

Site information

Address: 7214 Longmeadow Road. A paved bike path crosses the southern end of the park and connects Longmeadow Road to Middleton Street. The park can also be accessed from the City of Middleton's Stricker Park at 7605 Voss Parkway, Middleton, via the hiking trail.

Acreage: 13.49 acres (includes open water in south end of pond)

Site summary: This park features a kettle pond and oak woodland habitat, and provides an important stopover site for migrating birds. A storm water catchment basin and surrounding tallgrass prairie planting occupy the southeast portion of the park.

Adjacent lands: Adjacent natural areas and areas of ecological significance include Stricker Park in the City of Middleton, the remainder of the pond, and a wooded slope in Wexford Park, upstream to the south.

Alder district: District 19 – Alder Keith Furman

Conservation values

Stricker's Pond features a glacial kettle depression that historically had variable water levels. As farmland was replaced by residential development in the watershed, storm water runoff increased and a permanent pond now occupies former marshland. A series of very wet years in the 1990's resulted in flooding and pollution that killed emergent plants and shoreline trees, and contributed to excessive algae growth.

In 2000, the City of Middleton and the City of Madison cooperated to alleviate these problems. A forebay was constructed on the south end of the pond to capture incoming sediment, and a water control structure was installed at the northeast corner of the pond, to manage water levels by allowing drainage to nearby Tiedeman's Pond. Seven species of native emergent plants were installed in the shallows.

Water quality in the pond is still impaired due to its population of introduced goldfish. Related to carp, goldfish feed on the bottom, stirring sediment and nutrients into the water column, increasing turbidity. This degrades habitat for aquatic insects and other fish species, and also contributes to the extremely low diversity and abundance of aquatic plants. Of the seven species planted in the early 2000s, only American lotus had survived by 2018, when extreme rainfall events elevated the water level and wiped out the lotus as well.

Despite these challenges, Stricker's Pond, like Tiedeman's Pond, provides valuable habitat for migratory birds with its open water, natural shoreline, and adjacent upland prairie and woodland habitat. Several state-listed threatened and endangered birds have been observed at Stricker's Pond, including 22 species identified as Species of Greatest Conservation Need (SGCN) in Wisconsin's Wildlife Action Plan (DNR 2015).

Nine of these are waterfowl or wading birds that are likely attracted to the pond itself or the small amount of emergent marsh habitat found in the forebay and at the northern end of the pond. Common Nighthawks have been observed in May, August and September, likely when large numbers pass through our area during migration. Aquatic insects emerging in spring may provide an important food source for them. Similarly, the park provides habitat for several species of migrating and breeding upland birds including both rare and more common warblers, flycatchers, swallows and thrushes.

The site also provides valuable bat habitat. A 2017 acoustic monitoring survey detected three species of bats in the woodland within the park, including little brown bat, big brown bat, and northern long-eared bat.

Appendix B contains lists of bird and vascular plant species observed at the park.

The park, along with the majority of Madison, is located within a “high potential zone” for the federally-endangered [Rusty Patched Bumble Bee](#) (*Bombus affinis*), and its presence should be assumed within this area, which has been delineated by the USFWS (2019).

Madison Parks' Land Management Plan (2017) outlines the main habitat types found in the City's conservation parks. These general types can be further classified into “Recognized Natural Communities” described by the Wisconsin Natural Heritage Inventory (2018). This helps us to provide more technical and specific restoration targets based on the nuances of each park. The main habitat types that occur at Stricker's Pond are below, with the appropriate corresponding NHI-recognized natural communities listed under each one.

Tallgrass prairie (Madison Parks)
Mesic Prairie (NHI)

Oak savanna / Oak woodland (Madison Parks)
Oak Woodland (NHI)
Southern Dry Forest (NHI)
Southern Dry-Mesic Forest (NHI)

Emergent Marsh (Madison Parks)
Emergent Aquatic (NHI)

Appendix A.2 is a map showing the location of community types within the park.

Ecological threats

Invasive species – On the uplands, much of the woodland understory is dominated by buckthorn and honeysuckle, and garlic mustard remains an important herbaceous weed. Smaller amounts of Asian bittersweet and creeping bellflower also occur. Reed canary grass is established along the shoreline and crown vetch and bird's-foot trefoil occur in the prairie planting. As discussed above, the pond itself is being degraded by goldfish.

Fire suppression – Much of the oak woodland in the park is overgrown and infested with non-native shrubs. The canopy has closed in many areas, and leaf litter and garlic mustard occupy the ground layer, rather than native sedges and forbs.

Conservation goals

- 1. Restore and maintain oak woodland.*
Removal of invasive shrubs, thinning of selected canopy trees, and installation of native seed have begun to restore the appropriate structure and species composition to the fire-suppressed woodland. Priorities for management include expanding this work to the remainder of the woodland in the park and promoting oak regeneration.
- 2. Maintain upland native herbaceous plant diversity and natural community vegetation structure.*
Management objectives and prescriptions should consider both species and habitat diversity, and ensure that actions result in a heterogeneous landscape. Efforts to control the density of woody species should ensure that native shrubs are retained.
- 3. Promote habitat for Rusty Patched Bumble Bee (*Bombus affinis*)*
Management activities should be reviewed to ensure they avoid negative impacts to this species, and emphasis should be placed on improving and increasing habitat for it.

4. *Monitor the various major taxonomic groups in order to inform management decisions.*

Increased monitoring is a broader goal of the Conservation Park program. At Stricker's Pond, efforts should focus on surveying aquatic invertebrate, amphibian, and Rusty Patched Bumble Bee populations, as well as quantifying plant species richness and diversity.

5. *Restore aquatic plant community and habitat for native aquatic animals.*

Future efforts should focus on cooperating with the City of Middleton to eradicate the goldfish population and restore the pond itself. This will require a considerable public education effort and a substantially funded aquatic plant restoration project. This goal is not specifically addressed in this current version of the Stricker's Pond habitat management plan.

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 Stricker's Pond should pay specific attention to the following:

Smoke management – Surrounding residential development limits opportunities for burning this site. Care must be taken to minimize smoke impacts to surrounding residences.

