

Botanical Survey of Wildcat Hollow State Forest

By

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Contractual Study for the Illinois Dept. of Natural Resources

**Project Summary:**

Wildcat Hollow State Forest is a 283-ha (700-ac) tract that contains a number of natural communities including dry-mesic upland forest, wet-mesic floodplain forest, successional fields, prairie reconstructions, sandstone cliffs, mineral springs, seeps and a pine plantation. Wildcat Hollow State Forest is located in Effingham County, Illinois about 3 miles north of Mason in Section 2, 3 and 11, T6N, R5E, 3PM. An initial holding of 113 ha (280 ac) was transferred from the Illinois Department of Transportation to the Illinois Department of Natural Resources in 1972. Since that time, additional acquisitions have increased the extent of the site to its current size. A cursory survey was conducted in 1979 using Illinois Natural Areas Inventory procedures. Only 74 vascular plant species were reported during that survey with 64 being woody species. No sampling or quantitative data were collected and the survey apparently did not include the sandstone cliffs or seeps.

In this project, a thorough floristic inventory and quantitative vegetation survey of Wildcat Hollow State Forest have been conducted. A list of vascular plant species occurring within the boundaries of the forest has been completed and voucher specimens collected. All specimens have been labeled, mounted, and deposited in the Stover-Ebinger Herbarium at Eastern Illinois University (EIU). The vegetation was quantitatively sampled using a line-transect method in the natural communities. No threatened or endangered species were located at the site.

A vascular plant inventory provide valuable data on the present condition of Wildcat Hollow State Forest and aids in establishing management guidelines for the site.

The objectives of the project were:

1. To perform a floristic inventory that will provide a vouchered species list for Wildcat Hollow State Forest and a list of species associated with each natural community.
2. To quantitatively sample the vegetation, delineate the boundaries of each natural community, and provide baseline vegetation data for the site.

In fulfilling these objectives, a list of the vascular plant species encountered at the site appears at the end of this report. Quantitative data tables based on transect samples of the vegetation also appear at the end of the report.

The P.I. conducted a floristic inventory of Wildcat Hollow State Forest, adding on to the list developed by Bob Edgin. Specimens were collected every 3-4 weeks throughout the growing season. All collected material was identified and recorded. Voucher specimens will be deposited in the Stover-Ebinger Herbarium at EIU, with duplicates sent to the Illinois State Museum and the Illinois Natural History Survey. Earlier collections made by Bob Edgin were checked by Tucker and Ebinger and accessioned to the EIU Herbarium.

During some collecting trips, study plots were randomly located in the forest community and in the prairie reconstruction, as well as in a grassy opening in the forest. The forest overstory was sampled using randomly located 0.025 ha plots. In each plot, trees  $\geq 10$  cm dbh were

identified and their diameters recorded. The forest understory was sampled using nested circular plots of 0.01, 0.001 and 0.0001 ha. From the data collected, density (trees/ha), basal area ( $m^2/ha$ ), relative density, relative dominance, importance value and average dbh (cm) was determined for overstory species. The prairie reconstruction will be sampled using one  $m^2$  plots randomly located along a 25 m transect line. Frequency, cover, relative frequency, relative cover and importance value were determined for each species encountered.

**Conclusions:** The forest community is an excellent example of upland mesic oak-hickory forest. There are very few exotic species, mostly confined to edges bordering cultivated fields and Interstate 57. The prairie restorations are of poor quality. (Note for example the very low IV of *Sorghastrum nutans*.) Regular burning might well improve the floristic composition.

**Further studies:** During the 2005 field season, the site will be visited several times by Tucker, in company with John E. Ebinger, EIU students, and various colleagues from EIU and the IDNR. Some further sampling of woody vegetation will enhance the quality of the study, which will be submitted for publication in late 2005.

Woody vegetation transect at Wildcat Hollow State Forest  
 Upland mesic forest dominated by oak and hickory  
 Sampled by Gordon C. Tucker & John E. Ebinger, 8 Oct. 2004  
 Total number of plots: 15

