

DRAFT

Site information

Address: 1155 Olin-Turville Court
Acreage: 64 acres. This includes the designated conservation park only.
Site summary: Acquired by the City in 1967, Turville Point was designated a Conservation Park in 1998. Much of the park had been farmed between 1850 and 1950. Madison Parks has restored the fields to tallgrass prairie and is managing the oak woodland and mesic forest that occur here. The park has 2.5 miles of hiking trails that are groomed for cross-country skiing in the winter. Visitors can also enjoy scenic views of the city from the point.
Adjacent lands: Adjacent natural areas and areas of ecological significance include Turville Bay on Lake Monona, a 5-acre “managed meadow” in Olin Park to the NW.

Conservation values

The dominant natural features of Turville Point are the tallgrass prairie, oak woodland, and mesic forest habitat that occur there. The park is situated on Lake Monona and the point defines the mouth of Turville Bay. This makes the park particularly valuable to migratory birds, as the upland natural area provides stopover habitat and a natural shoreline with less human activity along the bay. Several state-listed threatened and endangered birds have been observed within the park or in Lake Monona adjacent to it, including 31 species identified as Species of Greatest Conservation Need (SGCN) in Wisconsin's Wildlife Action Plan (DNR 2015). Several species of warblers, flycatchers and other upland songbirds are known from the park, and several rare and endangered waterfowl and terns have been observed near shore on the lake. Appendix B contains lists of bird and vascular plant species observed at the park.

The site also hosts significant cultural value, as the land supported a vegetable and flower farm from 1854-1951, and evidence of roads and house foundations remain today. The area was also the site of a fur-trader's cabin, which was located along a Native American trail. The trail led to a communal canoe livery that local Ho-Chunk used to cross the lake to Frost Woods and other settlements and camps in what is now Monona (Shutvet, personal communication). Refer to the Friends of Olin-Turville website for an extensive history of the park.

Although farmed in the past, the open field has been largely restored to tallgrass prairie. Fire-suppressed woodlands, that were likely grazed at some point, had become overgrown and invaded with non-native shrubs such as buckthorn and honeysuckle, and non-native herbaceous species such as garlic mustard and dame's rocket. The overstory retains many mature, open-grown oak, and significant progress has been made in restoring these areas, and staff is currently reintroducing native plants and re-establishing a regular fire regime in this habitat. The mesic forest on the point was likely never grazed, or only lightly, and retains a dense population of trout lily and other spring ephemeral wildflowers.

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 Turville Point 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)

Deciduous Forest (Madison Parks)

Southern Dry-Mesic Forest (NHI)
Southern Mesic Forest (NHI)

Appendix A.2 is a map showing community types within the park, using a combination of the levels described above. Further work is needed to more accurately characterize and map plant communities, and to comprehensively inventory species of all taxa found in the park.

Ecological threats

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 deep oak leaf litter and garlic mustard occupy the ground layer, rather than native sedges and forbs.

Invasive species - Major non-native species include garlic mustard, dame's rocket, daylily, burdock, Himalayan pokeweed, buckthorn, and honeysuckle. A smaller amount of Asian bittersweet, periwinkle, scilla and Japanese knotweed occur here as well. Although native, an aspen clone in the east end of the prairie should be managed as well, considering the small area available for maximizing habitat diversity.

Conservation goals

1. *Restore and maintain oak woodlands.*

Fire-suppressed oak woodlands in the park have suffered extensive degradation. Priorities for management here include re-establishing an appropriate vegetation structure, promoting oak regeneration, and re-establishing the native herbaceous layer.

2. *Increase species diversity in tallgrass prairie.*

Much of the tallgrass prairie community here is dominated by warm-season grasses and is lacking in forbs. Opportunities exist for a more heterogeneous fire regime within the prairie, and there is partner support for additional native plantings.

3. *Restore and maintain mesic forest habitat.*

The mesic forest on the point has been a focus of volunteer efforts to control garlic mustard and other invasive species. Invasive plant control efforts throughout the remainder of the park will complement and ensure the continued success of this. Pockets of mesic forest in the west end of the park will require re-introduction of herbaceous species such as spring ephemerals.

4. *Maintain 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 remove and control the density of woody species should ensure that native shrubs are retained and that a range of seral stages and stem densities are provided, where possible within the park.

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

Increased monitoring is a broader goal of the Conservation Park program. Specifically, at Turville Point, there is not only a need to inventory and document species that occur, but also to collect quantitative data about species richness, diversity, and plant community cover. Data on breeding birds should also be collected and analyzed.

