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# The Vascular Flora of Bill Yeck Park: Supporting the Conservation of Local Biodiversity

Taylor Sparbanie

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**The Vascular Flora  
of Bill Yeck Park:  
Supporting the Conservation  
of Local Biodiversity**



Honors Thesis

Taylor Sparbanie

Department: Biology

Advisor: Ryan McEwan, Ph.D.

April 2019

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## Abstract

Maintaining and fostering biodiversity is a critical component of natural areas management and conservation because of its known links to ecosystem function and stability. Identifying and documenting species through a floristic inventory is an important strategy for detecting the presence of rare or unique species, as well as invasive species that pose a threat to biodiversity. Bill Yeck Park is a 194-acre nature park maintained by Centerville-Washington Park District and is largely surrounded by residential areas. The goal of this project was to generate list of vascular plant species for Bill Yeck Park, a large park within the Centerville-Washington Township park district. Floristic surveys for this project began in March of 2017, and continued through 2018. Through these efforts we identified 251 species across a variety of habitats, including meadows, riparian corridors, and upland forest. Plant species were identified in a multitude of life forms, including fern + fern allies, graminoids, forbs, trees, shrubs, and woody vines. All identifications were made using a dichotomous key. A biodiversity inventory was developed and critical areas for conservation were identified with attention given to rare native and invasive species. Specifically, nascent foci of threatening invasive species were located for optimal efficiency of removal efforts. The resultant species list and locations of conservational interest within the park were given to park management in order to support science-based management strategies within the park, and the ultimately protect Bill Yeck Park as an urban green space whose biodiversity provides ecosystem services and recreational opportunities to the Dayton area.

## Acknowledgements

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# Table of Contents

Abstract	Title Page
Introduction	1
Methods	3
Results	5
Discussion	6
References	7
Appendix 1	8

**Abstract**

Maintaining and fostering biodiversity is a critical component of natural areas management and conservation because of its known links to ecosystem function and stability. Identifying and documenting species through a floristic inventory is an important strategy for detecting the presence of rare or unique species, as well as invasive species that pose a threat to biodiversity. Bill Yeck Park is a 194-acre nature park maintained by Centerville-Washington Park District and is largely surrounded by residential areas. The goal of this project was to generate list of vascular plant species for Bill Yeck Park, a large park within the Centerville-Washington Township park district. Floristic surveys for this project began in March of 2017, and continued through 2018. Through these efforts we identified 251 species across a variety of habitats, including meadows, riparian corridors, and upland forest. Plant species were identified in a multitude of life forms, including fern + fern allies, graminoids, forbs, trees, shrubs, and woody vines. All identifications were made using a dichotomous key. A biodiversity inventory was developed and critical areas for conservation were identified with attention given to rare native and invasive species. Specifically, nascent foci of threatening invasive species were located for optimal efficiency of removal efforts. The resultant species list and locations of conservational interest within the park were given to park management in order to support science-based management strategies within the park, and the ultimately protect Bill Yeck Park as an urban green space whose biodiversity provides ecosystem services and recreational opportunities to the Dayton area.

## Introduction

Biodiversity is a critical indicator of ecosystem health and function, and is a conservation and restoration target for many natural areas. Human societies are dependent upon healthy and productive ecosystems, which could not persist without the presence of diverse plant and animal communities. High levels of biodiversity, determined by assessing both species richness (how many unique species there are) and evenness (the prevalence of species present), help to promote and maintain a variety of critical ecosystem functions and environmental processes, such as nutrient cycling, carbon storage, air and water quality improvement, and soil formation and stabilization (Hooper et al. 2005). Biodiversity levels also partially determine the stability, or resilience of ecosystems, which is the ability of an ecosystem to withstand and recover from a disturbance event (Loreau et al. 2001; Burton et al., 2001). Economic benefits include biological nitrogen fixation, organic waste disposal, biological pest control, plant pollination services, and bioremediation of chemical pollution (Pimentel et al., 1997). In the face of increasing human activities and land use, the study and conservation of all these biodiversity benefits have become increasingly important goals for ecologists.