Management history

In 2016, Parks staff began systematically clearing invasive shrubs including honeysuckle, common buckthorn, and European highbush cranberry from the oak woodland. They have also worked to control Asian bittersweet and creeping bellflower. A prescribed burn was conducted in May 2018.

These efforts build on years of earlier volunteer work aimed at reducing buckthorn seed production and garlic mustard abundance. Ongoing volunteer efforts also include controlling reed canary grass, crown vetch, and bird's-foot trefoil along the shoreline and in the prairie.

The hiking trail was resurfaced with gravel and a new footbridge was installed in 2017.

Management units

The park can be divided into four management units based on location and habitat type. See Appendix A.3 for a map of management units.

West Unit (2 ac) Mesic oak woodland with a mix of oak species and an understory of black cherry and buckthorn. Supports a moderate population of native woodland herbaceous species. This unit consists of all the upland west of the hiking trail.

East Unit (1 ac) Similar to West Unit. Recent invasive shrub removal efforts have focused here, and the unit was burned in spring 2018. This unit consists of all the upland east of the hiking trail.

Pond (5 ac) The portion of the pond within the City of Madison currently provides about 5 acres of open water habitat. A large American lotus bed in the southeast corner of the pond previously covered about 2 acres, but did not grow back after a long period of high water in 2018. Although very small patches of emergent marsh occur on the south end of the pond, the majority of the pond lacks an emergent and submergent native plant community.

Prairie Unit (4 ac) Located in the south end of the park, this unit encompasses the constructed forebay and surrounding prairie planting. The City Engineering Division currently mows this unit to control brush and crown vetch. Volunteers currently assist this effort with herbicide applications to crown vetch and bird's-foot trefoil.

Prescriptions/Options

Options for three levels of management are presented in this plan: maintenance only, moderate restoration, and extensive restoration.

Management Level 1 "maintenance only" is NOT recommended for any of the conservation parks at this time. Restricting ecological management to areas recently treated is not sustainable within the context of existing adjacent invasive species populations and dispersal corridors, both within and outside of a given park.

Management Level 2 "moderate restoration" is based on the current Conservation section budget, staff capacity, and work accomplished in the past two years. This is the level at which we currently operate.

Management Level 3 "extensive restoration" could only be accomplished with increased staffing in the Conservation Parks section, in order to conduct the in-house work outlined below, as well as manage and volunteers and Capital Improvement Project contracts.

Under management level 3, costs will eventually decrease then plateau, as all management units within a park come under active management. With initial restoration completed, treatment areas and the park as a whole, will transition from a "restoration phase" to a "maintenance phase". Once a healthy, diverse, native plant community has become established park-wide, it can be maintained with much fewer resources. Internal ecological threats will have been minimized, and regular burning and occasional control of new populations of invasive species will be sufficient to sustain the natural area at its new equilibrium. Only then will the "maintenance only" option be successful.

Management Level 1 (maintenance only)

Objectives:

- Follow-up effort to control invasive species only in areas previously treated.
- Burn woodland units on 4-year return interval.
- Mow brush in woodland between burns.

Annual Budget Estimate:

Task	Annual cost
Invasive species treatments (spring, summer)	\$800
Trim trails	\$700
Brush mowing	\$350
Invasive species treatments (fall)	\$500
Burns (average one every other year)	\$1,000
Totals	\$3,350

Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Spring 2020	East	Rx burn
Spring 2020	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts (staff and volunteers)
Fall 2020	West	Cut/treat or foliar spray Asian bittersweet
Spring 2021	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts (staff and volunteers)
Summer/Fall 2021	West	Mow brush
Fall 2021	West	Cut/treat or foliar spray Asian bittersweet
Spring 2022	West	Rx burn
Spring 2022	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts (staff and volunteers)
Fall 2022	West	Cut/treat or foliar spray Asian bittersweet
Spring 2023	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts (staff and volunteers)
Summer/Fall 2023	East	Mow brush
Fall 2023	West	Cut/treat or foliar spray Asian bittersweet
Spring 2024	East	Rx burn
Spring 2024	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts (staff and volunteers)
Fall 2024	West	Cut/treat or foliar spray Asian bittersweet

Possible Burn Schedule – average one burn every other year:

year	1	2	3	4	5	6	7	8	9	10
East	x				x				x	
West			x				x			

Management Level 2 (moderate restoration)

Objectives:

- Follow-up effort to control invasive species on acres previously treated.
- Expand oak woodland restoration throughout remainder of woodland.
- Collect and sow native seed to increase diversity and augment native plant community.
- Burn woodland units on 3-year return interval.
- Mow brush in woodland occasionally as needed to control raspberries and invasive shrub re-sprouts.
- Survey for Rusty Patched Bumble Bee.

Annual Budget Estimate:

Task	Annual cost
Invasive species treatments (spring, summer)	\$1,500
Trim trails	\$700
Trail improvements (gravel, water bars, etc.)	\$500
Brush mowing	\$200
Invasive species treatments (fall)	\$2,100
Burns (average one burn per year)	\$2,000
totals	\$7,000

Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Spring 2020	East	Rx burn
Spring 2020	East	Sow native seed after burn
Spring 2020	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2020	West	Mow brush
Summer 2020	all	Survey for Rusty Patched Bumble Bee (volunteers)
Fall 2020	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Spring 2021	West (north half)	Rx burn
Spring 2021	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2021	East	Mow brush
Summer 2021	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer/Fall 2021	West	Collect and sow native seed (volunteers and OFS)
Fall 2021	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Spring 2022	West (south half)	Rx burn
Spring 2022	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2022	West	Mow brush
Summer 2022	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer/Fall 2022	West	Collect and sow native seed (volunteers and OFS)
Fall 2022	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn

Timeline	Unit(s)	Task
Spring 2023	East	Rx burn
Spring 2023	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2023	West	Mow brush
Summer 2023	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer/Fall 2023	East	Collect and sow native seed (volunteers and OFS)
Fall 2023	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Spring 2024	West (north half)	Rx burn
Spring 2024	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2024	East	Mow brush
Summer 2024	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer/Fall 2024	West	Collect and sow native seed (volunteers and OFS)
Fall 2024	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn

Possible burn schedule – average one burn per year:

year	1	2	3	4	5	6	7	8	9	10
East	x			x			x			x
West (N)		x			x			x		
West (S)			x			x			x	

Management Level 3 (extensive restoration)

Objectives:

- Follow-up effort to control invasive species on acres previously treated.
- Expand oak woodland restoration in Loop Unit throughout remainder of woodland.
- Purchase and install native seed mixes and native plugs to increase diversity and augment native plant community.
- Upland units on 2-3 year return interval. Burn no more than ½ of prairie habitat in one season to conserve invertebrate diversity.
- Survey for Rusty Patched Bumble Bee.