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. These needs include a system of trails to support nature recreation such as hiking and cross-county skiing.

Ecological management at Turville Point should pay specific attention to the following:

Smoke management - The park is situated just east of John Nolen Drive and is bordered by several hotels. The "Beltline" Hwy12/18 is located in a valley between three knobs approximately 0.3 mile south of the park, and the capitol area of downtown Madison lies just over 1 mile NNW across Lake Monona. This limits acceptable wind directions for conducting prescribed burns. Careful burn execution and proactive stakeholder outreach are crucial for limiting impacts and sustaining public acceptance of this management practice.

Snag management – Despite recent oak wilt and emerald ash borer infestations that have produced a large number of snags in the area, care should be taken to protect this habitat characteristic where possible. In general, vegetation management should strive to minimize drastic changes to available habitat and management activities will follow Madison Parks' internal Snag Protection Policy. An inventory of snags in the South management unit was conducted in March 2018.

Friends of Olin-Turville

The Friends of Olin-Turville was established in 2010 "to preserve and improve the parks' facilities and landscapes and encourage the community to rediscover the beauty and unique offerings of these two historic parks." (Friends of Olin-Turville, 2019) The organization accomplishes this not only through a series of entertainment events, but also through outreach and restoration efforts. Members lead several tours and volunteer workdays each year at Turville Point to promote the park and support Parks staff in ecological management and restoration.

Members have been and will continue to be an invaluable resource for monitoring and controlling invasive plants throughout the park, including buckthorn, burdock, garlic mustard, and Japanese hedge parsley. They have also helped re-establish native species by planting and tending oak trees and herbaceous plants in the woodland and prairie. Their efforts have been methodical and consistent, and are ongoing.

This management plan acknowledges opportunities for Parks staff to better engage them at this site. Parks' Conservation Supervisor will meet with the group semi-annually to discuss progress and work plans for the park.

Management history

Former cropland in the west central portion of the park was planted to tallgrass prairie in 1983. This was expanded to its current acreage in 1990. Sporadic prescribed burns beginning in 1996, and repeated efforts to control invasive shrubs such as bush honeysuckle and common buckthorn have occurred since. The Madison Police Department led a major effort in 2010-11 to remove brush, improve visibility, and make the park less inviting to illicit activities. Madison Parks continued this effort over the next 5 years with forestry mowing and selective woody invasive removal contracts. Oaks and native shrubs were planted in 2012 and 2013. The woodland in the south end of the park was seeded in 2013 as well.

Occasional control of invasive species by Parks staff became systematic in 2016, first with control of Asian bittersweet and Japanese knotweed, then later expanding in 2018 to include garlic mustard, dame's rocket, Himalayan pokeweed and burdock.

Management units

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

North Unit (17 ac) Oak Woodland and Mesic Forest dominated by red oak with some white oak and bur oak. Basswood and sugar maple occur here as well as black locust and other introduced species associated with the former house sites such as buckeye and Norway spruce. The west half of the unit is dominated by elderberry and garlic mustard.

Lakeshore Unit (12 ac) Mesic forest on the lowland point and the east-facing slope along the lakeshore. Many mature sugar maple and basswood, along with red and white oak. The point supports healthy populations of trout lily, may apple, Dutchman's breeches, and other spring ephemerals.

South Unit (21 ac) Fire-suppressed Oak Woodland with several large open-grown bur and white oaks. The understory contains widespread populations of invasive herbaceous species, but also contains moderate amounts of several native species including yellow giant hyssop, upland joe-pye weed, may apple, and Jacob's ladder. The southern end of the unit was burned in spring 2018 with good effects.

West Unit (8 ac) Mesic Forest on the west edge of the park adjacent to a degraded wetland and pond in the south end of Olin Park. Moving uphill and eastward, the canopy grades to oak and ash. Most of the ash have been killed by emerald ash borer. Herbaceous layer is heavily degraded, but understory shrubs include elderberry, chokecherry and bladdernut, as well as buckthorn and honeysuckle.

Prairie Unit (6 ac) Mesic Prairie habitat in west central portion of park. Warm season grass species dominate the western end of the unit, and pockets of brush and daylilies occur in the middle and in the northeast corner. Walnuts and honeysuckle are encroaching on the western edge.

