

**The vascular flora of the J. T. Nickel Family  
Nature and Wildlife Preserve, Cherokee  
County, Oklahoma**

**A final report submitted by:**

Bruce W. Hoagland<sup>\*1,2</sup> and Amy Buthod<sup>1</sup>

<sup>1</sup>Oklahoma Biological Survey, <sup>2</sup>Department of Geography; University of  
Oklahoma, Norman, OK 73019-0575

20 December 2006

## ABSTRACT

This paper reports the results of an inventory of the vascular plants at the J. T. Nickel Family Nature and Wildlife Preserve in northeastern Oklahoma. A total of 597 taxa of vascular plants in 357 genera and 118 families were collected. The most species were collected from the families Asteraceae (87), Poaceae (58), and Fabaceae (43). One hundred and seventy-three species were annuals, five were biennials, and 418 were perennials. Ninety-one species of woody plants were present. Seventy-eight exotic species were collected representing 13.2% of the flora. Fifteen species tracked by the Oklahoma Natural Heritage Inventory were found. This study reports the first records for *Glyceria acutiflora* and *Microstegium vimineum* (Poaceae) in Oklahoma.

## INTRODUCTION

The flora of the Ozark Plateau of Oklahoma has long been the subject of study. Robert Bebb, namesake of the University of Oklahoma herbarium, collected the first specimen from the region, *Solanum rostratum*, in 1909. Charles S. Wallis completed the most thorough study of the Ozarks. Between 1942 and 1969, he deposited 14,048 specimens in the Robert Bebb Herbarium (OKL) at the University of Oklahoma and the herbarium at Oklahoma State University for a total 1,674 species (OKLA; Hoagland et al. 2006). Wallis's work is summarized in several publications (Wallis 1953, 1957, 1959; Wallis and Waterfall 1953; Waterfall and Wallis 1962, 1963).

Cherokee County lies on the western edge of the Ozark Plateau in Oklahoma. At present, 1,442 species have been recorded from Cherokee County (Hoagland et al.

2006). The first plant collections from Cherokee County were specimens of *Gleditsia triacanthos*, collected by C. W. Prier in June of 1922, and *Verbena urticifolia*, collected by E. L. Chase in August of 1922. The first significant numbers of specimens were collected by Prier from March 1924 to July 1925 (Hoagland et al. 2006). Elbert Little's collecting history in the county spanned from 1928 to 1981, by which time he had collected 630 specimens representing 194 taxa. State rare species collected by Little included *Castanea pumila* var. *ozarkensis* and *Panax quinquefolius*. Robert Bebb, namesake of the University of Oklahoma herbarium, collected 134 species from the county from 1928 to 1948. Wallis collected 2,975 specimens from Cherokee County representing 1,214 species. Species rare in Oklahoma collected by Wallis included *Asplenium bradleyi*, *Desmodium pauciflorum*, *Draba aprica*, and *Valerianella ozarkana*. Numerous collectors made sporadic collections since that time, although a systematic collection of the county has yet to be completed.

The objective of this study was to provide a floristic inventory to aid The Nature Conservancy personnel at the John T. Nickel Family Nature and Wildlife Preserve (JTN). It should also be noted that many species tracked by the Oklahoma Natural Heritage Inventory are known to occur in Cherokee County and a systematic inventory would yield additional occurrences of rare species. The JTN was established in 2000 and protects 6,070 hectares, the largest preserve in the Ozark Plateau. It occurs in the Subtropical Humid (Cf) climate zone (Trewartha 1968). Summers are warm (mean July temperature = 26.9° C) and humid, and winters are relatively short and mild (mean

January temperature = 2.7° C). Mean annual precipitation is 122 cm (Oklahoma Climatological Survey 2006).

Physiographically, the study area is located on the deeply dissected Ozark Plateau (Hunt 1974, Curtis and Ham 1979). The surface geology is predominantly Mississippian limestone and cherts (Branson and Johnson 1979). Soils at the site belong to either the Sallisaw-Elsah-Staser (deep, gravelly or loamy, nearly level to sloping soils on floodplains and benches) or the Clark-Baxter-Locust association (deep, stony and cherty, very gently sloping to steeply sloping on timbered uplands; Everett 1970). Potential natural vegetation at JTN is oak-hickory-pine forest (Duck and Fletcher 1943). The broad valley bottoms and level uplands were converted to pastures of *Schedonorus phoenix* which were primarily cut for hay. The Nature Conservancy is currently restoring these pastures to native tallgrass prairie species. They have likewise restored a fire regime in an effort to mimic the mosaic of grassland, woodland and forest vegetation that has been described by authors such as Beilman and Brenner (1951).