Annual Budget Estimate:

Task	Annual cost
Invasive species treatments (spring, summer)	\$2,200
Trim trails	\$700
Trail improvements (gravel, water bars, etc.)	\$500
Invasive species treatments (fall)	\$3,150
Woody debris reduction	\$1,050
Burns (average 2 per year)	\$4,000
Purchase and install native seed mix and plugs	\$1,000
totals	\$12,600

Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Spring 2020	East Prairie (east half)	Rx burn
Spring 2020	East	Install native seed mix and plugs after burn (staff and volunteers)
Spring 2020	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2020	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer 2020	Prairie	Mow and spray crown vetch and bird's-foot trefoil (staff and volunteers)
Fall 2020	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Fall 2020	East	Girdle selected cherries to thin overstory canopy
Winter 2021	East	Woody debris reduction
Spring 2021	West Prairie (west half)	Rx burn
Spring 2021	West	Install native seed mix and plugs after burn
Spring 2021	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2021	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer 2021	Prairie	Mow and spray crown vetch and bird's-foot trefoil (staff and volunteers)
Fall 2021	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Winter 2022	West	Woody debris reduction

Timeline	Unit(s)	Task
Spring 2022	East Prairie (east half)	Rx burn
Spring 2022	Prairie	Install native seed mix and plugs after burn
Spring 2022	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2022	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer 2022	Prairie	Mow and spray crown vetch and bird's-foot trefoil (staff and volunteers)
Fall 2022	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Winter 2023	West	Woody debris reduction
Spring 2023	West Prairie (west half)	Rx burn
Spring 2023	East	Install native seed mix after burn
Spring 2023	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2023	All	Survey for Rusty Patched Bumble Bee (volunteers)
Summer 2023	Prairie	Mow and spray crown vetch and bird's-foot trefoil (staff and volunteers)
Fall 2023	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn
Spring 2024	East Prairie (east half)	Rx burn
Spring 2024	West	Install native seed mix after burn
Spring 2024	East West	Spray or hand pull garlic mustard and burdock; spray woody re-sprouts; spray reed canary grass (staff and volunteers)
Summer 2024	all	Survey for Rusty Patched Bumble Bee (volunteers)
Summer 2024	Prairie	Mow and spray crown vetch and bird's-foot trefoil (staff and volunteers)
Fall 2024	West	Cut/treat or foliar spray Asian bittersweet; cut/treat buckthorn

Possible burn schedule – average 2 burns per year:

year	1	2	3	4	5	6	7	8	9	10
East	x		x		x		x		x	
West		x		x		x		x		x
Prairie (E)	x		x		x		x		x	
Prairie (W)		x		x		x		x		x

Monitoring and Evaluation

Measuring results is critical to determining success. Parks conservation staff have developed a monitoring plan to begin to measure and track ecological health and the success of restoration efforts in the conservation parks. Refer to Appendix C for an outline of this plan.

While the Conservation Parks section currently has very limited capacity to increase monitoring efforts, we hope to expand our reach by working with the US Fish and Wildlife Service, the Wisconsin Department of Natural Resources, the University of Wisconsin at Madison, and independent volunteers. Both formal research and citizen science will provide crucial information on which to base management decisions. With this in mind, basic, periodic monitoring can be performed by staff or volunteers to collect data about mammals, birds, reptiles and amphibians, invertebrates, and vascular plants. A few key metrics that should be used at Stricker's Pond include plant and animal diversity, and abundance of invasive species.

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

- Update/verify plant and animal species lists.
- Conduct surveys for Rusty Patched bumble Bee using the USFWS protocol at: <https://www.fws.gov/midwest/endangered/insects/rpbb/surveys.html>
- Sample plant communities to collect data on richness and cover, then calculate diversity and floristic quality indices.
- Conduct photo monitoring on 2-year intervals.

See Appendix A.5 for a map of planned plant monitoring transects and photo monitoring stations.

References

Madison Parks. 2017. *Land Management Plan: City of Madison Parks*. City of Madison, Parks Division, Madison.

U.S. Fish and Wildlife Service. 2019. Endangered Species: Rusty Patched Bumble Bee. <https://www.fws.gov/midwest/endangered/insects/rpbb/index.html> Accessed May 15, 2019.

Nelson Institute for Environmental Studies. 2016. *2016 Water Resources Management Practicum Report*. University of Wisconsin, Madison.

Wisconsin Department of Natural Resources. 2018. Wisconsin's Natural Communities. <http://dnr.wi.gov/topic/EndangeredResources/Communities.asp> Accessed February 8, 2018.

Wisconsin Department of Natural Resources. 2019. Wisconsin Bat Program Acoustic Survey Legend and Results. <http://wiatri.net/Inventory/Bats/volunteer/Results/> Accessed October 25, 2019.

Document History

This Habitat Management Plan is consistent with Madison Parks' Land Management Plan. This Habitat Management Plan has 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
10/25/2019	First draft, presented to HSC in November 2019

Appendices

- A. Maps
 - A.1 Park Overview
 - A.2 Natural Communities
 - A.3 Management Units
 - A.4 Prescribed Burns
 - A.5 Monitoring
- B. Species Lists
- C. Conservation Parks Monitoring Plan