Species	Woody Seedlings	Small Saplings	Large Saplings	Total tree stems #/ha	Basal area m <sup>2</sup> /ha	Rel. Dens.	Rel. Dom.	I.V.	Ave. Tree Diam. cm
<i>Quercus alba</i>	2001	0	0	73.3	14.411	32.5	48.80	81.3	40.4
<i>Quercus velutina</i>	3335	0	0	35.2	6.680	15.6	22.6	38.2	43.8
<i>Carya ovata</i>	7337	603	13.4	44.4	4.496	19.7	15.20	34.9	29.0
<i>Carya tomentosa</i>	1334	670	13.4	41.8	2.565	18.5	8.69	27.19	23.9
<i>Quercus rubra</i>	0	0	0	6.6	0.731	2.9	2.48	5.38	28.5
<i>Prunus serotina</i>	2668	0	0	8.8	0.312	3.9	1.06	4.96	20.9
<i>Fraxinus lanceolata</i>	3335	1407	0	4.4	0.075	1.9	0.24	2.14	20.9
<i>Sassafras albidum</i>	6003	63	73.7	4.4	0.048	1.9	0.16	2.06	11.8
<i>Cornus florida</i>	667	67	469	4.4	0.045	1.9	0.15	2.05	11.4
<i>Acer saccharum</i>	2668	2345	113.9	2.2	0.156	1.0	0.53	1.53	30.0
<i>Asimina triloba</i>	3335	4154	0	0	0	0	0	0	0
<i>Celtis occidentalis</i>	2001	0	0	0	0	0	0	0	0
<i>Morus rubra</i>	0	67	0	0	0	0	0	0	0
<i>Ulmus americana</i>	0	268	33.5	0	0	0	0	0	0
<i>Ulmus rubra</i>	0	1876	13.4	0	0	0	0	0	0
				225.5	29.512	100	100	200	

Grassland or Herbaceous Sample Data by Transect and Cover Class<sup>1</sup>  
 Location: south side, Prairie restoration, Wildcat Hollow State Forest  
 Sampled By: N.L. Owens

Species \ Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
<i>Daucus carota</i>	2	2																							
<i>Solidago canadensis</i>	4	5	5	3	3	3	3	4	5	3	5	4	5	5	4	4	3	3	4	3	4	4	4	2	4
<i>Sorghastrum nutans</i>	2				4	3	3		2	2	3	3				2	3	2	2	4	2	2	4		2
<i>Andropogon gerardii</i>	2					2	2	2		3								3	2		2			4	
<i>Coryza canadensis</i>	4	3						2																	
<i>Fragaria virginiana</i>	2	1							1	2	2	2			2		2	1							
<i>Acer saccharinum</i>	1												2							1					
<i>Ratibida pinnata</i>		3																							
<i>Lysimachia ciliata</i>		2						3		2	2							2							
<i>Solidago nemoralis</i>				2																					
<i>Rudbeckia triloba</i>				3																					
<i>Aster novae-angliae</i>							3																		
<i>Carex sp.</i>								1																	
<i>Toxicodendron radicans</i>									2																
<i>Ulmus rubra</i>												3													
<i>Campsis radicans</i>												2		2		2	2				2	3	3	2	4
<i>Asclepias syriaca</i>															3	3									
<i>Desmanthus illinoense</i>																3	4	3			2			3	2
<i>Campanula americana</i>																	2								
<i>Agrostis gigantea</i>																					2				
<i>Melilotus alba</i>																						2	2		
<i>Cornus racemosa</i>																							3	2	



PTERIDOPHYTA

ADIANTACEAE

*Adiantum pedatum* L.; E3905

ASPLENIACEAE

*Asplenium platyneuron* (L.) Oakes; E4011

*Athyrium thelypteroides* (Michx.) Desv.

*Cystopteris protrusa* (Weatherby) Blasd.;  
E4182

*Dryopteris marginalis* (L.) Gray; E4012

*Onoclea sensibilis* L.

*Polystichum acrostichoides* (Michx.) Schott;  
E4013

*Woodsia obtusa* (Spreng.) Torr.; E4713

EQUISETACEAE

*Equisetum arvense* L.; E4887

LYCOPODIACEAE

*Lycopodium lucidulum* Michx.; E4148

OPHIOGLOSSACEAE

*Botrychium dissectum* Spreng.; E4857,  
E4862

*Botrychium dissectum* Spreng. var.  
*obliquum* (Michx.) Clute; E4696

*Botrychium virginianum* (L.) Sw.; E4048

OSMUNDACEAE

*Osmunda claytoniana* L.; 4712

PINOPHYTA

CUPRESSACEAE

*Juniperus virginiana* L.; E3946

PINACEAE

*Pinus strobus* L.; E4909

MAGNOLIOPHYTA

DICOTYLEDONEAE

ACANTHACEAE

*Ruellia humilis* Nutt. var. *longiflora* (Gray)

Fern.; E4459

*Ruellia strepens* L.

ACERACEAE

*Acer negundo* L.; E4028

*Acer saccharinum* L.; E4880

*Acer saccharum* Marsh.; E4899

AMARANTHACEAE

*Amaranthus*; E4934

*Amaranthus hybridus* L.; E4683

ANACARDIACEAE

*Rhus aromatica* Ait.; E4470

*Rhus glabra* L.; E4709

*Toxicodendron radicans* (L.) Kuntze T13693

ANNONACEAE

*Asimina triloba* (L.) Dunal; E4900

APIACEAE

*Chaerophyllum procumbens* (L.) Crantz.;  
E3903

*Cicuta maculata* L.