## METHODS

Ten collection sites were regularly visited for floristic sampling (Appendix 2). Additional collections were also made randomly throughout the JTN. Collecting began on March 2002 and continued through October 2003. Sites were selected following a review of U. S. Geological Survey 1:24,000 topographic maps and field reconnaissance. The predominant vegetation association at these sites was classified according to Hoagland (2000). Vouchers for exotic species were made from naturalized populations

only, thus excluding cultivated and ornamental plants. Specimens were processed at the Robert Bebb Herbarium at the University of Oklahoma (OKL) following standard procedures. Manuals used for specimen identification included Waterfall (1973), Diggs et al. (1999), and Yatsievych (1999). Origin, either native or introduced, was determined using Taylor and Taylor (1991) and USDA-NRCS (2006). Nomenclature follows the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS 2006). Voucher specimens were deposited at the Robert Bebb Herbarium at the University of Oklahoma.

## RESULTS AND DISCUSSION

A total of 597 taxa of vascular plants in 118 families and 357 genera were collected at the JTN (Appendix 1, Table 1). Among the angiosperms, 136 were monocots and 447 were dicots. In addition, there were 12 ferns and two gymnosperms. The Asteraceae (87), Poaceae (66), and Fabaceae (44) had the greatest number of species. The largest genus was *Carex* with 17 species. One hundred and seventy-three species were annuals, five were biennials and 418 were perennials. Ninety-one species were trees, shrubs, and woody vines. Fifty species previous unreported for Cherokee County were collected. Two species in the Poaceae, previously unreported from Oklahoma, were encountered: *Glyceria acutiflora* Torr. and *Microstegium vimineum* (Trin.) A. Camus.

Seventy-eight species (13.2% of the flora) in 23 families were exotic to Oklahoma. The families with the greatest number of introduced species were Poaceae

(14), Fabaceae (10), and Asteraceae (7). The genus *Trifolium* had the most exotic species (4). Floristic surveys from throughout Oklahoma report that exotic species constitute 9-15% of the flora (Hoagland and Johnson 2001, 2004a, 2004b; Hoagland and Buthod 2003, 2004; Hoagland and Wallick 2003, Hoagland, Buthod, and Elisens 2004, Hoagland, Crawford-Callahan et al 2004, Hoagland and Buthod 2005a, Hoagland and Buthod 2005b, Hoagland and Johnson 2005), with the exception of two sites in McCurtain County, where 6.6% of the flora consisted of exotic species (Hoagland and Johnson 2004c).

Fifteen species tracked by the Oklahoma Natural Heritage Inventory were encountered (Appendix 3, Table 2). Species are ranked according to level of imperilment at the state (S) and global (G) levels on a scale of 1 - 5; 1 representing a species that is imperiled and 5 one that it is secure (Groves et al. 1995). Of the 15, *Castanea pumila* var. *ozarkensis* and *Silene regia* were formerly considered as candidates for Federal listing. *Physocarpus opulifolius* var. *intermedius* was most recently collected by Wallis in 1953. *Clematis virginiana* was last collected by Wallis in 1958, and only four records exist in the OVPD, all from Cherokee County (Hoagland et al. 2006). Prior to this study, a voucher specimen for *Uvularia grandiflora* from Cherokee County had not been deposited in a state herbarium since 1969.

Collection sites selected at JTN occurred within seven vegetation associations. Several of the upland forests heavily intergraded, therefore some forest associations were aggregated. The presence of *Pinus echinata* confounds this problem. Whether *P. echinata* is present or not, the broadleaf canopy trees and associated species remained

the same. Thus, forest associations with the highest apparent similarity were merged into broad categories of xeric and mesic forest. A description of each vegetation category follows:

### 1. Xeric Forests

This category subsumes the *Pinus echinata-Quercus stellata-Quercus marilandica*, *Quercus stellata-Quercus marilandica-Carya (glabra, texana)/Vaccinium arboreum*, *Quercus alba-Quercus falcata* forest associations. Xeric forests predominate on south-facing and exposed slopes. Associated species include *Amelanchier arborea*, *Baptisia bracteata*, *Carex albicans*, *Clitoria mariana*, *Coreopsis tripteris*, *Danthonia spicata*, *Echinacea pallida*, *Erythronium mesochoreum*, *Gamochaeta purpurea*, *Parthenium integrifolium*, *Rhododendron prinophyllum*, *Rudbeckia hirta*, *Tephrosia virginiana*, *Vaccinium arboretum*, and *V. pallidum*

### 2. Mesic Forests

The *Pinus echinata-Quercus alba* and *Quercus alba-Carya alba* forest associations are merged into this category. Mesic forests are prevalent on north-facing and low slope positions. Associated species include *Adiantum pedatum*, *Amsonia tabernaemontana*, *Asclepias quadrifolia*, *Bromus pubescens*, *Enemion biternatum*, *Desmodium glutinosum*, *Dichanthelium boscii*, *Elephantopus carolinianus*, *Galium aparine*, *Geranium maculatum*, *Hypericum hypericoides*, *Myosotis verna*, *Nyssa sylvatica*, *Ostrya virginiana*, *Pedicularis canadensis*, *Pteridium aquilinum*, *Rudbeckia*

*laciniata*, *Sanicula canadensis*, *Silene virginica*, *Smallanthus uvedalius*,  
*Symphotrichum patens*, *Viburnum rufidulum*, and *Woodsia obtusa*.