Appendix A.1. Stricker's Pond Conservation Park: Park Overview

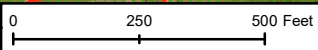


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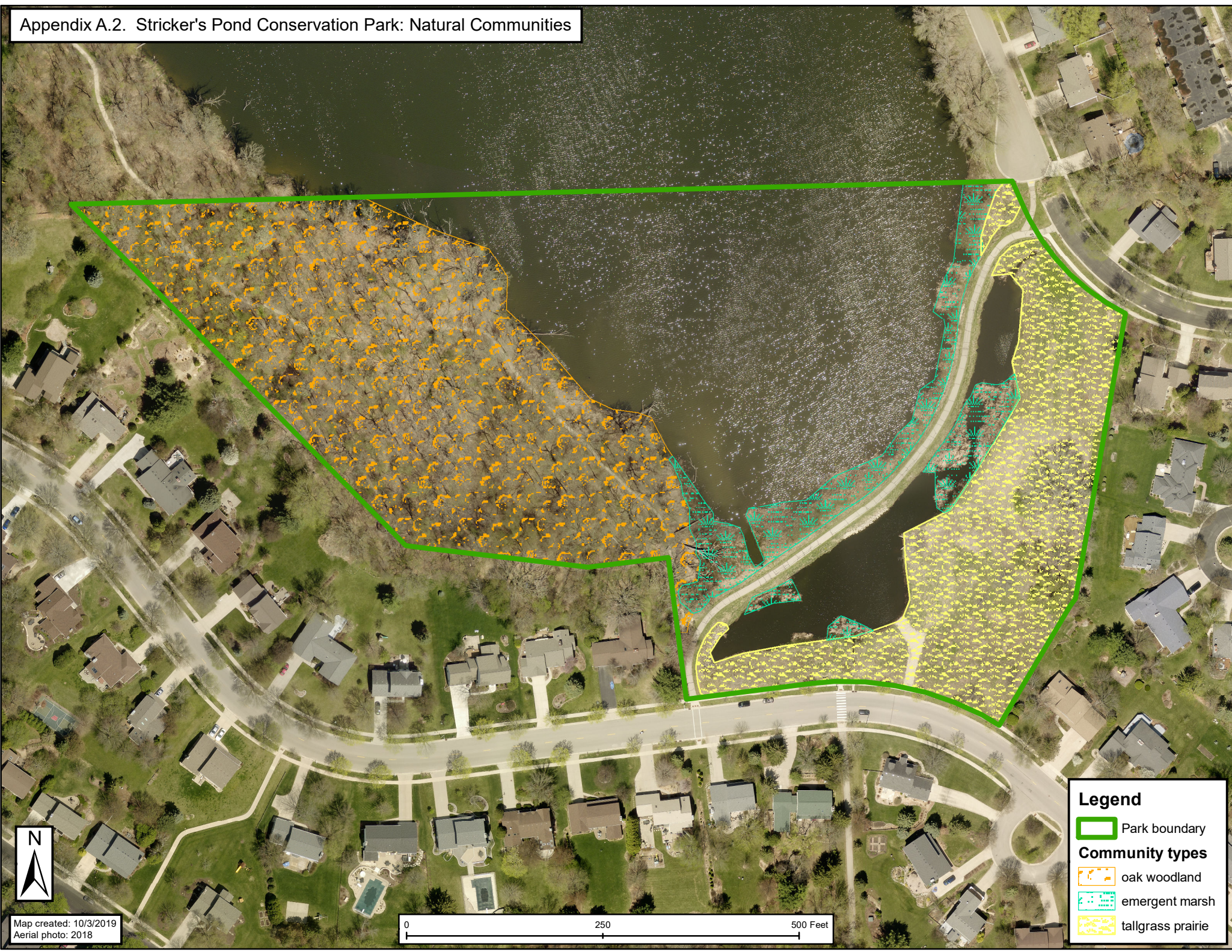
- Bike Paths
- Trails
- City of Madison**
 - Stricker's Pond
 - Wexford Park
- City of Middleton**
 - conservancy land
 - park land



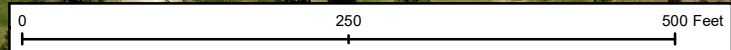
Map created: 10/3/2019
Aerial photo: 2018



Appendix A.2. Stricker's Pond Conservation Park: Natural Communities



Map created: 10/3/2019
Aerial photo: 2018



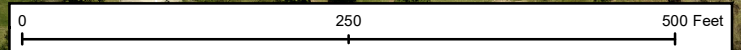
Legend

- Park boundary
- Community types**
- oak woodland
- emergent marsh
- tallgrass prairie


Appendix A.3. Stricker's Pond Conservation Park: Management Units



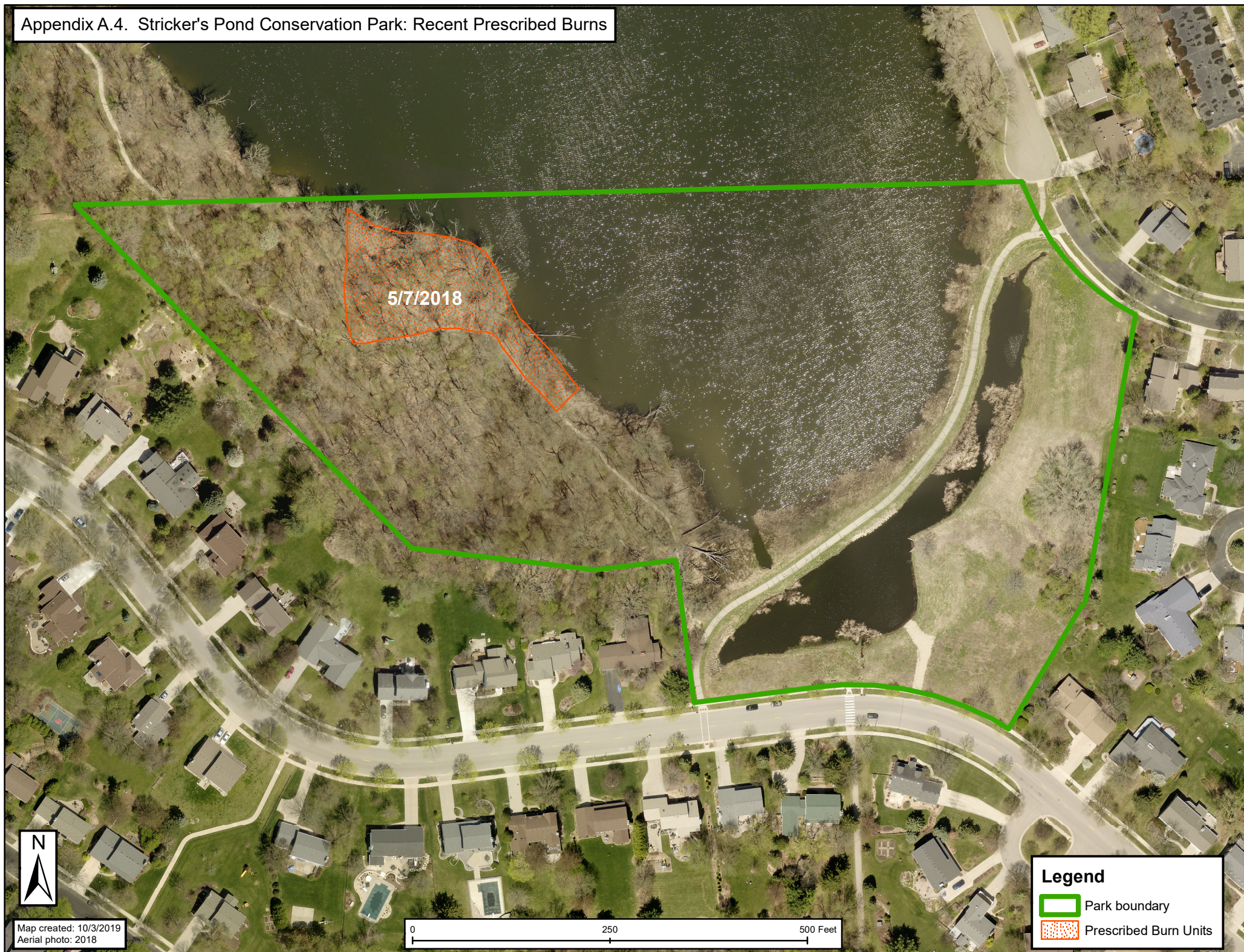
Map created: 10/11/2019
Aerial photo: 2018