*Cryptotaenia canadensis* (L.) DC; E4163

\**Daucus carota* L.; E4461

*Erigenia bulbosa* (Michx.) Britt.

*Eryngium yuccifolium* Michx.; E4457

*Osmorhiza claytonii* (Michx.) Clarke; E4055

*Osmorhiza longistylis* (Torr.) DC; E3911

*Sanicula canadensis* L.; E4485

*Sanicula* sp; E4509, T13687

*Sium sauve* Walt.

\**Thaspium trifoliatum*

\**Torilis japonica* (Houtt.) DC.; E4486

*Zizia aurea* (L.) K. Koch; E3900

APOCYNACEAE

*Apocynum cannabinum* L.; E4462

ARALIACEAE

*Panax quinquefolius* L.

## ARISTOLOCHIACEAE

*Aristolochia serpentaria* L.; E4859  
*Asarum canadense* L. var. *reflexum* (Bickn.)  
 Robins; E3938

## ASCLEPIADACEAE

*Asclepias hirtella* (Pennell) Woodson;  
 E4464  
*Asclepias incarnata* L.; E4669  
*Asclepias purpurascens* L.; E4149  
*Asclepias syriaca* L.; E4414  
*Asclepias tuberosa* L.  
*Cynanchum laeve* (Michx.) Pers.; E4676

## ASTERACEAE

\**Achillea millefolium* L.; E4501  
*Ambrosia artemisiifolia* L.; E4727  
*Ambrosia bidentata* Michx.; E4706  
*Ambrosia trifida* L.; E4881  
*Antennaria neglecta* Greene  
*Antennaria plantaginifolia* (L.) Richards;  
 E3914  
*Aster cordifolius* L.; E4710, E4864  
*Aster lateriflorus* (L.) Britt.; E4917  
*Aster laevis* L.; E4634  
*Aster novae-angliae* L.; E4657  
*Aster pilosus* Willd.; E4905  
*Aster ontarionis* Wieg.; E4874  
*Aster praealtus* Poir.; E4852  
*Aster shortii* Lindl.; E4868  
*Aster* × *sagittifolius* Wedem.  
*Aster simplex* Willd.; E4925  
*Aster turbinellus* Lindl.; E4873  
*Bidens aristosa* (Michx.) Britt.  
*Bidens discoidea* (Torr. & Gray) Britt.;  
 E4903  
*Bidens bipinnata* L.; E4497  
*Bidens frondosa* L.; E4865, E4908  
*Bidens tripartita* L.; E4935  
*Boltonia asteroides* (L.) L'Hér.  
*Cacalia atriplicifolia* L.; E4872  
*Cirsium altissimum* (L.) Spreng.; E4870  
*Cirsium arvense* (L.) var. *horridum* Wimm. &  
 Grab.; E4654  
*Cirsium discolor* (Muhl.) Spreng.; E4920  
 \**Cirsium vulgare* (Savi) Tenore; E4673  
*Conyza canadensis* (L.) Cronq.; E4689  
*Coreopsis lanceolata* L.; E3989  
*Coreopsis tripteris* L.; E4882  
*Echinacea purpurea* (L.) Moench; E4670

*Eclipta prostrata* (L.) L.; E4924  
*Erechtites hieracifolia* (L.) Raf.; E4632  
*Erigeron annuus* (L.) Pers.; E4022  
*Erigeron philadelphicus* L.; E3958  
*Erigeron strigosus* Muhl.; E4041; E4160  
*Eupatorium purpureum* L.  
*Eupatorium perfoliatum* L.; E4701  
*Eupatorium rugosum* Houtt.; E4434  
*Eupatorium serotinum* Michx.; E4919  
*Eupatorium sessilifolium* L.; E4726, E4455  
*Euthamia graminifolia* (L.) Salisb.; E4720  
*Gnaphalium obtusifolium* L.; E4855  
*Helenium flexuosum* Raf.; E4458  
*Helianthus*; E4492, E4926  
*Helianthus divaricatus* L.; E4420  
*Helianthus grosseserratus* Martens  
*Helianthus mollis* Lam.; E4630  
*Heliopsis helianthoides* (L.) Sweet; E4690  
*Hieracium gronovii* L.; E4722  
*Hieracium longipilum* Torr.; E4853  
*Krigia biflora* (Walt.) Blake  
*Krigia dandelion* (L.) Nutt.  
*Lactuca canadensis* L.; E4416  
*Lactuca floridana* (L.) Gaertn.; E4707  
 \**Lactuca serriola* L.; E4677  
*Liatris aspera* Michx.  
*Liatris pycnostachya* Michx.; E4718  
*Matricaria matricarioides* (Less.) Porter;  
 E4498  
*Ratibida pinnata* (Vent.) Barnh.; E4662  
*Rudbeckia hirta* L.; E4147  
*Rudbeckia laciniata* L.; E4698  
*Rudbeckia triloba* L.; E4691  
*Silphium integrifolium* Michx.  
*Silphium perfoliatum* L.; E4679  
*Senecio glabellus* Poir.; E3947  
*Solidago canadensis* L.; 4671  
*Solidago juncea* Ait.; E4717  
*Solidago nemoralis* Ait.; E4906  
*Solidago ulmifolia* Muhl.; E4443  
 \**Taraxacum officinale* Weber; T13278  
*Verbesina alternifolia* (L.) Britt.; E4675  
*Vernonia missurica* Raf.; E4703  
*Xanthium strumarium* L. var. *glabratum*  
 (DC) Cronq.; E4936