Biodiversity, as a pillar of ecological stability, function, and health, is currently under siege by ever-increasing human development of land and impacts on natural systems. Rapidly growing human population and activity has led to modern extinction rates which are estimated to range anywhere from 1,000 to 10,000 times higher than natural extinction rates (Pimentel et al. 1997). Specifically, the present and pressing threats to biodiversity include climate change, invasive species introductions, and habitat fragmentation. With climate change, many species which have evolved to survive in

habitats specific to their current locations will no longer be successful, as their optimal climatic conditions will have shifted to a different geographical area, or will have disappeared altogether (Mantyka-Pringle et al., 2012). Plants are especially vulnerable to this threat due to their lack of voluntary individual mobility apart from reproductive dispersal strategies. Invasive species threaten biodiversity by outcompeting native species for available resources including light, nutrients, space, and water (Diaz et al., 2006). By displacing native species and ultimately lowering biodiversity, invasive organisms have the potential to alter an ecosystem's functioning capacity (Powell et al., 2011). Increasing human land use causes many natural spaces to suffer from habitat loss and/or fragmentation, which has negative effects on biodiversity by altering the connectivity of plant and animal populations across the landscape. This can lead to local extinctions of vulnerable species (Fahrig 2003).

There is great interest in protecting biodiversity from all of these threats because communities that contain a variety of organisms with differing life history characteristics and resource use strategies will be better able to maintain critical functions and processes amidst changing and fluctuating conditions (Diaz et al. 2006). Therefore, biodiversity will play a major role in maintaining the stability of natural and human communities. Human-induced losses of key species through either local or total extinction can have disastrous consequences for the ecosystem goods and services we rely on and can also have significant economic impacts.

The undertaking of a floristic inventory and subsequent compilation of a vascular flora species list is an important step in managing to protect against human-induced losses of biodiversity. Plant communities and biodiversity provide the basis for healthy ecosystem

functioning. More biodiverse plant communities are tied to greater primary production, nutrient retention, and stability of ecosystem processes (Tilman, 2000). Plant community diversity is also linked to more diverse insect communities (Panzer & Schwartz 1998) and animal communities (Jimenez-Alfaro et al. 1972). Proper knowledge of plant biodiversity within the park is vital for the continued prevention of further development and efforts towards conservation within the jurisdiction of Centerville-Washington Park District. This project provides scientific acumen to promote informed park management and foster healthy ecosystems with community green space. This both bolsters ecosystem health and productivity while increasing community satisfaction because it provides the opportunity to create educational material for community members on the composition and features of the park. Management and conservation for biodiversity also improves community satisfaction with the park because plant biodiversity supports birds, mammals, insects, and other species which may attract attention and draw visitors.

## **Methods**

Bill Yeck Park is a 194-acre park surrounded by a developed suburban landscape, with homes, neighborhoods, and busy streets on all borders of the park (Fig. 1). The Bill Yeck Park Vascular Flora Species List was created by performing frequent visual encounter surveys. These surveys occurred on a weekly basis during the growing season (April to August) and approximately bi-weekly during the rest of the year (September to March). From these surveys, known species were identified in the field and unknown species were taken as a sample to be identified in the lab. Visual encounter surveys were performed via three methods: (1) by random walks off-trail, (2) hiking along all of the



trails in the park, and (3) walking along systematic transects through different areas of the park. These transects were parallel, approximately 10 meters apart, and extended to either the opposite edge of the area of interest or to the park boundary. Key features of tall trees were assessed using binoculars. The length of the transects were walked while visually searching for previously unidentified species. For each of the three methods mentioned above, samples of plants were collected in a vasculum (a hard-walled container containing moist paper towels) for transportation back to the lab for further identification under a dissecting microscope. Samples were identified using a dichotomous key, such as the *Manual of Vascular Plants of Northeastern United States and Adjacent Canada* (Gleason and Cronquist 1991). Collected and identified samples were pressed, mounted on acid-free paper, and labeled for deposition into the University of Dayton herbarium. Samples were also documented electronically in a database using Microsoft Excel. The R statistical software will be used to generate basic summaries of the flora.