3. *Platanus occidentalis*-*Acer negundo* forest association

This association is restricted to the floodplains of high order streams. Associated species include *Arundinaria gigantea*, *Betula nigra*, *Elymus hystrix*, *Ilex decidua*, *Impatiens capensis*, *Leersia virginica*, *Ruellia strepens*, *Rudbeckia triloba*, *Sambucus nigra*, and *Zizia aurea*

4. *Sedum nuttallianum*-*Plantago virginica* herbaceous association

This association represents glade habitats at JTN. Although limited in extent, this vegetation type contributes several species to the flora of JTN, including *Arabis canadensis*, *Croton willdenowii*, *Draba cuneifolia*, *Hedeoma hispida*, *Lechea mucronata*, *Minuartia patula*, *Polygala verticillata*, *Scutellaria ovata*, *Sedum pulchellum*, and *Talinum parviflorum*

5. *Schizachyrium scoparium*-*Bouteloua curtipendula* herbaceous association

This association represents grassy openings on more well-developed soils than the glades. They commonly occur on south-facing toe-slopes. Associated species include *Ceanothus americanus*, *Collinsia violacea*, *Cyperus echinatus*, *Dalea candida*, *Euphorbia corollata*, *Hymenopappus scabiosaeus*, *Lespedeza stuevei*, *Lithospermum canescens*, *Manfreda virginica*, *Mimosa nuttallii*, *Monarda fistulosa*, *Nothoscordum*

*bivalve*, *Opuntia humifusa*, *Penstemon tubiflorus*, *Rhynchosia latifolia*, *Salvia azurea*, and *Solidago petiolaris*

## 6. Wetland Vegetation

Although relatively distinct wetland vegetation associations occur at JTN, many share species. Therefore, it was decided to be more efficacious to merge wetlands into one category. Notes on the more distinctive wetland types follow. The *Nasturtium officinale* herbaceous association is associated with the numerous springs at JTN. The *Brasenia schreberi* herbaceous association typically occurs at the many small farm ponds at the site. *Utricularia gibba* and *Potamogeton diversifolius* are associates of this vegetation type and shoreward margin is typically lined with *Eleocharis quadrangulata*. The *Nelumbo lutea* herbaceous association occurs in only one large pond, but it was in this habitat that *Glyceria acutiflora* was encountered. Wetland species that occur in these include *Agrostis hyemalis*, *Bidens cernua*, *Carex frankii*, *Eclipta prostrata*, *Glyceria striata*, *Hydrocotyle verticillata*, *Justicia americana*, *Leersia oryzoides*, *Lindernia dubia*, *Lobelia cardinalis*, *Ludwigia palustris*, *Mimulus alatus*, *Polygonum lapathifolium*, *P. persicaria*, *Sagittaria graminea*, and *Typha latifolia*.

## 7. Disturbed areas and old-field vegetation

Disturbed areas were designated as sites used by visitors, mowed lawns, roadsides, and other sites exhibiting signs of physical disruption. Common plants in disturbed areas include *Cynodon dactylon*, *Daucus pusillus*, *Digitaria sanguinalis*,

*Lespedeza cuneata*, *Kummerowia stipulacea*, *Melilotus officinalis*, *Mollugo verticillata*, *Rhus glabra*, and *Trifolium dubium*. Old-fields are characterized by *Ambrosia artemisiifolia*, *Amaranthus rudis*, *Andropogon virginicus*, *Aristida oligantha*, *Conyza canadensis*, and *Descurainia pinnata*. *Sorghum halepense* covers extensive areas of retired crop land, roadsides, and drainage ditches. *Microstegium vimineum* occurs in and along roadsides in traversing mesic forests.

#### ACKNOWLEDGMENTS

This project was funded by a grant from the Oklahoma Chapter of The Nature Conservancy. We thank Christy Batterson, Lacy Jo Burgess, Priscilla Crawford, and Lacy Isom for field assistance.

#### LITERATURE CITED

- Beilmann, A. P. and L.G. Brenner. 1951. The recent intrusion of forests in the Ozarks. *Annals of the Missouri Botanical Gardens* 38: 261-282.
- Branson, C. C., and K. S. Johnson. 1979. Generalized geologic map of Oklahoma. In: Johnson, K.S., et al., eds. *Geology and Earth resources of Oklahoma*. Oklahoma Geological Survey, Norman.
- Curtis, N. M. and W. E. Ham. 1979. Geomorphic provinces of Oklahoma. In: Johnson, K.S., et al., eds. *Geology and Earth resources of Oklahoma*. Oklahoma Geological Survey, Norman.