Prescriptions/Options

Options for three levels of management are presented in this plan: maintenance only, moderate restoration, and extensive restoration. The "maintenance only" option is NOT recommended, as it restricts ecological management to areas recently treated. In reality, this is not sustainable within the context of existing adjacent invasive species populations and dispersal corridors. The "moderate restoration" option is approximately the level at which we currently operate. The "extensive restoration" option has been supported periodically in the past with additional funding from larger Capital Improvement Projects. Once a site has been restored and a healthy, diverse, native plant community has become established, 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. Only then will the "maintenance only" option be successful.

Management Level 1 (maintenance only)

Objectives:

- Follow-up effort to control invasive species only on acres previously treated within last 3 years.
- Mow prairie and woodland unit to control brush.
- Burn prairie unit on a 3-year return interval.
- Burn currently managed woodland unit (South Unit) on 6-year return interval.

Annual Budget Estimate:

Task	Annual cost
Invasive species treatments (spring, summer)	\$5,000
Mow trails	\$2,500
Trail maintenance (gravel, water bars, etc.)	\$1,000
Brush mowing	\$900
Invasive species treatments (fall)	\$600
Burns (average one every other year)	\$2,000
totals	\$12,000

Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Spring 2019	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2019	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2019	West	Pull Japanese hedge parsley
Summer 2019	South	Spray Himalayan pokeweed
Summer 2019	South North	Cut and spray Japanese knotweed
Fall 2019	North	Cut/treat or basal bark Asian bittersweet
Fall 2019	Prairie	Rx burn (cross-reference Rx burn database for more info)
Spring 2020	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2020	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2020	West	Pull Japanese hedge parsley
Summer 2020	South	Spray Himalayan pokeweed
Summer 2020	South	Mow raspberries
Summer 2020	South North	Cut and spray Japanese knotweed
Fall 2020	North	Cut/treat or basal bark Asian bittersweet
Spring 2021	South	Rx burn
Spring 2021	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2021	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2021	West	Pull Japanese hedge parsley
Summer 2021	South	Spray Himalayan pokeweed

Timeline	Unit(s)	Task
Summer 2021	Prairie	Mow brush
Summer 2021	South North	Cut and spray Japanese knotweed
Fall 2021	North	Cut/treat or basal bark Asian bittersweet
Spring 2022	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2022	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2022	West	Pull Japanese hedge parsley
Summer 2022	South	Spray Himalayan pokeweed
Summer 2022	South North	Cut and spray Japanese knotweed
Fall 2022	North	Cut/treat or basal bark Asian bittersweet
Fall 2022	Prairie	Rx burn
Spring 2023	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2023	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2023	West	Pull Japanese hedge parsley
Summer 2023	South	Spray Himalayan pokeweed
Summer 2023	South	Mow raspberries
Summer 2023	South North	Cut and spray Japanese knotweed
Fall 2023	North	Cut/treat or basal bark Asian bittersweet

Possible Burn Schedule – average one burn every other year:

year	1	2	3	4	5	6	7	8	9	10
Prairie	x			x			x			x
South Unit			x						x	

Management Level 2 (moderate restoration)

Objectives:

- Follow-up effort to control invasive species on acres previously treated, plus add minimum 2 acres per year to treatment areas. We currently rely on both contracts and staff time to complete this work in all treatment areas. This cost will eventually decrease then plateau, as all management units come under active management and initial restoration is completed, moving the treatment areas from a "restoration phase" to a "maintenance phase".
- Install native seed mixes to increase diversity and augment or re-establish native plant community.
- Burn tallgrass prairie unit on 2-3 year return interval. (Allow 2 growing seasons between burns.) Burn no more than ½ of prairie habitat in one season to conserve invertebrate diversity.
- Burn woodland units on 4-year return interval. (Allow 3 growing seasons between burns.)
- Mow brush as needed in prairie and woodlands to supplement prescribed burns.

Annual Budget Estimate:

Task	Annual cost
Invasive species treatments (spring, summer)	\$7,000
Contract for invasive species control	\$10,000
Mow trails	\$2,500
Trail maintenance (gravel, water bars, etc.)	\$1,500
Brush mowing	\$1,200
Invasive species treatments (fall)	\$600
Woody invasive control (cut/treat)	\$5,000
Woody debris removal	\$2,000
Burns (one per year)	\$4,000
Install native seed mix	\$3,000
Totals	\$36,800

Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Winter 2019	South	Woody debris removal
Spring 2019	South	Rx burn
Spring 2019	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2019	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2019	West	Pull Japanese hedge parsley
Summer 2019	South	Spray Himalayan pokeweed
Summer 2019	South North	Cut and spray Japanese knotweed
Fall 2019	North	Cut/treat or basal bark Asian bittersweet
Fall 2019	Prairie	Rx burn
Fall 2019	South	Contract for woody invasive control
Winter 2020	South	Woody debris removal
Spring 2020	South West	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2020	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket

Timeline	Unit(s)	Task
Summer 2020	West	Pull Japanese hedge parsley
Summer 2020	South	Spray Himalayan pokeweed
Summer 2020	South	Mow raspberries
Summer 2020	South North	Cut and spray Japanese knotweed
Fall 2020	North	Cut/treat or basal bark Asian bittersweet
Fall 2020	Prairie	Rx burn
Fall 2020	West	Contract for woody invasive control
Winter 2021	West	Woody debris removal
Spring 2021	South	Rx burn
Spring 2021	South West	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2021	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2021	West	Pull Japanese hedge parsley
Summer 2021	South West	Spray Himalayan pokeweed
Summer 2021	Prairie	Mow brush
Summer 2021	South North	Cut and spray Japanese knotweed
Fall 2021	North	Cut/treat or basal bark Asian bittersweet
Fall 2021	North	Contract for woody invasive control
Winter 2022	North	Woody debris removal
Spring 2022	Prairie West	Rx burn
Spring 2022	South West North	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2022	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2022	West	Pull Japanese hedge parsley
Summer 2022	South West North	Spray Himalayan pokeweed
Summer 2022	South North	Cut and spray Japanese knotweed
Fall 2022	North	Cut/treat or basal bark Asian bittersweet
Fall 2022	Prairie	Rx burn
Fall 2022	Lakeshore	Contract for woody invasive control
Spring 2023	North	Rx burn
Spring 2023	South West North	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2023	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket

Timeline	Unit(s)	Task
Summer 2023	West	Pull Japanese hedge parsley
Summer 2023	South North	Monitor for Himalayan pokeweed
Summer 2023	South	Mow raspberries
Summer 2023	South North	Cut and spray Japanese knotweed
Fall 2023	North	Cut/treat or basal bark Asian bittersweet
Fall 2023	Prairie	Rx burn

Possible burn schedule – average one burn per year:

(units with same letter can be combined into a single burn)

year	1	2	3	4	5	6	7	8	9	10
Prairie (west)	A			A		A			A	
Prairie (east)		A			A			A		
South Unit (north)	B		A				A			
South Unit (south)			A				A			
North Unit (part)					B					A
West Unit				A						

Management Level 3 (extensive restoration)

Objectives:

- Follow-up effort to control invasive species on acres previously treated.
- Install native seed mixes to increase diversity and augment or re-establish native plant community.
- Burn tallgrass prairie on a 2-3 year return interval. (Allow 2 growing seasons between burns.) Burn no more than 1/3 of prairie habitat in one season.
- Burn woodland units on 4-year return interval. (Allow 3 growing seasons between burns.)
- Mow brush as needed in prairies and open oak woodlands to supplement prescribed burns.
- Secure contracts to eliminate non-native woody invasive species.

Annual Budget Estimate:

Task	Annual cost
Invasive species treatments (spring, summer)	\$7,000
Contract for invasive species control	\$15,000
Mow trails	\$2,500
Trail maintenance (gravel, water bars, etc.)	\$1,500
Brush mowing	\$1,200
Invasive species treatments (fall)	\$1,000
Woody invasive control (cut/treat)	\$10,000
Woody debris removal	\$4,000
Burns (two per year)	\$8,000
Install native seed mix	\$8,000
Totals	\$58,200

Specific Management Unit Prescriptions:

Timeline	Unit(s)	Task
Winter 2019	South	Woody debris removal
Spring 2019	various	Rx burn (cross-reference Rx burn database)
Spring 2019	South	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2019	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2019	West	Pull Japanese hedge parsley
Summer 2019	South	Spray Himalayan pokeweed
Summer 2019	South North	Cut and spray Japanese knotweed
Fall 2019	North	Cut/treat or basal bark Asian bittersweet
Fall 2019	Prairie	Rx burn
Fall 2019	South	Contract for woody invasive control
Winter 2020	West	Woody debris removal
Spring 2020	various	Rx burn (cross-reference Rx burn database)
Spring 2020	South West	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2020	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2020	West	Pull Japanese hedge parsley