Criteria for habitat delineations were documented in a field notebook while on visual encounter surveys for further development and organization. This included rapid assessments of soil moisture, soil types, topographic characteristics (elevation, aspect, slope), and dominant plant species. The locations of invasive species populations and rare native plant species were identified in the field and mapped using GIS software.

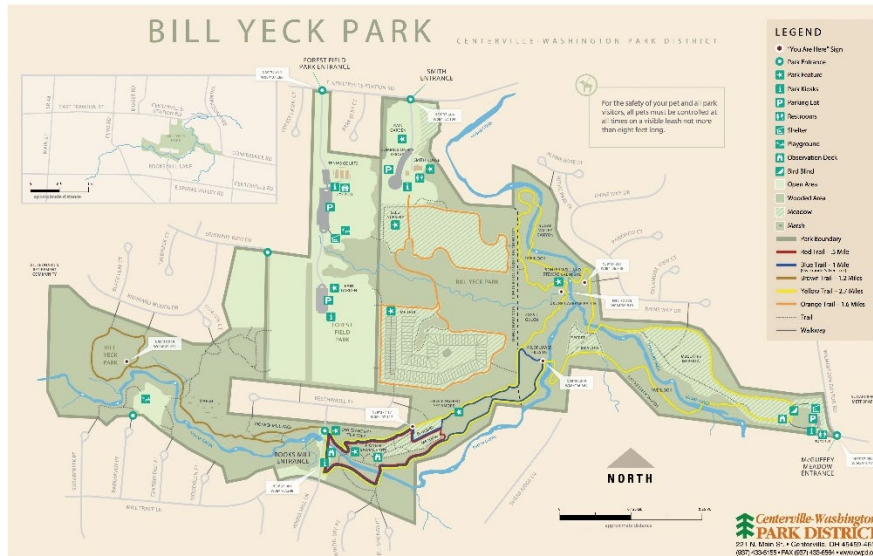


Fig. 1: Map of Bill Yeck Park showing surrounding residential suburban areas.  
[http://www.cwpd.org/wp-content/uploads/2016/07/bill\\_yeck\\_park\\_map.pdf](http://www.cwpd.org/wp-content/uploads/2016/07/bill_yeck_park_map.pdf)

## Results

251 unique plant species have been identified within the boundaries of Bill Yeck Park (Table 1). All identified species can be found in Appendix 1, listed by growth habit, and then alphabetically by family, then genus and species. In addition, 8 general habitat types have been identified including: lowland meadow, riparian forest, slope/palisade forest, upland forest, open wetland, cove forest, upland prairie, and forest edge. Rare native species, like American Ginseng (*Panax quinquefolis*) and putty root orchid (*Aplectrum hyemale*) were identified and nascent foci of invasive plants like winter creeper (*Euonymus fortunei*) were located.

The most species richness within the park was documented within the forb life form (Table 1). The least species richness was documented within the fern + fern allies

life form and the woody vines life form, with only 3 species and 6 species identified respectively (Table 1).

<b>Life Form</b>	<b>Number of Families</b>	<b>Number of Genera</b>	<b>Number of Species</b>
Fern + Fern Allies	2	3	3
Graminoid	3	15	23
Forb	53	126	158
Tree	21	29	42
Shrub	5	8	10
Woody Vine	4	6	6
<b>Total</b>	<b>82</b>	<b>194</b>	<b>251</b>

Table 1: Results of the Bill Yeck Park vascular flora species list. 251 plant species displayed by growth habit and classification.

## **Discussion**

The compilation of a vascular flora for Bill Yeck Park produced helpful insight to pass along to Centerville-Washington Park District management and community members including documentation of species richness within the park, noted areas of pique conservation concern with rare native species and invasive threats, and delivered habitat delineations. This information allows the park management staff to make science-based decisions which promote biodiversity, therefore supporting ecosystem services to the surrounding urban-suburban area, enhancing the stability of ecosystem processes, and protecting the species and recreational activities of interest to community members.