- Diggs, G. M., B. L. Lipscomb, and R. J. O'Kennon. 1999. *Shinners and Mahler's Illustrated Flora of North Central Texas*. Botanical Research Institute of Texas and Austin College. Fort Worth.
- Duck, L.G., and J.B. Fletcher. 1943. *A game type map of Oklahoma. A Survey of the Game and Furbearing Animals of Oklahoma*. Oklahoma Department of Wildlife Conservation, Oklahoma City.
- Everett, C. 1970. *Soil Survey of Cherokee and Delaware counties*. United States Department of Agriculture, Washington, DC.
- Groves, C.R., M.L. Klein, and T.F. Breden. 1995. Natural heritage programs: public-private partnerships for biodiversity conservation. *Wildlife Society Bulletin* 23: 784-790.
- Hoagland, B. W. 2000. The vegetation of Oklahoma: a classification of landscape mapping and conservation planning. *Southwestern Naturalist* 45: 385-420.
- Hoagland BW, Buthod AK. 2003. Vascular flora of the Keystone Wildlife Management Area, Creek, Pawnee, and Osage Counties, Oklahoma. *Okla Native Plant Rec* 3:23-37.
- Hoagland BW, Buthod AK. 2004. Vascular flora of Hugo Lake Wildlife Management Area, Choctaw County, Oklahoma. *SE Nat* 3:701-714.
- Hoagland, BW, Buthod AK. 2005a. Vascular flora of a gypsum dominated site in Major County, Oklahoma. *Proc Okla Acad Sci* 85:1-8.
- Hoagland, BW, Buthod AK. 2005b. Vascular flora of a site along the Arkansas River, Pawnee County, Oklahoma. *Okla Native Plant Record* 5:61-72.

- Hoagland BW, Johnson FL. 2001. Vascular flora of the Chickasaw National Recreation Area, Murray County, Oklahoma. *Castanea* 66:383-400.
- Hoagland BW, Johnson FL. 2004a. Vascular flora of Chouteau Wildlife Management Area, Wagoner County, Oklahoma. *Okla Native Plant Rec* 4:30-39.
- Hoagland BW, Johnson FL. 2004b. Vascular flora of Love Valley Wildlife Management Area, Love County, Oklahoma. *Proc Okla Acad Sci* 83:47-62.
- Hoagland BW, Johnson FL. 2004c. Vascular flora of Red Slough and Grassy Slough Wildlife Management Areas, Gulf Coastal Plain, McCurtain County, Oklahoma. *Castanea* 69:284-296.
- Hoagland BW, Johnson FL. 2005. Vascular flora of the Deep Fork River in Okmulgee, Creek, and Okfuskee Counties. *Pub Okla Biol Surv* 6:15-29.
- Hoagland BW, Wallick K. 2003. Vascular flora of Oologah Wildlife Management Area in Nowata County, Oklahoma. *Proc Okla Acad Sci* 83:47-62.
- Hoagland BW, Buthod AK, Elisens W. 2004. Vascular flora of Washita Battlefield National Historic Site, Roger Mills County, Oklahoma. *Sida* 21:1187-1197.
- Hoagland BW, Crawford-Callahan P, Crawford P, Johnson FL. 2004. Vascular flora of Hackberry Flat, Frederick Lake, and Suttle Creek, Tillman County, Oklahoma. *Sida* 21:429-445.
- Hoagland B.W., Buthod A., Butler I., Crawford P., Elisens W., Udasi A., and Tyrl R. 2006. Oklahoma Vascular Plants Database. ([www.biosurvey.ou.edu](http://www.biosurvey.ou.edu)). University of Oklahoma, Norman. (Accessed on 1 October 2006).

Hunt, C. B. 1974. *Natural Regions of the United States and Canada*. W. H. Freeman, San Francisco.

Nature Conservancy. 2006. J. T. Nickel Family Nature and Wildlife Preserve. ([www.nature.org/wherewework/northamerica/states/oklahoma/preserves/nickel.html](http://www.nature.org/wherewework/northamerica/states/oklahoma/preserves/nickel.html)). Tulsa, Oklahoma. (Accessed on 1 October 2006).

Oklahoma Climatological Survey. 2006. Oklahoma Climatological Data ([www.ocs.ou.edu](http://www.ocs.ou.edu)). University of Oklahoma, Norman. (accessed 1 on October 2006).

Oklahoma Natural Heritage Inventory. 2006. Oklahoma Natural Heritage Inventory working list of rare Oklahoma plants. ([www.biosurvey.ou.edu/publicat.html](http://www.biosurvey.ou.edu/publicat.html)). University of Oklahoma, Norman. (Accessed on 1 October 2006).

Palmer, M. W., G. L. Wade, and P. Neal. 1995. Standards for the writing of floras. *Bioscience* 45: 339-345.