Timeline	Unit(s)	Task
Summer 2020	South	Spray Himalayan pokeweed
Summer 2020	South	Mow raspberries
Summer 2020	South North	Cut and spray Japanese knotweed
Fall 2020	North	Cut/treat or basal bark Asian bittersweet
Fall 2020	Prairie	Rx burn
Fall 2020	West	Contract for woody invasive control
Winter 2021	North	Woody debris removal
Spring 2021	various	Rx burn (cross-reference Rx burn database)
Spring 2021	South West	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2021	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2021	West	Pull Japanese hedge parsley
Summer 2021	South West	Spray Himalayan pokeweed
Summer 2021	Prairie	Mow brush
Summer 2021	South North	Cut and spray Japanese knotweed
Fall 2021	North	Cut/treat or basal bark Asian bittersweet
Fall 2021	North	Contract for woody invasive control
Spring 2022	various	Rx burn (cross-reference Rx burn database)
Spring 2022	South West North	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2022	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2022	West	Pull Japanese hedge parsley
Summer 2022	South West North	Spray Himalayan pokeweed
Summer 2022	South North	Cut and spray Japanese knotweed
Fall 2022	North	Cut/treat or basal bark Asian bittersweet
Fall 2022	Prairie	Rx burn
Fall 2022	Lakeshore	Contract for woody invasive control
Spring 2023	various	Rx burn (cross-reference Rx burn database)
Spring 2023	South West North	Spray or hand pull garlic mustard, dame's rocket and burdock (staff and contract)
Spring 2023	Lakeshore West	Support volunteers in pulling garlic mustard and dame's rocket
Summer 2023	West	Pull Japanese hedge parsley
Summer 2023	South West North	Monitor for Himalayan pokeweed

Timeline	Unit(s)	Task
Summer 2023	South	Mow raspberries
Summer 2023	South North	Cut and spray Japanese knotweed
Fall 2023	North	Cut/treat or basal bark Asian bittersweet
Fall 2023	Prairie	Rx burn

Possible burn schedule – average two burns per year:

(units with same letter can be combined into a single burn)

year	1	2	3	4	5	6	7	8	9	10
Prairie (west)	A		A		A		A		A	
Prairie (east)		A		A		A		A		A
South Unit (north)	B		B			B				B
South Unit (south)			B			B				B
North Unit (part)					B			B		
West Unit				B			B			
Lakeshore		B							B	

Monitoring and Evaluation

Measuring results is critical to determining success. While the Conservation Parks section currently has very limited capacity to increase monitoring efforts, we hope to expand our reach by working with the University of Wisconsin at Madison, Friends of Olin-Turville, 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 Turville Point include plant and animal diversity, and abundance of invasive species.

Citations

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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
2/1/2019	First draft, presented to FOOT
2/12/2019	Minor edits made, presented to HSC

Appendices

- A. Maps
 - A.1 Park Overview
 - A.2 Natural Communities
 - A.3 Management Units
 - A.4 Prescribed Burns
 - A.5 Invasive Plant Populations (forthcoming)
- B. Species Lists