## BALSAMINACEAE

*Impatiens capensis* Meerb.; E4170  
*Impatiens pallida* Nutt.

BERBERIDACEAE

Jeffersonia diphylla (L.) Pers.  
Podophyllum peltatum L.; E3930

BETULACEAE

Betula nigra L.

BIGNONIACEAE

Campsis radicans (L.) Seem.; E4463  
Catalpa speciosa (Warder) Engelm. ;

BORAGINACEAE

Cynoglossum sp  
Hackelia virginiana (L.) I. M. Johnson;  
E4476  
Mertensia virginica (L.) Pers.; E3904  
Myosotis verna Nutt.; E3997

BRASSICACEAE

Arabidopsis thaliana E4068  
Arabis laevigata (Willd) Lam.; T13280  
\*Barbarea vulgaris R. Br.; E3916  
\*Capsella bursa-pastoris (L.) Medic.; E3990  
\*Cardamine hirsuta L.; E3996  
Cardamine pratensis L. var. palustris Wimm. &  
Grab.; E4046  
Dentaria laciniata Muhl.; E3924  
Draba verna L.; T13279  
Hesperis matronalis L.; E4922  
Lepidium virginicum L.; E3992  
Lepidium densiflorum Schrad.; E4033  
Thlaspi arvense L.; E3995

CAESALPINIACEAE

Cassia fasciculata Michx.; E4465  
Cassia marilandica L.  
Cercis canadensis L.; E4886  
Gleditsia triacanthos L.; E4891  
Gymnocladus dioicus (L.) K. Koch;

CALLITRICHACEAE

Callitriche terrestris Raf.

CAMPANULACEAE

Campanula americana L.; E4466  
Lobelia inflata L.; E4430; T13586B  
Lobelia siphilitica L.; E4655  
\*Triodanis perfoliata (L.) Neuw.; E4056

CAPRIFOLIACEAE

\*Lonicera japonica Thunb.; E4165

\*Lonicera maackii (Rupr.) Maxim.;  
Sambucus canadensis L.; E4682  
Symphoricarpos orbiculatus Moench.;  
E4869  
Triosteum perfoliatum L.; E4155  
Viburnum prunifolium L.;  
Viburnum recognitum Fern.; E4429

CARYOPHYLLACEAE

Cerastium nutans E3921  
Cerastium fontanum Baum. E3920 (3921?)  
\*Dianthus armeria L.; E4167  
Paronychia fastigiata (Raf.) Fern.; E4446  
Silene stellata (L.) Ait.; E4495  
\*Stellaria media (L.) Vill.; E3931

CELASTRACEAE

Celastrus scandens L.; E4451  
Euonymus atropurpurea Jacq.; E4912  
\*Euonymus europaea L.; E4018, E4422

CHENOPODIACEAE

Chenopodium album L.; E4449

CISTACEAE

Lechea tenuifolia Michx.; E4851

CONVOLVULACEAE

Ipomea hederacea (L.) Jacq.; E4491  
Ipomea pandurata (L.) G F. W. Mey.; E4672

CORNACEAE

Cornus drummondii C. A. Mey.; E4150  
Cornus florida L.; E3940  
Cornus racemosa Lam.; E4020

CORYLACEAE

Corylus americana Walt.; E4902  
Carpinus caroliniana Walt.; E4915  
Ostrya virginiana (Mill.) K. Koch; E4914

CUCURBITACEAE

Sicyos angulatus L.; E4688

CUSCUTACEAE

Cuscuta sp. (creek bank)