Taylor, R. J. and C. S. Taylor. 1991. *An Annotated List of the Ferns, Fern Allies, Gymnosperms, and Flowering Plants of Oklahoma*. Southeastern Oklahoma State University. Durant, OK.

Trewartha, G. T. 1968. *An Introduction to Climate*. McGraw-Hill, New York. USDA. 1999.

USDA-NRCS 2006. The PLANTS database. ([plants.usda.gov/plants](http://plants.usda.gov/plants)). National Plant Data Center, Baton Rouge, LA.

- Wallis, C. S. 1953. The Spermatophyta of Cherokee County, Oklahoma (exclusive of the Poaceae, Cyperaceae, and Juncaceae). M. S. Thesis. Oklahoma A&M College, Stillwater.
- Wallis, C. S. 1957. Additions to the Oklahoma flora from the Oklahoma Ozarks. Proceedings of the Oklahoma Academy of Science 38: 3-5.
- Wallis, C. S. 1959. Vascular plants of the Oklahoma Ozarks. Ph.D dissertation. Oklahoma State University, Stillwater.
- Wallis, C. S. and U. T. Waterfall. 1953. Additions to the Oklahoma flora from Cherokee County. Proceedings of the Oklahoma Academy of Science 34: 124-125.
- Waterfall, U. T. 1973. Keys to the Flora of Oklahoma. Published by the author, Stillwater, OK.
- Waterfall, U. T. and C. S. Wallis. 1962. Some geographic relationships of the vascular flora of the Oklahoma Ozarks: Studies in the composition and distribution of the Oklahoma flora. Proceeding of the Oklahoma Academy of Science 43: 61-63.
- Waterfall, U. T. and C. S. Wallis. 1963. A list of the vascular flora of the Oklahoma Ozarks. Proceeding of the Oklahoma Academy of Science 44: 11-22.
- Yatsievych, George. 1999. Steyermark's Flora of Missouri, Vol. 1, rev. ed. Missouri Department of Conservation in cooperation with the Missouri Botanical Garden Press. St. Louis, MO.

Table 1: Summary of floristic collections at the John T. Nickel Family Nature and Wildlife Preserve, Cherokee County, Oklahoma. Format follows Palmer et al. (1995).

Taxonomic Group	Species	Native	Exotic
Pteridophyta	11	11	0
Coniferophyta	2	2	0
Magnoliophyta	554	480	74
Magnoliopsdia	428	373	55
Liliopsida	126	107	19
Total	567	493	74

Table 2: Species tracked by the Oklahoma Natural Heritage Inventory that occurred at The Nature Conservancy's John T. Nickel Family Wildlife and Nature Preserve. G Rank = global conservation rank, S Rank = state conservation rank. Species are ranked in this table according to level of imperilment at the state (S) and global (G) levels on a scale of 1 - 5; 1 representing a species that is imperiled and 5 one that is secure (Groves et al. 1995)

Genus	Species	G Rank	S Rank
<i>Brachyelytrum</i>	<i>Erectum</i>	G5	S1
<i>Brasenia</i>	<i>Schreberi</i>	G5	S1
<i>Carex</i>	<i>cephalophora</i>	G5	S2
<i>Carex</i>	<i>oklahomensis</i>	G3?	S?
<i>Carex</i>	<i>Oxylepis</i>	G5?	S2
<i>Clematis</i>	<i>Virginiana</i>	G5	S1S2
<i>Impatiens</i>	<i>Pallida</i>	G5	S2
<i>Iris</i>	<i>Cristata</i>	G5	S2
<i>Phaseolus</i>	<i>Polystachios</i>	G4	S1
<i>Physocarpus</i>	<i>Opulifolius</i>	G5	S1S3
<i>Silene</i>	<i>Regia</i>	G3	S1
<i>Tradescantia</i>	<i>Ernestiana</i>	G3?Q	S?
<i>Tradescantia</i>	<i>Ozarkana</i>	G3	S1S2
<i>Urtica</i>	<i>chamaedryoides</i>	G4G5	S?
<i>Uvularia</i>	<i>Grandiflora</i>	G5	S2S3

APPENDIX 1

Annotated species list for The Nature Conservancy's J. T. Nickel Family Nature and Wildlife Preserve, Cherokee County, Oklahoma. The first entry is habitat (SCBC = *Schizachyrium scoparium-Bouteloua curtipendula* herbaceous association, SNPW = *Sedum nuttallianum-Plantago virginiana* herbaceous association, XF = xeric forests, MF = mesic forests, POAN = *Platanus occidentalis-Acer negundo* forest association, WETL = wetland and aquatic vegetation, and DAOF = disturbed areas/old-fields), followed by life history (A = annual, B = biennial, P = perennial), and collection number. Exotic species are denoted with an asterisk. Voucher specimens were deposited at the Robert Bebb Herbarium at the University of Oklahoma (OKL).