Additionally, this project provided opportunities for community communication and engagement. A meeting was held with the park district board to communicate project findings, and a hike was organized with interested community members to share botanical findings and knowledge. This type of open communication among scientists,

land managers, and community members is increasingly important in the coming age of ecological reclamation efforts. Especially when the continual development of land and resultant increasing importance of urban green spaces are considered, this process of community-sought scientific involvement is greatly encouraging to the hope of protecting natural spaces in the future in Dayton.

More protected nature parks in suburban landscapes can help to mitigate the effects of human-induced biodiversity loss. On a local scale, habitat fragmentation and human land use development are specifically countered by proper management and local commitments to the value of green spaces. On a global scale, climate change is inevitably changing the distribution of and pressures on vulnerable plant species, but the carbon sequestration and habitat refuge of urban green spaces cannot be overvalued.

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## Appendix 1

Vascular flora species list for Bill Yeck Park.

Species	Family	Common Name
<b>Ferns and fern allies</b>		
<i>Cystopteris protrusa</i>	Dryopteridaceae	fragile fern
<i>Polystichum acrostichoides</i>	Dryopteridaceae	Christmas fern
<i>Botrypus virginianus</i>	Ophioglossaceae	rattlesnake fern
<b>Wildflowers</b>		
<i>Ruellia strepens</i>	Acanthaceae	limestone wild petunia
<i>Alisma subcordatum</i>	Alismataceae	American water plantain

Sagittaria sp.	Alismataceae	
Cicuta maculata	Apiaceae	water hemlock
Conium maculatum	Apiaceae	poison hemlock
Cryptotaenia canadensis	Apiaceae	honewort
Daucus carota	Apiaceae	wild carrot/Queen Anne's lace
Erigenia bulbosa	Apiaceae	harbinger of spring
Osmorhiza claytonii	Apiaceae	sweet cicely
Sanicula canadensis	Apiaceae	Canadian blacksnakeroot
Sanicula odorata	Apiaceae	clustered blacksnakeroot
Apocynum cannabinum	Apocynaceae	dogbane
Arisaema triphyllum	Araceae	jack in the pulpit
Symplocarpus foetidus	Araceae	skunk cabbage
Panax quinquefolius	Araliaceae	American ginseng
Asarum canadense	Aristolochiaceae	wild ginger/Canadian snakeroot
Asclepias incarnata	Asclepiadaceae	swamp milkweed
Asparagus officinalis	Asparagaceae	garden asparagus
Achillea millefolium	Asteraceae	common yarrow
Ageratina altissima	Asteraceae	white snakeroot
Ambrosia artemisiifolia	Asteraceae	common ragweed
Ambrosia trifida	Asteraceae	giant ragweed
Arctium minus	Asteraceae	common burdock/beggar's button
Bidens frondosa	Asteraceae	devil's beggar ticks
Cichorium intybus	Asteraceae	wild chicory/common chicory
Cirsium arvensis	Asteraceae	Canada thistle
Conyza canadensis	Asteraceae	horseweed
Coreopsis lanceolata	Asteraceae	lanceleaf tickseed
Coreopsis rosea	Asteraceae	pink threadleaf
Coreopsis tinctoria	Asteraceae	plains tickseed/golden tickseed
Echinacea purpurea	Asteraceae	purple coneflower
Erechtites hieracifolia	Asteraceae	pilewort/fireweed
Erigeron annuus	Asteraceae	annual fleabane
Erigeron philadelphicus	Asteraceae	Philadelphia fleabane
Eupatorium perfoliatum	Asteraceae	common boneset
Eupatorium purpureum	Asteraceae	Purple-node joe-pye weed
Eurybia divaricata	Asteraceae	white wood aster
Heliopsis helianthoides	Asteraceae	smooth oxeye/false sunflower
Lactuca canadensis	Asteraceae	wild lettuce
Leucanthemum vulgare	Asteraceae	ox-eye daisy
Packera aurea	Asteraceae	golden ragwort
Packera glabella	Asteraceae	butterweed
Packera obovata	Asteraceae	roundleaf ragwort