Legend

 Management Units

Appendix A.4. Stricker's Pond Conservation Park: Recent Prescribed Burns





5/7/2018



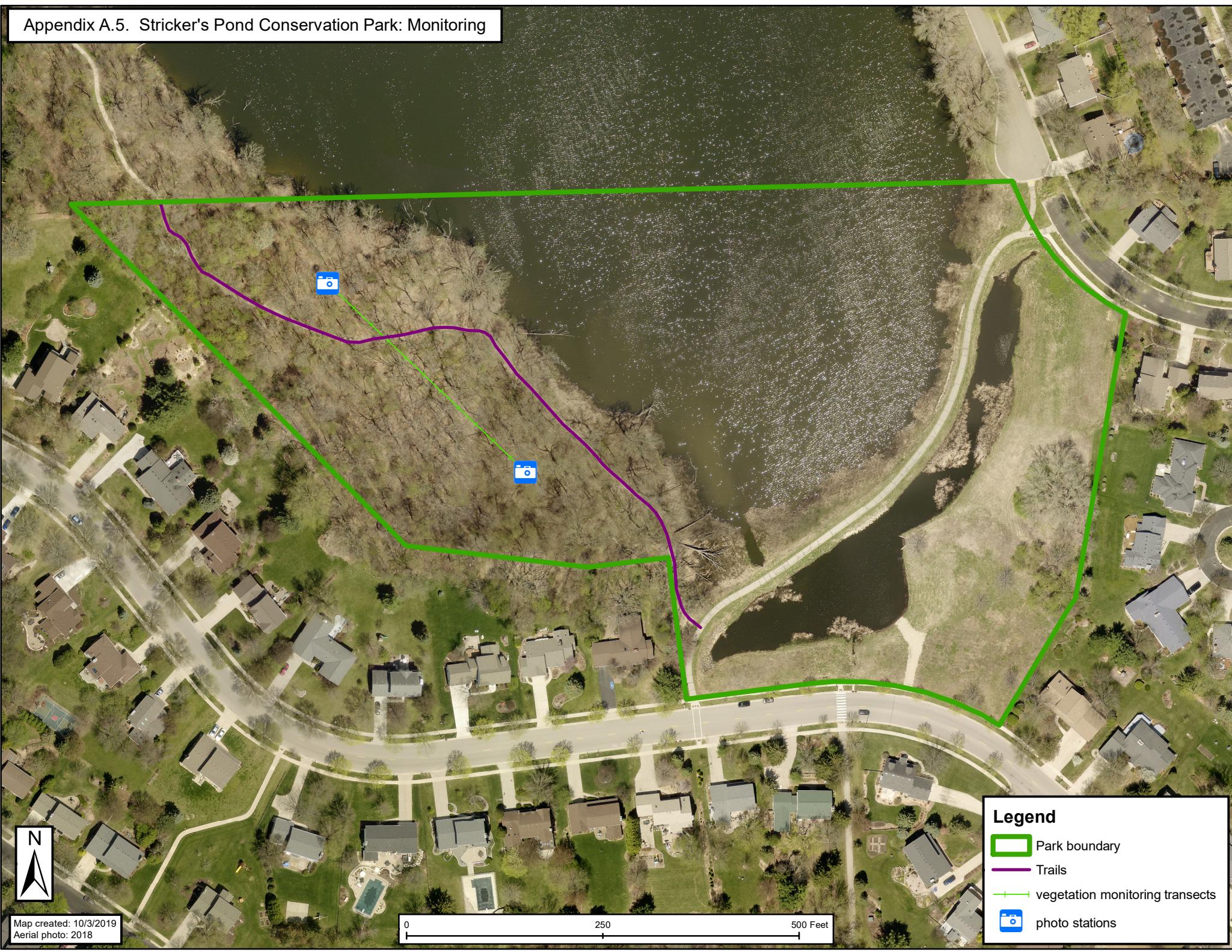
Map created: 10/3/2019
Aerial photo: 2018

0 250 500 Feet

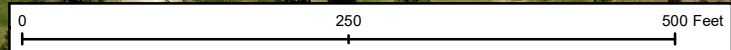
Legend

-  Park boundary
-  Prescribed Burn Units





Appendix A.5. Stricker's Pond Conservation Park: Monitoring



Map created: 10/3/2019
Aerial photo: 2018



Legend

-  Park boundary
-  Trails
-  vegetation monitoring transects
-  photo stations

Animals- Birds

Source: eBird Field Checklist generated by eBird on 6/4/2019. (GBIF.org 2019)