EBENACEAE

Diospyros virginiana L.; E4153

ELAEAGNACEAE

\*Elaeagnus umbellata Thunb.; E3917



#### EUPHORBIACEAE

*Acalypha gracilens* Gray; E4884  
*Acalypha virginica* L.; E4506  
*Acalypha rhomboidea* Raf.; E4928  
*Chamaesyce supina* (Raf.) Moldenke; E4499  
*Chamaesyce maculata* (L.) Steud.; E4692  
*Euphorbia corollata* L.; E4643  
*Poinsettia dentata* (Michx.) Kl. & Garcke;  
E4678  
*Phyllanthus carolinensis* author, T 13679

#### FABACEAE

E4871  
*Amorpha fruticosa* L.; E4037  
*Amphicarpaea bracteata* (L.) Fern.; E4417,  
E4687  
*Baptisia lactea* (Raf.) Thieret; E4413;  
*Desmodium glutinosum* (Muhl.) Wood.;  
E4724  
*Desmodium illinoense* Gray; E4668  
*Desmodium nudiflorum* (L.) DC.; E4439  
*Desmodium paniculatum* (L.) DC.;  
\**Kummerowia striata* Thunb.; E4895  
*Lespedeza*; E4704  
*Lespedeza capitata* Michx.; E4656  
\**Lespedeza cuneata* Michx.; E4896  
*Lespedeza procumbens* Michx.; E4640  
*Lespedeza virginica* (L.) Britt.; E4705  
\**Medicago lupulina* L.; E4681  
\**Melilotus alba* Medic.; E4684  
*Phaseolus polystachios* (L.) BSP.; E4871  
*Strophostyles leiosperma* (Torr. & Gray)  
Piper; E4641  
*Trifolium campestre* Schreb.; E4036  
*Trifolium pratense* L.; E4027  
*Trifolium repens* L.; E4040

#### FAGACEAE

*Quercus alba* L.; E4005  
*Quercus imbricaria* Michx.; E4898  
*Quercus macrocarpa* Michx.  
*Quercus palustris* Muenchh., T13685  
*Quercus prinoides* Willd. var. *acuminata*  
(Michx.) Gl.; E4166  
*Quercus rubra* L.  
*Quercus stellata* Wangh.; E4918  
*Quercus velutina* Lam.; T 13281, T 13674  
*Quercus × leana* Nutt.; E4885

#### GENTIANACEAE

*Frasera caroliniensis* Walt.

#### GERANIACEAE

*Geranium carolinianum* L.; E3993  
*Geranium maculatum* L.; E3928

#### GROSSULARIACEAE

*Ribes missouriense* Nutt.; E4693

#### HAMAMELIDACEAE

*Liquidambar styraciflua* L.

#### HYDRANGEACEAE

*Hydrangea arborescens* L.; E4478

#### HYDROPHYLLACEAE

*Hydrophyllum appendiculatum* Michx.,  
E4030  
*Hydrophyllum virginianum* L.  
*Phacelia purshii* Buckley

#### HYPERICACEAE

*Hypericum mutilum* L., E4883  
*Hypericum prolificum* L.; E4460  
*Hypericum punctatum* Lam.; E4490  
*Hypericum sphaerocarpon* author, T 13686

#### JUGLANDACEAE

*Carya cordiformis* (Wang.) K. Koch; E4054  
*Carya glabra* (Mill.) Sweet  
*Carya laciniata* (Michx.) Loud.  
*Carya ovata* (Mill.) K. Koch; T 13690  
*Carya tomentosa* (Poir) Nutt., T 13684  
*Juglans nigra* L.

#### LAMIACEAE

*Agastache nepetoides* (L.) Ktze.; E4866  
*Blephilia hirsuta* (Pursh.) Benth.; E4177  
*Hedeoma pulegioides* (L.) Pers.; E4440  
\**Lamium maculatum* L., T13282  
\**Lamium purpureum* L.; T 3283  
*Lycopus americanus* Muhl.  
*Monarda bradburiana* Beck.; E4044  
*Monarda fistulosa* L.; E4644  
*Perilla frutescens* (L.) Britt.; E4927  
\**Prunella vulgaris* L.; E4425  
*Pycnanthemum tenuifolium* Schrad.; E4493  
*Pycnanthemum virginianum* (L.) Dur. &  
Jacks.  
*Scutellaria incana* Biehler; T13691  
*Scutellaria nervosa* Pursh.; E4025  
*Stachys tenuifolia* Willd.; E4728  
*Teucrium canadensis* L.; E4448

## LAURACEAE

*Lindera benzoin* (L.) Blume; E4475  
*Sassafras albidum* (Nutt.) Nees; E4058

## LINACEAE

*Linum medium* (Planch.) Britt.; E4702

## LYTHRACEAE

*Ammannia coccinea* Rottb.; E4636

## MAGNOLIACEAE

*Liriodendron tulipifera* L.