Appendix A.1. Turville Point: Park Overview



Appendix A.2. Turville Point: Natural Communities



Appendix A.3. Turville Point: Management Units

Olin Park
managed meadow

North Unit

West Unit

Lakeshore

Prairie

South Unit



Map created: 1/30/2019
Aerial photo: 2016

0 250 500 Feet

Legend

 Management Units

Appendix A.4. Turville Point: Recent Prescribed Burns

Olin Park
managed meadow

4/10/2017

5/8/2018




5/8/2018



Map created: 1/30/2019
Aerial photo: 2016

0 250 500 Feet

Legend

-  Turville Point Conservation Park
-  Olin Park
-  Prescribed Burn Units

Appendix B. Species Lists

Vascular Plants

SCIENTIFIC NAME	COMMON NAME	Native	Introduced
Acer negundo	Box elder	X	
Acer saccharinum	Silver maple	X	
Acer saccharum	Sugar maple	X	
Agastache nepetoides	Yellow giant hyssop	X	
Agropyron repens	Quack grass		X
Alliaria officinalis	Garlic mustard		X
Allium canadense	Wild garlic	X	
Allium tricoccum	Wild leek	X	
Ambrosia artemisiifolia elatior	Common ragweed	X	
Andropogon gerardi	Big bluestem grass	X	
Aquilegia canadensis	Wild columbine	X	
Arctium minus	Common burdock		X
Arisaema triphyllum	Jack-in-the-pulpit	X	
Arnoglossum atriplicifolium	Pale Indian Plantain	X	
Asarum canadense	Wild ginger	X	
Asclepias syriaca	Common milkweed	X	
Asparagus officinalis	Asparagus		X
Aster lateriflorus	Calico aster	X	
Aster novae-angliae	New England aster	X	
Barbarea vulgaris	Yellow rocket		X
Betula nigra	River birch	X	
Betula papyrifera	Paper birch	X	
Bromus inermis	Smooth brome		X
Cacalia atriplicifolia	Pale Indian plantain	X	
Campanula americana	Tall Bellflower	X	
Carex pensylvanica	Pennsylvania sedge	X	
Carex sprengellii	Long-beaked sedge	X	
Carya ovata	Shagbark hickory	X	
Celtis occidentalis	Hackberry	X	
Circaea quadrisulcata canadensis	Enchanter's nightshade	X	
Cirsium arvense	Canada thistle		X
Convallaria majalis	Lily-of-the-valley		X
Cornus racemosa	Gray dogwood	X	
Corylus americana	American hazelnut	X	
Cryptotaenia canadensis	Honewort	X	
Daucus carota	Queen Anne's lace		X
Dentaria laciniata	Toothwort	X	
Desmodium canadense	Canada tick trefoil	X	
Dicentra cucullaria	Dutchman's breeches	X	
Dodecatheon meadia	Shooting star	X	
Erythronium albidum	White trout lily	X	
Eupatorium purpureum	Joe-pye weed	X	

SCIENTIFIC NAME	COMMON NAME	Native	Introduced
Eupatorium rugosum	White snakeroot	X	
Fraxinus pennsylvanica	Green ash	X	
Geranium maculatum	Wild geranium	X	
Geum canadense	Wood avens, White avens	X	
Glechoma hederacea	Creeping Charlie		X
Hackelia virginiana	Stickseed	X	
Hemerocallis fulva	Orange day lily		X
Hesperis matronalis	Dame's rocket		X
Hydrophyllum virginianum	Virginia waterleaf	X	
Juglans nigra	Black walnut	X	
Juniperus virginiana crebra	Red cedar	X	
Lonicera tatarica	Tartarian honeysuckle		X
Lycoris squamigera	Resurrection lily		X
Melilotus alba	White sweet clover		X
Melilotus officinalis	Yellow sweet clover		X
Mertensia virginica	Virginia bluebells	X	
Monarda fistulosa	Wild bergamot	X	
Morus alba	White mulberry		X
Narcissus pseudonarcissus	Daffodil		X
Nepeta cataria	Catnip		X
Oenothera biennis	Common evening primrose	X	
Osmorhiza claytoni	Hairy sweet cicely	X	
Panicum virgatum	Switch grass	X	
Parthenocissus quinquefolia	Virginia creeper	X	
Phalaris arundinacea	Reed canary grass		X
Phryma leptostachya	Lopseed	X	
Phytolacca americana	Pokeweed	X	
Phytolacca acinosa	Himalayan pokeweed		X
Pinus strobus	White pine	X	
Plantago major	Common plantain		X
Poa pratensis	Kentucky blue grass		X
Podophyllum peltatum	May apple	X	
Polygonatum biflorum	Solomon's seal	X	
Polygonum cuspidatum	Mexican bamboo		X
Polygonum virginianum	Jump Seed	X	
Populus deltoides	Cottonwood	X	
Populus tremuloides	Quaking aspen	X	
Prunus serotina	Wild black cherry	X	
Prunus americana	Wild plum	X	
Prunus virginiana	Choke cherry	X	
Pyrus malus	Apple		X
Quercus alba	White oak	X	
Quercus macrocarpa	Bur oak	X	
Quercus rubra	Red oak	X	
Quercus velutina	Black oak	X	

SCIENTIFIC NAME	COMMON NAME	Native	Introduced
Ratibida pinnata	Yellow coneflower	X	
Rhamnus cathartica	Common buckthorn		X
Rhus glabra	Smooth sumac	X	
Rhus radicans	Poison ivy	X	
Rhus typhina	Staghorn sumac	X	
Robinia pseudo-acacia	Black locust		X
Rubus allegheniensis	Common blackberry	X	
Rubus occidentalis	Black raspberry	X	
Rudbeckia hirta	Black-eyed Susan	X	
Rudbeckia pinnata	Yellow coneflower	X	
Sanguinaria canadensis	Bloodroot	X	
Schizachyrium scoparium	Little bluestem	X	
Scilla siberica	Blue scilla		X
Silphium integrifolium	Rosin weed	X	
Silphium perfoliatum	Cup plant	X	
Silphium terebinthinaceum	Prairie dock	X	
Smilacina racemosa	False Solomon's seal	X	
Solidago altissima	Tall goldenrod	X	
Solidago flexicaulis	Zigzag goldenrod	X	
Solidago rigida	Stiff goldenrod	X	
Sorghastrum nutans	Indian grass	X	
Thuja occidentalis	Arbor vitae	X	
Tilia americana	Basswood	X	
Trifolium pratense	Red clover		X
Trifolium repens	White clover		X
Trillium grandiflorum	Large-flowered trillium	X	
Ulmus americana	American elm	X	
Ulmus rubra	Slippery elm	X	
Urtica chamaedryoides	Nettle	X	
Uvularia grandiflora	Bellwort	X	
Viburnum lentago	Nannyberry	X	
Viburnum opulus	European highbush cranberry		X
Vinca minor	Periwinkle		X
Viola papilionacea	Common blue violet	X	
Viola pubescens	Downy yellow violet	X	
Vitis aestivalis	Summer grape	X	
total species	123		
total native	91		
total exotic	32		