<i>Prenanthes altissima</i>	Asteraceae	tall white lettuce
<i>Ratibida columnifera</i>	Asteraceae	upright prairie coneflower
<i>Rudbeckia hirta</i>	Asteraceae	black-eyed susan
<i>Silphium perfoliatum</i>	Asteraceae	cup plant
<i>Taraxacum officinale</i>	Asteraceae	common dandelion
<i>Verbesina alternifolia</i>	Asteraceae	wingstem
<i>Impatiens capensis</i>	Balsaminaceae	orange jewelweed/touch-me-not
<i>Impatiens pallida</i>	Balsaminaceae	pale jewelweed/yellow jewelweed
<i>Jeffersonia diphylla</i>	Berberidaceae	twinleaf
<i>Podophyllum peltatum</i>	Berberidaceae	mayapple
<i>Alliaria petiolata</i>	Brassicaceae	garlic mustard
<i>Barbarea vulgaris</i>	Brassicaceae	yellow rocket/bittercress
<i>Cardamine douglassii</i>	Brassicaceae	purple cress/limestone bittercress
<i>Dentaria laciniata</i>	Brassicaceae	cutleaf toothwort
<i>Hesperis matronalis</i>	Brassicaceae	dame's rocket
<i>Iodanthus pinnatifidus</i>	Brassicaceae	purple rocket
<i>Chamaecrista fasciculata</i>	Caesalpiniaceae	partridge pea
<i>Campanulastrum americanum</i>	Campanulaceae	small american bellflower
<i>Lobelia inflata</i>	Campanulaceae	Indian tobacco/puke weed
<i>Lobelia siphilitica</i>	Campanulaceae	great blue lobelia
<i>Dipsacus fullonum</i>	Caprifoliaceae	wild teasel
<i>Silene regia</i>	Caryophyllaceae	royal catchfly
<i>Stellaria media</i>	Caryophyllaceae	common chickweed
<i>Ipomoea pandurata</i>	Convolvulaceae	wild sweet potato
<i>Equisetum arvense</i>	Equisetaceae	horsetail
<i>Equisetum hyemale</i>	Equisetaceae	rough horsetail/souring rush
<i>Amphicarpaea bracteata</i>	Fabaceae	American hogpeanut
<i>Desmodium sp.</i>	Fabaceae	
<i>Medicago lupulina</i>	Fabaceae	black medick
<i>Medicago sativa</i>	Fabaceae	alfalfa/lucerne
<i>Melilotus officinalis</i>	Fabaceae	yellow sweet clover
<i>Securigera varia</i>	Fabaceae	crownvetch
<i>Trifolium campestre</i>	Fabaceae	field clover
<i>Trifolium incarnatum</i>	Fabaceae	crimson clover
<i>Trifolium pratense</i>	Fabaceae	red clover
<i>Trifolium repens</i>	Fabaceae	white clover
<i>Hydrangea arborescens</i>	Hydrangeaceae	smooth hydrangea/wild hydrangea
<i>Hydrophyllum canadense</i>	Hydrophyllaceae	bluntleaf waterleaf
<i>Hypericum perforatum</i>	Hypericaceae	St. John's wort
<i>Hypericum punctatum</i>	Hypericaceae / Clusiaceae	black dotted St. John's wort