## MALVACEAE

*Hibiscus trionum* L.; E4685  
 \**Sida spinosa* L.; E4921

## MENISPERMACEAE

*Menispermum canadense* L. E4901

## MIMOSACEAE

*Desmanthus illinoensis* (Michx.) MacM.;  
 E4665

## MOLLUGINACEAE

*Mollugo verticillatus* L. E 4659

## MORACEAE

*Broussonetia papyrifera* (L.) Vent.; E4049  
*Humulus lupulus* L.; E4892  
*Morus rubra* L.; E4875

## OLEACEAE

*Forestiera acuminata* (Michx.) Poir.  
*Fraxinus americana* L.; E4711  
*Fraxinus lanceolata* author, T13689  
*Fraxinus pennsylvanica* Marsh.; E4913

## ONOGRACEAE

*Circaea lutetiana* L. spp. *canadensis* (L.) Aschers  
 & Magnus; E4435  
*Gaura biennis* L.  
*Ludwigia alternifolia* L.; E4484  
*Ludwigia peploides* (HBK) Raven spp.  
*glabrescens* (Ktze.) Raven E4035  
*Oenothera biennis* L.; E4715

## OXALIDACEAE

*Oxalis stricta* L.; E4176  
*Oxalis violacea* L.; E3918

## PAPVERACEAE

*Dicentra cucullaria* (L.) Bernh.; E3908  
*Sanguinaria canadensis* L.

## PASSIFLORACEAE

*Passiflora lutea* L.

## PHYRMACEAE

*Phryma leptostachya* L.; E4436

## PHYTOLACCACEAE

*Phytolacca americana* L.; E4437

## PLANTAGINACEAE

*Plantago aristata* Pursh, T 13680  
*Plantago lanceolata* L.; E4032  
*Plantago rugelii* Dcne.; E4500  
*Plantago virginica* L.; E3994

## PLATANACEAE

*Platanus occidentalis* L.; E4038

## POLEMONIACEAE

*Phlox divaricata* L. spp. *laphamii* (Wood.)  
 Wherry; E3920  
*Phlox paniculata* L.; E4686  
*Polemonium reptans* L.

## POLYGALACEAE

*Polygala sanguinea* L.; E4721

## POLYGONACEAE

\**Rumex acetosella* L.; E4007  
 \**Rumex crispus* L.; E3998  
 \**Rumex obtusifolius* L.; E4433  
*Polygonum cespitosum* Blum.; E4447  
*Polygonum hydropiper* L.; E4431  
*Polygonum pensylvanicum* L.; E4635  
*Polygonum persicaria* L.; E4933  
*Polygonum punctatum* Ell.; E4496  
*Polygonum scandens* L.; E4442  
*Polygonum virginianum* L.; E4444

## PORTULACACEAE

*Claytonia virginica* L.; E3945

## PRIMULACEAE

*Dodecatheon media* L.; E3912  
*Lysimachia ciliata* L.; E4427  
*Lysimachia hybrida* Michx.; E4660  
 \**Lysimachia nummularia* L.; E3952

RANUNCULACEAE

Actaea pachypoda Ell.; E3909  
 Anemone canadensis L.  
 Anemone virginiana L.; E4480  
 Anemonella thalictroides (L.) Spach;  
 T13275  
 Aquilegia canadensis L.  
 Delphinium tricorne Michx.; E3922  
 Hydrastis canadensis L.  
 Isopyrum biternatum (Raf.) T. & G.; E3913  
 Myosurus minimus L.  
 Ranunculus abortivus L.; E3910  
 Ranunculus septentrionalis Poir.; T13277  
 Thalictrum dioicum L.  
 Thalictrum revolutum DC; E4146

ROSACEAE

Agrimonia parviflora Ait., T13677  
 Agrimonia rostellata Wallr.; E4418, 4856  
 Amelanchier arborea (Michx. f.) Fern.;  
 E4009  
 Aruncus dioicus (Walt.) Fern.; E4469  
 Fragaria virginiana Duchesne  
 Geum canadense Jacq.; E4510  
 Geum vernum (Raf.) Torr. & Gray.; E3943  
 Porteranthus stipulatus (Muhl.) Britt.; E4175  
 \*Potentilla recta L.; E4158  
 Potentilla simplex Michx.; E3937  
 Prunus americana Marsh.; E4181  
 Prunus mahaleb L.; E4858  
 Prunus serotina Ehrh.; E4708  
 Rosa carolina L.; E4172  
 \*Rosa multiflora Thunb.; E4006  
 Rubus allegheniensis Porter; E4157  
 Rubus flagellaris Willd.; E3951  
 Rubus occidentalis L.; E4174, T13681