Animals- Birds

Source: eBird Field Checklist generated by eBird on 2/11/2019. (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
Acadian Flycatcher	Empidonax virescens	THR	SGCN
Alder Flycatcher	Empidonax alnorum		
American Black Duck	Anas rubripes	SC/M	SGCN
American Coot	Fulica americana		
American Crow	Corvus brachyrhynchos		
American Goldfinch	Spinus tristis		
American Kestrel	Falco sparverius		
American Redstart	Setophaga ruticilla		
American Robin	Turdus migratorius		
American Tree Sparrow	Spizelloides arborea		
American White Pelican	Pelecanus erythrorhynchos		
American Wigeon	Mareca americana		SINS-Ranking
Bald Eagle	Haliaeetus leucocephalus		
Baltimore Oriole	Icterus galbula		
Bank Swallow	Riparia riparia		
Barn Swallow	Hirundo rustica		
Barred Owl	Strix varia		
Bay-breasted Warbler	Setophaga castanea		
Belted Kingfisher	Megaceryle alcyon		
Black-and-white Warbler	Mniotilta varia		
Black-billed Cuckoo	Coccyzus erythrophthalmus		
Blackburnian Warbler	Setophaga fusca		
Black-capped Chickadee	Poecile atricapillus		
Black-crowned Night-Heron	Nycticorax nycticorax	SC/M	SGCN
Blackpoll Warbler	Setophaga striata		
Black-throated Blue Warbler	Setophaga caerulescens		
Black-throated Green Warbler	Setophaga virens		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Blue Jay	Cyanocitta cristata		
Blue-gray Gnatcatcher	Polioptila caerulea		
Blue-headed Vireo	Vireo solitarius		
Blue-winged Teal	Spatula discors		
Blue-winged Warbler	Vermivora cyanoptera		
Bobolink	Dolichonyx oryzivorus	SC/M	SGCN
Bonaparte's Gull	Chroicocephalus philadelphia		
Broad-winged Hawk	Buteo platypterus		
Brown Creeper	Certhia americana		
Brown Thrasher	Toxostoma rufum		
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		
Cerulean Warbler	Setophaga cerulea	THR	SGCN
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 Yellowthroat	Geothlypis trichas		
Connecticut Warbler	Oporornis agilis	SC/M	SGCN
Cooper's Hawk	Accipiter cooperi		
Dark-eyed Junco	Junco hyemalis		
Double-crested Cormorant	Phalacrocorax auritus		
Downy Woodpecker	Picoides pubescens		
Eared Grebe	Podiceps nigricollis		
Eastern Bluebird	Sialia sialis		
Eastern Kingbird	Tyrannus tyrannus		
Eastern Meadowlark	Sturnella magna		
Eastern Phoebe	Sayornis phoebe		
Eastern Towhee	Pipilo erythrophthalmus		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
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		
Gadwall	Mareca strepera		
Glaucous Gull	Larus hyperboreus		
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 Horned Owl	Bubo virginianus		
Greater Scaup	Aythya marila		
Green Heron	Butorides virescens		
Green-winged Teal	Anas crecca		
Hairy Woodpecker	Dryobates villosus		
Hermit Thrush	Catharus guttatus		
Herring Gull	Larus argentatus		
Hooded Merganser	Lophodytes cucullatus		
Hooded Warbler	Setophaga citrina	THR	SGCN
Horned Grebe	Podiceps auritus		
House Finch	Haemorhous mexicanus		
House Sparrow	Passer domesticus		
House Wren	Troglodytes aedon		
Iceland Gull	Larus glaucoides		
Indigo Bunting	Passerina cyanea		
Killdeer	Charadrius vociferus		
Least Flycatcher	Empidonax minimus	SC/M	SGCN
Lesser Scaup	Aythya affinis		
Lincoln's Sparrow	Melospiza lincolnii		
Long-eared Owl	Asio otus	SC/M	SGCN
Long-tailed Duck	Clangula hyemalis		
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 Harrier	Circus hudsonius		
Northern Parula	Setophaga americana		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Northern Rough-winged Swallow	Stelgidopteryx serripennis		
Northern Shoveler	Spatula clypeata		
Northern Waterthrush	Parkesia noveboracensis		
Olive-sided Flycatcher	Contopus cooperi	SC/M	SGCN
Orange-crowned Warbler	Oreothlypis celata		
Orchard Oriole	Icterus spurius		
Osprey	Pandion haliaetus		
Ovenbird	Seiurus aurocapilla		
Pacific Loon	Gavia pacifica		
Palm Warbler	Setophaga palmarum		
Philadelphia Vireo	Vireo philadelphicus		SINS-Ranking
Pied-billed Grebe	Podilymbus podiceps		
Pileated Woodpecker	Dryocopus pileatus		
Pine Siskin	Spinus pinus		
Pine Warbler	Setophaga pinus		
Prothonotary Warbler	Protonotaria citrea	SC/M	SGCN
Purple Finch	Haemorhous purpureus		
Purple Martin	Progne subis	SC/M	SGCN
Red-bellied Woodpecker	Melanerpes carolinus		
Red-breasted Merganser	Mergus serrator		
Red-breasted Nuthatch	Sitta canadensis		
Red-eyed Vireo	Vireo olivaceus		
Redhead	Aythya americana		
Red-headed Woodpecker	Melanerpes erythrocephalus	SC/M	SGCN
Red-necked Grebe	Podiceps grisegena	END	SGCN
Red-shouldered Hawk	Buteo lineatus	THR	SGCN
Red-tailed Hawk	Buteo jamaicensis		
Red-winged Blackbird	Agelaius phoeniceus		
Ring-billed Gull	Larus delawarensis		
Ring-necked Duck	Aythya collaris		
Ring-necked Pheasant	Phasianus colchicus		
Rock Pigeon	Columba livia		
Rose-breasted Grosbeak	Pheucticus ludovicianus		
Rough-legged hawk	Buteo lagopus		
Ruby-crowned Kinglet	Regulus calendula	SC/M	SGCN
Ruby-throated Hummingbird	Archilochus colubris		
Ruddy Duck	Oxyura jamaicensis		
Rusty Blackbird	Euphagus carolinus	SC/M	SGCN
Sandhill Crane	Antigone canadensis		
Savannah Sparrow	Passerculus sandwichensis		
Scarlet Tanager	Piranga olivacea		
Sedge Wren	Cistothorus platensis		
Sharp-shinned Hawk	Accipiter striatus		