PTERIDOPHYTA

Aspleniaceae

*Asplenium platyneuron* (L.) B.S.P. - MF, XF; P; NICK668

Ebony spleenwort

Dennstaeditaceae

*Pteridium aquilinum* (L.) Kuhn var. *pseudocaudatum* (Clute) Heller - MF, XF; P;

NICK307

Western brackenfern

Dryopteridaceae

*Cystopteris tennesseensis* Shaver - MF; P; NICK394

Tennessee bladderfern

*Dryopteris marginalis* (L.) Gray - MF; P; NICK666

Marginal woodfern

*Polystichum acrostichoides* (Michx.) Schott - MF; P; NICK654

Christmas fern

*Woodsia obtusa* (Spreng.) Torr. - MF; P; NICK641

Bluntlobe cliff fern

Ophioglossaceae

*Botrychium dissectum* Spreng. - MF, XF; P; NICK547

Cutleaf grapefern

*B. virginianum* (L.) Sw. - MF, XF; P; NICK020

Rattlesnake fern

Polypodiaceae

*Pleopeltis polypodioides* (L.) Andrews & Windham - MF; P; NICK683

Resurrection fern

Pteridaceae

*Adiantum pedatum* L. - MF, POAN; P; NICK662

Northern maidenhair

*Cheilanthes lanosa* (Michx.) D. C. Eat. -MF, SCBC; P; NICK026

Hairy lipfern

Thelypteridaceae

*Phegopteris hexagonoptera* (Michx.) Fée - MF; P; NICK665

Broad beechfern

CONIFEROPHYTA

Cupressaceae

*Juniperus virginiana* L. - DAOF, XF; P; NICK033

Eastern redcedar

Pinaceae

*Pinus echinata* P. Mill. - MF, XF; P; NICK577

Shortleaf pine

MAGNOLIOPHYTA

MAGNOLIOPSIDA

Acanthaceae

*Dicliptera brachiata* (Pursh) Spreng. - MF, PAON; A; NICK481

Branched foldwing

*Justicia americana* (L.) Vahl - WETL; P; NICK091

American water-willow

*Ruellia humilis* Nutt. - DAOF; P; NICK254

Prairie petunia

*R. strepens* L. - MF, POAN; P; NICK267

Limestone wild petunia

Aceraceae

*Acer negundo* L. - POAN; P; NICK645

Boxelder

*A. rubrum* L. - MF, POAN; P; NICK389

Red maple

*A. saccharinum* L. - POAN; P; NICK686

Silver maple

*A. saccharum* Marsh. - MF; P; NICK644

Sugar maple

Amaranthaceae

*Amaranthus palmeri* S. Wats. - DAOF; A; NICK670

Carelessweed

*A. spinosus* L.\* - DAOF; A; NICK325

Spiny amaranth

Anacardiaceae

*Rhus glabra* L. - DAOF; P; NICK249

Smooth sumac

*Toxicodendron radicans* (L.) Kuntze - DOAF, MF, POAN; P; NICK748

Poison Ivy

Apiaceae

*Angelica venenosa* (Greenway) Fern. - MF; A; NICK532

Hairy angelica

*Chaerophyllum tainturieri* Hook. - DAOF; A; NICK019

Hairyfruit chervil

*Daucus carota* L.\* - DAOF; P; NICK181

Queen Anne's lace

*D. pusillus* Michx. - DAOF; A; NICK224

American wild carrot

*Eryngium yuccifolium* Michx. - DAOF, XF; P; NICK436

Button eryngo

*Hydrocotyle verticillata* Thunb. - WETL; P; NICK643

Whorled marshpennywort

*Osmorhiza longistylis* (Torr.) DC. - MF; P; NICK115

Longstyle sweetroot

*Ptilimnium nuttallii* (DC.) Britt. - SCBC; A; NICK174

Laceflower

*Sanicula canadensis* L. - MF, POAN; P; NICK235

Canadian blacksnakeroot

*Taenidia integerrima* (L.) Drude - MF; P; NICK560

Yellow pimpernel

*Thaspium barbinode* (Michx.) Nutt. - MF; P; NICK177

Hairyjoint meadowparsnip

*Zizia aurea* (L.) W. D. J. Koch - MF, POAN; P; NICK561

Golden Alexanders

#### Apocynaceae

*Amsonia tabernaemontana* Walt. - MF; P; NICK302

Eastern bluestar

#### Aquifoliaceae

*Ilex decidua* Walt. - MF, POAN; P; NICK135

Possumhaw

Aristolochiaceae

*Asarum canadense* L. - MF; P; NICK045

Wildginger

Asclepiadaceae

*Asclepias hirtella* (Pennell) Woods. - DAOF, SCBC; P; NICK483

Green milkweed

*A. quadrifolia* Jacq. - MF; P; NICK075

Fourleaf milkweed

*A. tuberosa* L. - DAOF, SCBC; P; NICK208