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 Bittern	Botaurus lentiginosus	SC/M	SGCN
American Black Duck	Anas rubripes	SC/M	SGCN
American Coot	Fulica americana		
American Crow	Corvus brachyrhynchos		
American Goldfinch	Spinus tristis		
American Redstart	Setophaga ruticilla		
American Robin	Turdus migratorius		
American Tree Sparrow	Spizelloides arborea		
American White Pelican	Pelecanus erythrorhynchos		
American Widgeon	Anas americana		SINS-Ranking
Bald Eagle	Haliaeetus leucocephalus		
Baltimore Oriole	Icterus galbula		
Bank Swallow	Riparia riparia		
Barn Swallow	Hirundo rustica		
Bay-breasted Warbler	Setophaga castanea		
Belted Kingfisher	Megaceryle alcyon		
Black Tern	Chlidonias niger		
Black-and-white Warbler	Mniotilta varia		
Blackburnian Warbler	Setophaga fusca		
Black-capped Chickadee	Poecile atricapillus		
Black-crowned Night-Heron	Nycticorax nycticorax	SC/M	SGCN
Blackpoll Warbler	Setophaga striata		
Black-throated Green Warbler	Setophaga virens		
Blue Jay	Cyanocitta cristata		
Blue-gray Gnatcatcher	Polioptila caerulea		
Blue-headed Vireo	Vireo solitarius		
Blue-Winged Teal	Anas discors		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Blue-winged Warbler	Vermivora cyanoptera		
Bonaparte's Gull	Chroicocephalus philadelphia		
Broad-winged Hawk	Buteo platypterus		
Brown Creeper	Certhia americana		
Brown Thrasher	Toxostoma rufum		SINS-Monitoring
Brown-headed Cowbird	Molothrus ater		
Bufflehead	Bucephala albeola		
Cackling Goose	Branta hutchinsii		
Canada Goose	Branta canadensis		
Canada Warbler	Cardellina canadensis		SINS-Monitoring
Canvasback	Aythya valisineria		
Cape May Warbler	Setophaga tigrina		
Carolina Wren	Thryothorus ludovicianus		
Caspian Tern	Hydroprogne caspia	END	SGCN
Cedar Waxwing	Bombycilla cedrorum		
Chestnut-sided Warbler	Setophaga pensylvanica		
Chimney Swift	Chaetura pelagica		
Chipping Sparrow	Spizella passerina		
Clay-colored Sparrow	Spizella pallida		
Cliff Swallow	Petrochelidon pyrrhonota		
Common Goldeneye	Bucephala clangula	SC/M	SGCN
Common Grackle	Quiscalus quiscula		
Common Loon	Gavia immer		SINS-Monitoring
Common Merganser	Mergus merganser		
Common Nighthawk	Chordeiles minor	SC/M	SGCN
Common Redpoll	Acanthis flammea		
Common Scoter	Melanitta nigra		
Common Yellowthroat	Geothlypis trichas		
Cooper's Hawk	Accipiter cooperi		
Dark-eyed Junco	Junco hyemalis		
Double-crested Cormorant	Phalacrocorax auritus		
Downy Woodpecker	Dryobates pubescens		
Dunlin	Calidris alpina		
Eastern Bluebird	Sialia sialis		
Eastern Kingbird	Tyrannus tyrannus		
Eastern Meadowlark	Sturnella magna		
Eastern Phoebe	Sayornis phoebe		
Eastern Towhee	Pipilo erythrophthalmus		
Eastern Wood-Pewee	Contopus virens		
European Starling	Sturnus vulgaris		
Field Sparrow	Spizella pusilla		SINS-Monitoring
Forster's Tern	Sterna forsteri	END	SGCN
Fox Sparrow	Passerella iliaca		