COMMON NAME	SCIENTIFIC NAME	state listing	Wi DNR Wisconsin Wildlife Action Plan
Song Sparrow	Melospiza melodia		
Spotted Sandpiper	Actitis macularia		
Swainson's Thrush	Catharus ustulatus	SC/M	SGCN
Swamp Sparrow	Melospiza georgiana		
Tennessee Warbler	Oreothlypis peregrina		
Tree Swallow	Tachycineta bicolor		
Tufted Titmouse	Baeolophus bicolor		
Tundra Swan	Cygnus columbianus		
Turkey Vulture	Cathartes aura		
Veery	Catharus fuscescens		
Warbling Vireo	Vireo gilvus		
White-breasted Nuthatch	Sitta carolinensis		
White-crowned Sparrow	Zonotrichia leucophrys		
White-eyed Vireo	Vireo griseus		
White-throated Sparrow	Zonotrichia albicollis		
Wild Turkey	Meleagris gallopavo		
Willow Flycatcher	Empidonax traillii		
Wilson's Warbler	Cardellina pusilla		SINS-Ranking
Winter Wren	Troglodytes hiemalis		
Wood Duck	Aix sponsa		
Wood Thrush	Hylocichla mustelina		SINS-Monitoring
Yellow Warbler	Setophaga petechia		
Yellow-bellied Flycatcher	Empidonax flaviventris		
Yellow-bellied Sapsucker	Sphyrapicus varius		
Yellow-billed Cuckoo	Coccyzus americanus		SINS-Monitoring
Yellow-rumped Warbler	Setophaga coronata		
Yellow-throated Vireo	Vireo flavifrons		
total species	183	23	31