<i>Sisyrinchium angustifolium</i>	Iridaceae	narrowleaf blue-eyed grass
<i>Scutellaria</i>	Lamiaceae	
<i>Lamium galeobdolon</i>	Lamiaceae	yellow archangel
<i>Lycopus americanus</i>	Lamiaceae	American bugleweed
<i>Monarda fistulosa</i>	Lamiaceae	wild bergamot
<i>Prunella vulgaris</i>	Lamiaceae	selfheal
<i>Teucrium canadense</i>	Lamiaceae	Canada germander
<i>Allium canadense</i>	Liliaceae	Canadian garlic/meadow garlic
<i>Allium tricoccum</i>	Liliaceae	wild leek/ramp
<i>Erythronium albidum</i>	Liliaceae	white fawnlily/white trout lily
<i>Erythronium americanum</i>	Liliaceae	trout lily/yellow trout lily
<i>Maianthemum racemosum</i>	Liliaceae	false Solomon's seal
<i>Narcissus</i> sp	Liliaceae	daffodil
<i>Ornithogalum umbellatum</i>	Liliaceae	star-of-Bethlehem/grass lily
<i>Polygonatum biflorum</i>	Liliaceae	Solomon's seal
<i>Trillium grandiflorum</i>	Liliaceae	white trillium
<i>Trillium sessile</i>	Liliaceae	toadshade
<i>Floerkea proserpinacoides</i>	Limnanthaceae	false mermaid
<i>Menispermum canadense</i>	Menispermaceae	common moonseed
<i>Ligustrum vulgare</i>	Oleaceae	common privet/European privet
<i>Circaea lutetiana</i>	Onagraceae	enchanter's nightshade
<i>Gaura biennis</i>	Onagraceae	biennial beeblossom
<i>Oenothera parviflora</i>	Onagraceae	small flowered evening primrose
<i>Oenothera speciosa</i>	Onagraceae	showy evening primrose
<i>Aplectrum hyemale</i>	Orchidaceae	putty root orchid
<i>Platanthera lacera</i>	Orchidaceae	ragged fringed orchid
<i>Epifagus virginiana</i>	Orobanchaceae	beechdrops
<i>Oxalis stricta</i>	Oxalidaceae	yellow woodsorrel
<i>Plantago rugelii</i>	Pantaginaceae	blackseed plantain
<i>Sanguinaria canadensis</i>	Papaveraceae	bloodroot
<i>Stylophorum diphyllum</i>	Papaveraceae	celandine poppy
<i>Phytolacca americana</i>	Phytolaccaceae	pokeweed
<i>Penstemon hirsutus</i>	Plantaginaceae	hairy beardtongue
<i>Plantago lanceolata</i>	Plantaginaceae	English plantain/narrowleaf plantain
<i>Elymus canadensis</i>	Poaceae	Canada wild rye
<i>Panicum virgatum</i>	Poaceae	switchgrass
<i>Phlox divaricata</i>	Polemoniaceae	woodland phlox
<i>Polygonum caespitosum</i>	Polygonaceae	Oriental lady's thumb
<i>Polygonum virginianum</i>	Polygonaceae	jumpseed
<i>Rumex crispus</i>	Polygonaceae	curly dock
<i>Rumex obtusifolius</i>	Polygonaceae	bitter dock



