

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 ≥ 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 ² /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 Class¹
 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>																									
<i>Rudbeckia triloba</i>																									
<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