaga caerulescens*		
Black-throated Green Warbler	*Setophaga virens*		
Blue Jay	*Cyanocitta cristata*		
Blue-gray Gnatcatcher	*Polioptila caerulea*		
Blue-headed Vireo	*Vireo solitarius*		
Blue-winged Warbler	*Vermivora cyanoptera*		
Broad-winged Hawk	*Buteo platypterus*		
Brown Creeper	*Certhia americana*		
Brown Thrasher	*Toxostoma rufum*		
Brown-headed Cowbird	*Molothrus ater*		
Canada Goose	*Branta canadensis*		
Canada Warbler	*Cardellina canadensis*		SINS-Monitoring
Cedar Waxwing	*Bombycilla cedrorum*		
Chestnut-sided Warbler	*Setophaga pensylvanica*		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Chimney Swift	*Chaetura pelagica*		
Chipping Sparrow	*Spizella passerina*		
Common Grackle	*Quiscalus quiscula*		
Common Merganser	*Mergus merganser*		
Common Redpoll	*Acanthis flammea*		
Common Yellowthroat	*Geothlypis trichas*		
Cooper's Hawk	*Accipiter cooperii*		
Dark-eyed Junco	*Junco hyemalis*		
Downy Woodpecker	*Dryobates pubescens*		
Eastern Bluebird	*Sialia sialis*		
Eastern Phoebe	*Sayornis phoebe*		
Eastern Screech-Owl	*Megascops asio*		
Eastern Towhee	*Pipilo erythrophthalmus*		
Eastern Wood-Pewee	*Contopus virens*		
European Starling	*Sturnus vulgaris*		
Fox Sparrow	*Passerella iliaca*		
Golden-crowned Kinglet	*Regulus satrapa*		
Golden-winged Warbler	*Vermivora chrysoptera*	SC/M	SGCN
Gray Catbird	*Dumetella carolinensis*		
Gray-cheeked Thrush	*Catharus minimus*		
Great Crested Flycatcher	*Myiarchus crinitus*		
Great Horned Owl	*Bubo virginianus*		
Hairy Woodpecker	*Dryobates villosus*		
Hermit Thrush	*Catharus guttatus*		
House Finch	*Haemorhous mexicanus*		
House Sparrow	*Passer domesticus*		
House Wren	*Troglodytes aedon*		
Indigo Bunting	*Passerina cyanea*		
Killdeer	*Charadrius vociferus*		
Least Flycatcher	*Empidonax minimus*	SC/M	SGCN
Magnolia Warbler	*Setophaga magnolia*		
Mallard	*Anas platyrhynchos*		
Mourning Dove	*Zenaida macroura*		
Mourning Warbler	*Geothlypis philadelphia*		
Nashville Warbler	*Leiothlypis ruficapilla*		
Northern Cardinal	*Cardinalis cardinalis*		
Northern Flicker	*Colaptes auratus*		
Northern Parula	*Setophaga americana*		
Orange-crowned Warbler	*Leiothlypis celata*		
Osprey	*Pandion haliaetus*		
Ovenbird	*Seiurus aurocapilla*		
Palm Warbler	*Setophaga palmarum*		SINS-Monitoring
Pine Siskin	*Spinus pinus*		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Red-bellied Woodpecker	*Melanerpes carolinus*		
Red-breasted Nuthatch	*Sitta canadensis*		
Red-eyed Vireo	*Vireo olivaceus*		
Red-tailed Hawk	*Buteo jamaicensis*		
Red-winged Blackbird	*Agelaius phoeniceus*		
Ring-billed Gull	*Larus delawarensis*		
Rock Pigeon	*Columba livia*		
Rose-breasted Grosbeak	*Pheucticus ludovicianus*		
Ruby-crowned Kinglet	*Corthylio calendula*	SC/M	SGCN
Ruby-throated Hummingbird	*Archilochus colubris*		
Sandhill Crane	*Antigone canadensis*		
Savannah Sparrow	*Passerculus sandwichensis*		
Scarlet Tanager	*Piranga olivacea*		
Song Sparrow	*Melospiza melodia*		
Swainson's Thrush	*Catharus ustulatus*	SC/M	SGCN
Tennessee Warbler	*Leiothlypis peregrina*		
Tree Swallow	*Tachycineta bicolor*		
Tufted Titmouse	*Baeolophus bicolor*		
Turkey Vulture	*Cathartes aura*		
Veery	*Catharus fuscescens*		
Warbling Vireo	*Vireo gilvus*		
White-breasted Nuthatch	*Sitta carolinensis*		
White-throated Sparrow	*Zonotrichia albicollis*		
Wild Turkey	*Meleagris gallopavo*		
Winter Wren	*Troglodytes hiemalis*		
Wood Thrush	*Hylocichla mustelina*		SINS-Monitoring
Yellow Warbler	*Setophaga petechia*		
Yellow-bellied Sapsucker	*Sphyrapicus varius*		
Yellow-billed Cuckoo	*Coccyzus americanus*		
Yellow-rumped Warbler	*Setophaga coronata*		
total species	**99**	**4**	**7**

Appendix C. Madison Parks Natural Areas Monitoring Goals

August 2023

Monitoring is necessary to track the success of restoration efforts as well as the overall quality of the habitat being managed. Data collected can quantify results, show trends in natural area health, and reveal potential concerns. The following framework identifies some possible monitoring subjects and strategies. Objectives and tasks can be implemented and completed as staff and volunteer capacity allow.

Much information can be gained by engaging and supporting various formal community science programs, and less formal community-populated databases. Data from many of these are accessible from the individual host organizations, as well as through clearing houses such as the Global Biodiversity Information Facility (GBIF) Many volunteers currently conduct monitoring within conservation parks and other natural areas. These programs are recognized below as well.

Taxa: Plants

Objectives:

1. Complete and update species inventories for each park, and each management unit where applicable (Managed Meadow, Woodland, management unit within a conservation park, etc.).

   Tasks:

   a. Conduct meander surveys three times during the growing season to compile and update plant species list.

2. Determine and track floristic quality in managed natural areas

   Tasks:

   a. Establish permanent transects with randomized 1m^2 plots (quadrats)

   b. Survey quadrats and record percent cover of each species present.

   c. Analyze data to calculate species richness, diversity, and Floristic Quality Index.

Taxa: Insects

Objectives:

1. Complete overall species inventory per park

   Tasks:

   a. Conduct daytime surveys with sweep nets

   b. Conduct nighttime surveys with light traps

   c. Conduct surveys of soil surface insect fauna

2. Monitor pollinator abundance and species composition

   Tasks:

   a. Collect data using Wisconsin Bumble Bee Brigade protocols

   b. Support the Integrated Monarch Monitoring Program

   c. Collect data using Pollard transects to target butterflies

   d. Support the Wisconsin Odonata Survey

Taxa: Herptiles

Objectives:

1. Complete overall species inventory per park

   Tasks:

   a. Conduct surveys with funnel traps

2. Conduct breeding survey

   Tasks:

   a. Establish Wisconsin Frog and Toad Survey phenology survey locations where appropriate

Taxa: Birds

Objectives:

1. Conduct surveys and document species present.
2. Analyze data available from eBird through the Global Biodiversity Information Facility (GBIF)

   Tasks:

   a. Download data sets for each park