<i>Pontederia cordata</i>	Pontederiaceae	pickerelweed
<i>Claytonia virginica</i>	Portulacaceae	Virginia springbeauty/fairy spud
<i>Anagallis arvensis</i>	Primulaceae	scarlet pimpernel
<i>Lysimachia nummularia</i>	Primulaceae	creeping Jenny/moneywort
<i>Actaea pachypoda</i>	Ranunculaceae	white baneberry
<i>Anemone virginiana</i>	Ranunculaceae	tall thimbleweed
<i>Anemonella thalictroides</i>	Ranunculaceae	rue anemone
<i>Cimicifuga racemosa</i>	Ranunculaceae	black snakeroot/black cohosh
<i>Ranunculus abortivus</i>	Ranunculaceae	littleleaf buttercup
<i>Ranunculus ficaria</i>	Ranunculaceae	fig buttercup
<i>Ranunculus recurvatus</i>	Ranunculaceae	blisterwort
<i>Thalictrum revolutum</i>	Ranunculaceae	waxyleaf meadow-rue
<i>Agrimonia gryposepala</i>	Rosaceae	tall hairy agrimony/common agrimony
<i>Agrimonia parviflora</i>	Rosaceae	harvestlice
<i>Geum canadense</i>	Rosaceae	white avens
<i>Geum vernum</i>	Rosaceae	spring avens
<i>Potentilla norvegica</i>	Rosaceae	Norwegian cinquefoil
<i>Galium aparine</i>	Rubiaceae	goosegrass/stickywilly
<i>Galium circaeazans</i>	Rubiaceae	wild licorice
<i>Galium triflorum</i>	Rubiaceae	fragrant bedstraw/cudweed
<i>Verbascum blattaria</i>	Scrophulariaceae	moth mullein
<i>Digitalis purpurea</i>	Scrophulariaceae	foxglove
<i>Mimulus ringens</i>	Scrophulariaceae	Allegheny monkeyflower
<i>Datura stramonium</i>	Solanaceae	jimsonweed/devil's snare
<i>Solanum carolinense</i>	Solanaceae	Carolina horsenettle
<i>Laportea canadensis</i>	Urticaceae	wood nettle
<i>Pilea pumila</i>	Urticaceae	clearweed
<i>Valerianella chenopodiifolia</i>	Valerianaceae	goosefoot cornsalad
<i>Phryma leptostachya</i>	Verbenaceae	lopseed
<i>Verbena urticifolia</i>	Verbenaceae	white vervain
<i>Viola pubescens</i>	Violaceae	downy yellow violet
<i>Viola sororia</i>	Violaceae	common blue violet
<i>Viola sororia</i> var. <i>priceana</i>	Violaceae	
<i>Viola striata</i>	Violaceae	striped cream violet
<i>Hackelia virginiana</i>		
<i>Hosta</i> sp.		
<i>Solidago</i> sp.	Asteraceae	
<i>Symphotrichum</i> sp.		
<i>Typha</i> sp.		
<i>Vernonia gigantea</i>		

**Grasses and grass-like  
plants**

<i>Carex albursina</i>	Cyperaceae	white bear sedge
<i>Carex blanda</i>	Cyperaceae	common woodland sedge
<i>Carex frankii</i>	Cyperaceae	Frank's sedge
<i>Carex jamesii</i>	Cyperaceae	James' sedge
<i>Carex laxiculmis</i>	Cyperaceae	spreading sedge
<i>Carex oligocarpa</i>	Cyperaceae	rich woods sedge/few fruit sedge
<i>Carex sparganioides</i>	Cyperaceae	bur-reed sedge
<i>Cyperus strigosus</i>	Cyperaceae	strawcolored flatsedge
<i>Scirpus atrovirens</i>	Cyperaceae	green bulrush
<i>Scirpus validus</i>	Cyperaceae	softstem bulrush
<i>Juncus tenuis</i>	Juncaceae	slender rush/path rush
<i>Agrostis capillaris</i>	Poaceae	common bent
<i>Bromus commutatus</i>	Poaceae	meadow brome
<i>Dactylis glomerata</i>	Poaceae	orchard grass
<i>Elymus villosus</i>	Poaceae	silky wild rye
<i>Elytrigia repens</i>	Poaceae	quackgrass
<i>Festuca subverticillata</i>	Poaceae	nodding fescue
<i>Leersia virginica</i>	Poaceae	whitegrass
<i>Microstegium vimineum</i>	Poaceae	Napalese browntop
<i>Phleum pratense</i>	Poaceae	timothy
<i>Setaria faberi</i>	Poaceae	Japanese bristlegrass
<i>Setaria glauca</i>	Poaceae	yellow foxtail
<i>Sorghum halepense</i>	Poaceae	johnsongrass