**Wi DNR
Wisconsin Wildlife
Action Plan**

COMMON NAME	SCIENTIFIC NAME	state listing	Action Plan
Franklin's Gull	Leucophaeus pipixcan		
Gadwall	Anas strepera		
Golden-crowned Kinglet	Regulus satrapa		
Golden-winged Warbler	Vermivora chrysoptera	SC/M	SGCN
Gray Catbird	Dumetella carolinensis		
Gray-cheeked Thrush	Catharus minimus		
Great Blue Heron	Ardea herodias		
Great Crested Flycatcher	Myiarchus crinitus		
Great Egret	Ardea alba	THR	SGCN
Great Horned Owl	Bubo virginianus		
Greater Scaup	Aythya marila		
Greater White-fronted Goose	Anser albifrons		
Greater Yellowlegs	Tringa melanoleuca		
Green Heron	Butorides virescens		
Green-winged Teal	Anas crecca		
Harris's Sparrow	Zonotrichia querula		
Hermit Thrush	Catharus guttatus		
Herring Gull	Larus argentatus		
Hooded Merganser	Lophodytes cucullatus		
Horned Grebe	Podiceps auritus		
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
Least Sandpiper	Calidris minutilla		
Lesser Black-backed Gull	Larus fuscus		
Lesser Scaup	Aythya affinis		
Lesser Yellowlegs	Tringa flavipes		
Lincoln's Sparrow	Melospiza lincolnii		
Long-eared Owl	Otus asio	SC/M	SGCN
Magnolia Warbler	Setophaga magnolia		
Mallard	Anas platyrhynchos		
Marsh Wren	Cistothorus palustris		
Merlin	Falco columbarius		
Mourning Dove	Zenaida macroura		
Mourning Warbler	Geothlypis philadelphia		
Nashville Warbler	Leiothlypis ruficapilla		
Northern Cardinal	Cardinalis cardinalis		
Northern Flicker	Colaptes auratus		
Northern Harrier	Circus hudsonius		SINS-Monitoring
Northern Parula	Setophaga americana		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Northern Pintail	<i>Anas acuta</i>		SINS-Ranking
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>		
Northern Saw-whet Owl	<i>Aegolius acadicus</i>		
Northern Shoveler	<i>Anas clypeata</i>		
Northern Shrike	<i>Lanius borealis</i>		
Northern Waterthrush	<i>Parkesia noveboracensis</i>		
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC/M	SGCN
Orange-crowned Warbler	<i>Leiothlypis celata</i>		
Orchard Oriole	<i>Icterus spurius</i>		
Osprey	<i>Pandion haliaetus</i>		
Ovenbird	<i>Seiurus aurocapilla</i>		
Palm Warbler	<i>Setophaga palmarum</i>		SINS-Monitoring
Pectoral Sandpiper	<i>Calidris melanotos</i>		
Peregrine Falcon	<i>Falco peregrinus</i>	END	SGCN
Philadelphia Vireo	<i>Vireo philadelphicus</i>		SINS-Ranking
Pied-billed Grebe	<i>Podilymbus podiceps</i>		
Pileated Woodpecker	<i>Dryocopus pileatus</i>		
Pine Siskin	<i>Spinus pinus</i>		
Pine Warbler	<i>Setophaga pinus</i>		
Prothonotary Warbler	<i>Protonotaria citrea</i>	SC/M	SGCN
Purple Finch	<i>Haemorhous purpureus</i>		
Purple Martin	<i>Progne subis</i>	SC/M	SGCN
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>		
Red-breasted Merganser	<i>Mergus serrator</i>		
Red-breasted Nuthatch	<i>Sitta canadensis</i>		
Red-eyed Vireo	<i>Vireo olivaceus</i>		
Redhead	<i>Aythya americana</i>		
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	SC/M	SGCN
Red-necked Grebe	<i>Podiceps grisegena</i>	END	SGCN
Red-tailed Hawk	<i>Buteo jamaicensis</i>		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>		
Ring-billed Gull	<i>Larus delawarensis</i>		
Ring-necked Duck	<i>Aythya collaris</i>		
Rock Pigeon	<i>Columba livia</i>		
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>		
Ross's Goose	<i>Chen rossii</i>		
Rough-legged hawk	<i>Buteo lagopus</i>		
Ruby-crowned Kinglet	<i>Regulus calendula</i>	SC/M	SGCN
Ruby-throated Hummingbird	<i>Archilochus colubris</i>		
Ruddy Duck	<i>Oxyura jamaicensis</i>		
Rusty Blackbird	<i>Euphagus carolinus</i>	SC/M	SGCN
Sandhill Crane	<i>Grus canadensis</i>		
Savannah Sparrow	<i>Passerculus sandwichensis</i>		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Scarlet Tanager	<i>Piranga olivacea</i>		
Sedge Wren	<i>Cistothorus platensis</i>		
Semipalmated Plover	<i>Charadrius semipalmatus</i>		
Semipalmated Sandpiper	<i>Calidris pusilla</i>		
Sharp-shinned Hawk	<i>Accipiter striatus</i>		
Snow Goose	<i>Chen caerulescens</i>		
Solitary Sandpiper	<i>Tringa solitaria</i>		
Song Sparrow	<i>Melospiza melodia</i>		
Sora	<i>Porzana carolina</i>		
Spotted Sandpiper	<i>Actitis macularia</i>		
Swainson's Thrush	<i>Catharus ustulatus</i>	SC/M	SGCN
Swamp Sparrow	<i>Melospiza georgiana</i>		
Tennessee Warbler	<i>Leiothlypis peregrina</i>		
Townsend's Solitaire	<i>Myadestes townsendi</i>		
Tree Swallow	<i>Tachycineta bicolor</i>		
Trumpeter Swan	<i>Cygnus buccinator</i>		
Tufted Titmouse	<i>Baeolophus bicolor</i>		
Tundra Swan	<i>Cygnus columbianus</i>		
Turkey Vulture	<i>Cathartes aura</i>		
Veery	<i>Catharus fuscescens</i>		
Vesper Sparrow	<i>Poocetes gramineus</i>	SC/M	SGCN
Warbling Vireo	<i>Vireo gilvus</i>		
White-breasted Nuthatch	<i>Sitta carolinensis</i>		
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>		
White-throated Sparrow	<i>Zonotrichia albicollis</i>		
Wild Turkey	<i>Meleagris gallopavo</i>		
Willet	<i>Catoptrophorus semipalmatus</i>		
Willow Flycatcher	<i>Empidonax traillii</i>		
Wilson's Snipe	<i>Gallinago delicata</i>		
Wilson's Warbler	<i>Cardellina pusilla</i>		SINS-Ranking
Winter Wren	<i>Troglodytes hiemalis</i>		
Wood Duck	<i>Aix sponsa</i>		
Wood Thrush	<i>Hylocichla mustelina</i>		SINS-Monitoring
Yellow Warbler	<i>Setophaga petechia</i>		
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>		
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>		
Yellow-Crowned Night Heron	<i>Nycticorax violaceus</i>	THR	SGCN
Yellow-rumped Warbler	<i>Setophaga coronata</i>		
Yellow-throated Vireo	<i>Vireo flavifrons</i>		
total species	195	22	33

Appendix B. Species Lists			
<i>Vascular Plants</i>			
SCIENTIFIC NAME	COMMON NAME	Native	Introduced
Acer negundo	Box elder	X	
Acer saccharinum	Silver maple	X	
Agastache spp.	Hyssop	X	
Agrimonia gryposepala	Tall agrimony	X	
Agropyron repens	Quack grass		X
Alliaria officinalis	Garlic mustard		X
Ambrosia artemisiifolia elatior	Common ragweed	X	
Ambrosia trifida	Giant ragweed	X	
Andropogon gerardi	Big bluestem grass	X	
Arctium minus	Common burdock		X
Arisaema triphyllum	Jack-in-the-pulpit	X	
Asarum canadense	Wild ginger	X	
Asclepias syriaca	Common milkweed	X	
Aster novae-angliae	New England aster	X	
Baptisia leucantha	White wild indigo	X	
Arnoglossum atriplicifolium	Pale Indian plantain	X	
Campanula rapunculoides	Creeping bellflower		X
Carex pensylvanica	Pennsylvania sedge	X	
Carya ovata	Shagbark hickory	X	
Celastris orbiculatus	Asian bittersweet		X
Celtis occidentalis	Hackberry	X	
Cephalanthus occidentalis	Buttonbush	X	
Circaea quadrisulcata canadensis	Enchanter's nightshade	X	
Cirsium arvense	Canada thistle		X
Cornus racemosa	Gray dogwood	X	
Cornus stolonifera	Red-osier dogwood	X	
Corylus americana	American hazelnut	X	
Daucus carota	Queen Anne's lace		X
Desmodium canadense	Canada tick trefoil	X	
Dodecatheon meadia	Shooting star	X	
Dryopteris carthusiana	Spinulose wood fern	X	
Echinacea purpurea	Purple coneflower		X
Echinocystis lobata	wild-cucumber, balsam-apple	X	
Erechtites hieracifolia	Burnweed	X	
Eupatorium purpureum	Purple joe pye weed	X	
Eupatorium rugosum	White snakeroot	X	
Euphorbia esula	Leafy spurge		X
Gaura biennis	Biennial gaura	X	
Geranium maculatum	Wild geranium	X	
Geum canadense	Wood avens, White avens	X	
Gymnocladus dioica	Kentucky coffee tree	X	X
Hackelia virginiana	Stickseed	X	
Heracleum maximum	Cow parsnip	X	
Impatiens pallida	Pale touch-me-not	X	
Lactuca canadensis	Wild lettuce	X	
Leonurus cardiaca	Motherwort		X
Lonicera tatarica	Tartarian honeysuckle		X
Lotus corniculatus	Bird's-foot trefoil		X