RUBIACEAE

Cephalanthus occidentalis L.  
 Diodia teres Walt.; E4482  
 Galium aparine L.; E3944  
 Galium circaezans Michx.; E4489  
 Galium concinnum Torr. & Gray; E4057,  
 E4186  
 Galium triflorum L.; E4723  
 Hedyotis purpurea (L.) T. & G.; E4164,  
 E3991  
 Spermacoe glabra Michx.; E4863

RUTACEAE

Ptelea trifoliata L.; E4889

SALICACEAE

\*Populus alba L.; E4653  
 Populus deltoides Marsh., T13683  
 Salix humilis Marsh.  
 Salix nigra Marsh.; E4888

SAXIFRAGACEAE

Heuchera americana L. var. hirsuticaulis  
 (Wheelock) Butt & Clark; E4060

Penthorum sedoides L.

SCROPHULARIACEAE

Collinsia verna Nutt.  
 Lindernia dubia author, T13675  
 Mimulus alatus Ait.; 4729  
 Penstemon digitalis Nutt.; E4487  
 Penstemon pallidus Small; E4725  
 Physostegia speciosa (Sweet) Sweet; E4658  
 Scrophularia marilandica L.; 4699  
 Verbascum thapsus L.; E4699  
 \*Veronica arvensis L.; E3999  
 Veronica peregrina L.; E4045  
 Veronicastrum virginicum (L.) Farw.

SOLANACEAE

Solanum caroliniensis L.; E4159  
 Solanum ptycanthum Dunal; E4923  
 Physalis heterophylla Nees; E4154

STAPHYLEACEAE

Staphylea trifolia L.; E4932

TILIACEAE

Tilia americana L.; E4930

ULMACEAE

Celtis occidentalis L.; E4878

Ulmus americana L.

Ulmus rubra Muhl.; E4877; T13273

URTICACEAE

Boehmeria cylindrica (L.) Sw.; E4473  
 Laportea canadensis (L.) Wedd.; E4932  
 Parietaria pennsylvanica Muhl.; E4047,  
 E4505  
 Pilea pumila (L.) Gray; E4695

VERBENACEAE

Phyla lanceolata (Michx.) Greene; E4893  
 Verbena hastata L.; E4694  
 Verbena urticifolia L.; E4437

VIOLACEAE

*Viola pratincola* Greene  
*Viola pubescens* Ait. var. *eribocarpa*  
 (Schwein) Russell; E3957  
 \**Viola rafinesquii* Greene; E3936  
*Viola sororia* Willd.; E3939, E4861  
*Viola striata* Ait.; E3902  
*Viola triloba* Schwein.; E4173

VITACEAE

*Ampelopsis cordata* Michx.; E4890  
*Parthenocissus quinquefolius* (L.) Planch.;  
 E4052  
*Vitis aestivalis* Michx.; E4876  
*Vitis riparia* L., T 13682

MONOCOTYLEDONEAE

ALISMATACEAE

*Alisma plantago-aquatica* L.

ARACEAE

*Arisaema dracontium* (L.) Schott; E4051  
*Arisaema triphyllum* (L.) Schott; E3927

COMMELINACEAE

\**Commelina communis* L.; E4424  
*Tradescantia ohiensis* Raf.; E3987  
*Tradescantia virginiana* L.; E3932  
*Tradescantia subaspera* Ker; E4697

CYPERACEAE

*Carex albicans* Willd., T13272  
*Carex blanda* Dewey; E4062  
*Carex bushii* Mack; E4161  
*Carex cephalophora* 4065  
*Carex conoidea* Schkuhr ex Willd.; E4059  
*Carex glaucodea* Tuckerm.; E4003  
*Carex grayi* Carey; E4474  
*Carex hirsutella* Mack.; E4066  
*Carex jamesii* Schwein.; E4029  
*Carex normalis* Mack.; E4064  
*Carex pennsylvanica* Lam.; E4008  
*Carex rosea* Willd.; E3950  
*Carex shortiana* Dewey; E4001  
*Carex squarrosa* L.  
*Carex vulpinoidea* Michx.; E4002, E4162,  
 E4010  
*Cyperus strigosus* L.; E4629  
*Eleocharis elliptica* Kunth.; E4042

*Eleocharis obtusa* (Willd.) Schult. var. *ovata*  
 (Roth) Roem. & Schultes; E4179  
*Scirpus atrovirens* Willd.  
*Scirpus georgianus* Harper; E4419, E4674