**Trees and shrubs**

<i>Lonicera japonica</i>	Caprifoliaceae	Japanese honeysuckle
<i>Lonicera maackii</i>	Caprifoliaceae	amur honeysuckle
<i>Sambucus canadensis</i>	Caprifoliaceae	American black elderberry
<i>Viburnum prunifolium</i>	Caprifoliaceae	blackhaw
<i>Euonymus alatus</i>	Celastraceae	burning bush
<i>Euonymus atropurpureus</i>	Celastraceae	Eastern wahoo
<i>Elaeagnus umbellata</i>	Elaeagnaceae	autumn olive
<i>Lindera benzoin</i>	Loraceae	spicebush
<i>Rosa multiflora</i>	Rosaceae	multiflora rose/Japanese rose
<i>Rubus occidentalis</i>	Rosaceae	black raspberry
<i>Acer negundo</i>	Aceraceae	box elder
<i>Acer rubrum</i>	Aceraceae	red maple
<i>Acer saccharinum</i>	Aceraceae	silver maple

<i>Acer saccharum</i>	Aceraceae	sugar maple
<i>Asimina triloba</i>	Annonaceae	paw paw
<i>Carpinus caroliniana</i>	Betulaceae	ironwood
<i>Ostrya virginiana</i>	Betulaceae	American hop hornbeam
<i>Cornus alternifolia</i>	Cornaceae	alternate-leaf dogwood
<i>Cornus amomum</i>	Cornaceae	knob-styled dogwood
<i>Cornus drummondii</i>	Cornaceae	rough-leaved dogwood
<i>Juniperus virginiana</i>	Cupressaceae	Eastern red cedar
<i>Cercis canadensis</i>	Fabaceae	eastern redbud
<i>Gleditsia triacanthos</i>	Fabaceae	honey locust
<i>Gymnocladus dioica</i>	Fabaceae	Kentucky Coffeetree
<i>Robinia pseudoacacia</i>	Fabaceae	black locust
<i>Fagus grandifolia</i>	Fagaceae	American beech
<i>Quercus alba</i>	Fagaceae	white oak
<i>Quercus muehlenbergii</i>	Fagaceae	chinkapin oak
<i>Quercus rubra</i>	Fagaceae	red oak
<i>Quercus macrocarpa</i>	Fagaceae	bur oak
<i>Liquidambar styraciflua</i>	Hamamelidaceae	sweetgum
<i>Aesculus glabra</i>	Hippocastanaceae	Ohio buckeye
<i>Carya cordiformis</i>	Juglandaceae	bitternut hickory
<i>Carya ovata</i>	Juglandaceae	shagbark hickory
<i>Carya tomentosa</i>	Juglandaceae	mockernut hickory
<i>Juglans nigra</i>	Juglandaceae	Black walnut
<i>Liriodendron tulipifera</i>	Magnoliaceae	yellow poplar
<i>Maclura pomifera</i>	Moraceae	osage orange/monkeybrains
<i>Morus rubra</i>	Moraceae	Red mulberry
<i>Fraxinus americana</i>	Oleaceae	white ash
<i>Fraxinus pennsylvanica</i>	Oleaceae	Green ash
<i>Fraxinus quadrangulata</i>	Oleaceae	blue ash
<i>Pinus strobus</i>	Pinaceae	white pine
<i>Platanus occidentalis</i>	Platanaceae	American sycamore
<i>Prunus serotina</i>	Rosaceae	black cherry
<i>Pyrus calleryana</i>	Rosaceae	callery pear
<i>Populus deltoides</i>	Salicaceae	eastern cottonwood
<i>Ailanthus altissima</i>	Simaroubaceae	tree-of-heaven
<i>Tilia americana</i>	Tiliaceae	Basswood/Linden
<i>Celtis occidentalis</i>	Ulmaceae	hackberry
<i>Ulmus americana</i>	Ulmaceae	American elm
<i>Ulmus rubra</i>	Ulmaceae	Slippery elm
<i>Malus sp.</i>		

**Vines**

Toxicodendron radicans	Anacardiaceae	Poison ivy
Celastrus orbiculatus	Celastraceae	oriental bittersweet
Euonymus fortunei	Celastraceae	winter creeper
Smilax hispida (tamnoides?)*	Smilacaceae	bristly greenbrier
Parthenocissus quinquefolia	Vitaceae	Virginia creeper
Vitis sp.	Vitaceae	
Clematis sp.		
Cuscuta sp.		Dodder