SCIENTIFIC NAME	COMMON NAME	Native	Introduced
<i>Maianthemum racemosum</i>	False solomon's seal	X	
<i>Maianthemum stellatum</i>	Starry false solomon's seal	X	
<i>Monarda fistulosa</i>	Wild bergamot	X	
<i>Monotropa uniflora</i>	Indian-pipe	X	
<i>Oenothera biennis</i>	Common evening primrose	X	
<i>Oligoneuron rigidum</i>	Stiff goldenrod	X	
<i>Oxalis stricta</i>	Wood sorrel	X	
<i>Panicum virgatum</i>	Switch grass	X	
<i>Parthenocissus quinquefolia</i>	Virginia creeper	X	
<i>Persicaria virginiana</i>	Jumpseed, woodland knotweed	X	
<i>Phalaris arundinacea</i>	Reed canary grass	X	
<i>Phytolacca americana</i>	Pokeweed	X	
<i>Pilea pumila</i>	Clearweed	X	
<i>Plantago major</i>	Common plantain		X
<i>Populus deltoides</i>	Eastern cottonwood	X	
<i>Populus tremuloides</i>	Quaking aspen	X	
<i>Prunus serotina</i>	Wild black cherry	X	
<i>Prunella vulgaris</i>	Self-heal, heal-all	X	
<i>Prunus virginiana</i>	Choke cherry	X	
<i>Quercus alba</i>	White oak	X	
<i>Quercus macrocarpa</i>	Bur oak	X	
<i>Quercus rubra</i>	Red oak	X	
<i>Ratibida pinnata</i>	Yellow coneflower	X	
<i>Rhamnus cathartica</i>	Common buckthorn		X
<i>Ribes americanum</i>	Black currant	X	
<i>Rosa multiflora</i>	Multiflora rose		X
<i>Salix nigra</i>	Black willow	X	
<i>Sambucus canadensis</i>	Elderberry	X	
<i>Scrophularia lanceolata</i>	Early figwort	X	
<i>Securigera varia</i>	Crown vetch		X
<i>Silphium integrifolium</i>	Rosin weed	X	
<i>Silphium perfoliatum</i>	Cup plant	X	
<i>Solanum dulcamara</i>	Bittersweet nightshade		X
<i>Solidago altissima</i>	Tall goldenrod	X	
<i>Solidago canadensis</i>	Canada goldenrod		
<i>Sorghastrum nutans</i>	Indian grass	X	
<i>Taraxacum officinale</i>	Common dandelion		X
<i>Ulmus americana</i>	American elm	X	
<i>Verbascum thapsus</i>	Common mullein		X
<i>Verbena hastata</i>	Blue vervain	X	
<i>Verbena urticifolia</i>	White vervain	X	
<i>Viburnum lentago</i>	Nannyberry	X	
<i>Viburnum opulus</i>	European highbush cranberry		X
<i>Viburnum trilobum</i>	Highbush cranberry	X	
<i>Viola sp.</i>	violet	X	
<i>Vitis sp.</i>	wild grape	X	
total species	94		
total native	73		
total exotic	21		

Appendix C. Conservation Parks Monitoring Program

Madison Parks
3/15/2019

DRAFT

Monitoring is necessary to track the success of restoration efforts as well as the overall quality of “the resource” – the biotic and abiotic composition of the natural areas in the conservation park system. The following outlines the current monitoring program for Madison’s conservation parks. This is a working document that will be updated as the program grows.

Taxa: Plants

Objectives:

1. Complete and update overall species inventory per park, and preferably per management unit.
Tasks:
 - a. Conduct meander surveys through different management units
2. Determine and track FQI in restoration areas
Tasks:
 - a. Establish transects of permanent 1m² plots
 - b. Sample plots to record percent cover of each species present.
3. Measure and track herbivory pressure
Tasks:
 - a. Photo monitor conditions inside/outside exclosures
 - b. Plant palatable species inside/outside exclosures and track abundance and height

Taxa: Insects

Objectives:

1. Complete overall species inventory per park
Tasks:
 - a. Conduct surveys with sweep nets, light traps and ground sampling?
2. Monitor pollinator abundance and species composition
Tasks:
 - a. Collect data using [Wisconsin Bumble Bee Brigade](#) protocols
 - b. Collect data using Pollard transects to target butterflies

Taxa: Herptiles

Objectives:

1. Complete overall species inventory per park

Tasks:

- b. Conduct surveys with pitfall traps?

2. Conduct breeding survey

Tasks:

- a. Establish [Wisconsin Frog and Toad Survey](#) phenology survey locations in parks

Taxa: Birds

Objectives:

1. Analyze data available from eBird

Tasks:

- a. Download data sets for each park
- b. Identify likely breeding species from observation dates
- c. Compare species richness for breeding and non-breeding birds across decades

2. Conduct breeding survey

Tasks:

- a. Develop clearer goals and objectives for this based on gaps in forthcoming Wisconsin Breeding Bird Atlas II before proceeding

“Taxa”: Overall vegetative structure

Objectives:

1. Establish photo points in all parks.
2. Map plant community boundaries