DIOSCOREACEAE

*Dioscorea quaternata* (Walt.) J. F. Gmel;  
 E4053

IRIDACEAE

*Iris shrevei* Small

JUNCACEAE

*Juncus anthelatus* (Wieg.) Brooks E4000  
*Juncus brachycarpus* Engelm.; E4152  
*Juncus dudleyi* Wieg. E4043  
*Juncus effusus* L. var. *solutus* Fern. & Wieg.  
*Juncus tenuis* E4731  
*Juncus tenuis* Willd.; E4169  
*Juncus torreyi* Coville; E4633, 4734

LEMNACEAE

*Lemna minor* L.;

LILIACEAE

*Allium canadense* L.; E4168  
*Erythronium albidum* Nutt.;  
*Erythronium americanum* Ker;  
*Nothoscordum bivalve* (L.) Britt.; E3949  
*Polygonatum commutatum* (Schult.) A.  
 Dietr.; E4014  
*Smilacina racemosa* (L.) Desf.; E4002a  
*Trillium nivale* Riddell; E3901  
*Trillium recurvatum* Beck.; E3925  
*Uvularia grandiflora* Sm.; T 13276  
*Uvularia sessilifolia* L.

ORCHIDACEAE

*Aplectrum hyemale* (Willd.) Nutt.; E4015  
*Cypripedium pubescens* Willd.; E4911  
*Galearis spectabilis* (L.) Raf.  
*Liparis lilifolia* (L.) Rich.; E4467  
*Spiranthes cernua* (L.) Rich.; T13586A

POACEAE

Agrostis alba L.; E4663  
 Agrostis perennans 4730  
 Agrostis scabra Willd. 4481  
 Alopecurus carolinianus Walt.;  
 Andropogon gerardii Vitmar; E4664  
 Andropogon virginicus L.; E4907  
 Aristida oligantha Michx.; E4645, 4850  
 Bouteloua curtipendula (Michx.) Torr.;  
 E4667  
 Brachyleytrum erectum (Schreb.) Beauv.;  
 E4916  
 Bromus commutatus Schrad.; E4184  
 Bromus pubescens Muhl.; E4428  
 Cinna arundinacea L.; E4719  
 \*Dactylis glomerata L.; E4067  
 Danthonia spicata (L.) Roem. & Schultes;  
 E4183  
 Digitaria sanguinalis (L.) Scop.; E4649  
 Digitaria filiformis (L.) Koel.; E4879  
 Echinochloa crus-galli (L.) Beauv.; E4488,  
 Echinochloa muricata (Beauv.) Fern.; E4450  
 Eleusine indica (L.) Gaertn. E4642  
 Elymus canadensis L.  
 Elymus hystrix L.; E4471  
 Elymus villosus Muhl.; E4502  
 Elymus virginicus L.; E4171,  
 Eragrostis cilianensis 4867  
 Eragrostis spectabilis (Pursh.) Steud.; E4647  
 Festuca subverticillata (Poir.) Alexeev  
 E4017  
 Festuca pratensis Huds.; E3935  
 Glyceria striata (Lam.) Hitchcock; E4178  
 Hordeum pusillum Nutt.; E4031  
 Leersia oryzoides (L.) Swartz; E4860  
 Leersia virginica Willd.; E4432  
 Muhlenbergia frondosa (clearing)  
 Muhlenbergia schreberi J. F. Gmel; E4423  
 Panicum clandestinum (L.) Gould; E4732  
 Panicum dichotomiflorum Michx.; E4929  
 Panicum dichotomum L. var. barbulatum  
 (Michx.) Wood.; E4185  
 Panicum lanuginosum Ell.; E4180, E4185,  
 E4472, E4477, E4479  
 Panicum microcarpon Muhl.; E4508  
 Panicum oligosanthes Schult.  
 Panicum praecocius Hitch. & Chase; E4180  
 Panicum virgatum L.; E4666

Paspalum ciliatifolium var. muhlenbergii  
 (Nash) Fern.; E4652  
 Paspalum ciliatifolium Michx.; E4494  
 Phalaris arundinacea L.  
 \*Phleum pratense L.; E3988  
 \*Poa annua L.; E4024  
 Poa compressa L.; E4034  
 Poa palustris E3906, E4023  
 Poa pratensis L. E3935, E4063  
 Setaria glauca (L.) Beauv.; E4648  
 \*Setaria faberi Herrm.; E4445  
 Schizachyrium scoparium (Michx.) Nash;  
 E4661  
 Sorghastrum nutans (L.) Nash; E4897  
 Sorghum bicolor (L.) Moench; E4680  
 Tridens flavus (L.) Hitchc.; E4700

SMILACACEAE

Smilax herbacea L.; E4441  
 Smilax hispida Muhl.; T13688

TYPHACEAE

Typha latifolia L.; E4631