Butterfly milkweed

*A. verticillata* L. - SCBC; P; NICK268

Whorled milkweed

*A. viridis* Walt. - DAOF, SCBC; P; NICK124

Green antelopehorn

*Matelea baldwyniana* (Sweet) Woods. - DAOF; P; NICK119

Baldwin's milkvine

*M. gonocarpos* (Walt.) Shinnars - MF; P; NICK485

Angularfruit milkvine

Asteraceae

*Ageratina altissima* (L.) King & H. E. Robins. - MF; P; NICK473

White snakeroot

*Ambrosia atremisiifolia* L. - DAOF; A; NICK600

Annual ragweed

*A. bidentata* Michx. - DAOF; A; NICK582

Lanceleaf ragweed

*A. trifida* L. - DAOF; A; NICK753

Giant ragweed

*Amphiachyris dracunculoides* (DC.) Nutt. - DAOF; A; NICK583

Prairie broomweed

*Antennaria parlinii* Fern. - DAOF; P; NICK355

Parlin's pussytoes

*Arctium minus* (Michx.) Britt.\* - DAOF; A; NICK211

Lesser burdock

*Arnoglossum atriplicifolium* (L.) H. E. Robins. - XF, SCBC; P; NICK147

Pale Indian plantain

*Artemisia annua* L.\* - DAOF; A; NICK761

Sweet sagewort

*Astranthium integrifolium* (Michx.) Nutt. - DAOF, SNPV; A; NICK542

Entireleaf western daisy

*Bidens aristosa* (Michx.) Britt. - WETL; A; NICK704

Bearded beggarticks

*B. bipinnata* L. - DAOF, MF; A; NICK493

Spanish needles

*B. cernua* L. - WETL; A, H; NICK708

Nodding beggartick

*B. frondosa* L. - WETL; A; NICK757

Devil's beggartick

*Carduus nutans* L.\* - DAOF; B; NICK230

Nodding muskthistle

*Chrysopsis pilosa* Nutt. - DAOF, SSBC; A; NICK452

Soft goldenaster

*Cichorium intybus* L.\* - DAOF; P; NICK410

Chicory

*Cirsium altissimum* (L.) Hill - DAOF, MF; P; NICK413

Tall thistle

*C. vulgare* (Savi) Ten.\* - DAOF; A; NICK410

Bull thistle

*Conoclinium coelestinum* (L.) DC. - WETL; P; 1713-bwh

Blue mistflower

*Conyza canadensis* (L.) Cronq. - DAOF; A; NICK585

Canadian horseweed

*Coreopsis grandiflora* Hogg ex Sweet - DAOF, SCBC, XF; P; NICK512

Largeflower tickseed

*C. lanceolata* L. - DAOF, SCBC, XF; P; NICK161

Lanceleaf tickseed

*C. palmata* Nutt. - DAOF, SCBC, XF; P; NICK156

Stiff tickseed

*C. pubescens* Ell. - DAOF, SCBC, XF; P, H; NICK706

Star tickseed

*C. tinctoria* Nutt. - DAOF, WETL; A; NICK143

Golden tickseed

*C. tripteris* L. - DAOF, SCBC, XF; P; NICK424

Tall tickseed

*Dracopis amplexicaulis* (Vahl.) Cass - DAOF, WETL; A; NICK707

Clasping coneflower

*Echinacea pallida* (Nutt.) Nutt. - SSBC, XF; P; NICK239

Pale purple coneflower

*E. purpurea* (L.) Moench - MF; P; NICK261

Eastern purple coneflower

*Eclipta prostrata* (L.) L. - WETL; A; NICK576

False daisy

*Elephantopus carolinianus* Raeusch. - MF, POAN; P; NICK624

Carolina elephantsfoot

*Erechtites hieraciifolia* (L.) Raf. ex DC. - WETL, MF; A; NICK489

American burnweed

*Erigeron annuus* (L.) Pers. - DAOF; A; NICK472

Eastern daisy fleabane

*E. pulchellus* Michx. - MF; P; NICK567

Robin's plantain

*E. strigosus* Muhl. ex Willd. - DAOF, MF; A; NICK200

Prairie fleabane

*E. tenuis* Torr. & Gray - DAOF; P; NICK568

Slenderleaf fleabane

*Eupatorium altissimum* L. - MF; P; NICK494

Tall thoroughwort

*E. fistulosum* Barratt - MF, POAN; P; NICK463

Trumpetweed

*E. perfoliatum* L. - WETL; P; NICK430

Common boneset

*E. purpureum* L. - MF; P; 1713-bwh

Sweetscented joepyeweed

*Eurybia hemispherica* (Alexander) Nesom - SSBC, XF; P; NICK613

Southern prairie aster

*Fleischmannia incarnata* (Walt.) King & H. E. Robins. - MF, POAN; P; NICK599

Pink thoroughwort

*Gamochaeta purpurea* (L.) Cabrera - DAOF; P; NICK538

Spoonleaf purple everlasting

*Helenium amarum* (Raf.) H. Rock - DAOF; A; NICK142

Yellowdicks

*H. flexuosum* Raf. - WETL; P; NICK347

Purplehead sneezeweed

*Helianthus mollis* Lam. - SCBC; P; NICK281

Ashy sunflower

*H. petiolaris* Nutt. - DAOF; A; NICK769

Prairie sunflower

*H. tuberosus* L. - DAOF; P; NICK417

Jerusalem artichoke

*Heliopsis helianthoides* (L.) Sweet - MF; P; NICK129

Smooth oxyeye

*Hieracium gronovii* L. - XF; P; NICK112

Queendevil

*Hymenopappus scabiosaeus* L'Her - SCBC; P; NICK172

Old plainsman

*Iva annua* L. - DAOF, WETL; A; NICK754

Sumpweed

*Krigia biflora* (Walt.) Blake - MF; P; NICK513

Twoflower dwarfdandelion

*K. occidentalis* Nutt. - MF; A; NICK383

Western dwarf dandelion

*Lactuca canadensis* L. - DAOF; A, H; NICK528

Canada lettuce

*L. serriola* L.\* - DAOF; A; NICK285

Prickly lettuce

*Leucanthemum vulgare* Lam.\* - DAOF; P; NICK255

Oxeye daisy

*Liatris aspera* Michx. - SCBC; P; 1736-bwh

Tall blazingstar

*L. squarrosa* (L.) Michx. - SCBC; P; NICK457

Scaly blazing star

*Packera glabella* (Poir) C. Jeffrey - MF, POAN; A; NICK397

Butterweed

*P. plattensis* (Nutt.) W. A. Weber & A. Love - MF; B; NICK367

Prairie groundsel

*Parthenium integrifolium* L. - ; P; NICK223

Wild quinine

*Pseudognaphalium obtusifolium* (L.) Hilliard & Burt - DAOF; A; NICK598

Rabbit-tobacco

*Ratibida columnifera* (Nutt.) Woot. & Standl. - DAOF, SCBC; P; NICK232

Upright prairie coneflower

*Rudbeckia hirta* L. - DAOF, SCBC; P; NICK258

Blackeyed susan

*R. laciniata* L. - MF; P; NICK734

Cutleaf coneflower

*R. triloba* L. - WETL; P; NICK303

Browneyed susan

*Silphium asteriscus* L. - SCBC; P; NICK171

Starry rosinweed

*S. perfoliatum* L. - DAOF; P; NICK752

Compass plant

*Smallanthus uvedalius* (L.) Mackenzie ex Small - MF; P; NICK407

Hairy leafcup

*Solidago caesia* L. - MF; P; NICK711

Wreath goldenrod

*S. hispida* Muhl. ex Willd. - MF; P; NICK633

Hairy goldenrod

*S. petiolaris* Ait. - XF, SSBC; P; NICK709

Downy ragged goldenrod

*S. ulmifolia* Muhl. ex Willd. - MF, XF; P; NICK426

Elmleaf goldenrod

*Symphotrichum anomalum* (Engelm.) Nesom - MF; P; NICK597

Manray aster

*S. drummondii* (Lindl.) Nesom - MF; P; NICK705

Drummond's aster

*S. lanceolatum* (Willd.) Nesom - MF, WETL; P; NICK663

White panicle aster

*S. ontarionis* (Wieg.) Nesom - MF; P; NICK710

Bottomland aster

*S. oolentangiense* (Riddell) Nesom - DAOF, MF; P; NICK712

Skyblue aster

*S. patens* (Ait.) Nesom - MF; P; NICK441

Late purple aster

*Taraxacum officinale* G. H. Weber ex Wiggers\* - DAOF; P; NICK038

Common dandelion

*Verbesina alternifolia* (L.) Britt. ex Kearney - DAOF, MF; P; NICK590

Wingstem

*V. helianthoides* Michx. - MF; P; NICK132

Gravelweed

*V. virginica* L. - MF; P; NICK442

White crownbeard

*Vernonia baldwinii* Torr. - DAOF, SSBC; P; NICK342

Baldwin's ironweed

Balsaminaceae

*Impatiens capensis* Merrb. - POAN, WETL; P; NICK446

Jewelweed

*I. pallida* Nutt. - PONA, WETL; P; NICK212

Pale touch-me-not

Berberidaceae

*Podophyllum peltatum* L. - MF, POAN; P; NICK004

Mayapple

Betulaceae

*Betula nigra* L. - POAN; P; NICK490

River birch

*Corylus americana* Walt. - MF; P; NICK273

American hazelnut

*Ostrya virginiana* (L.) Seem. ex Bureau - MF; P; NICK402

Hophornbeam

Bignoniaceae

*Campsis radicans* (L.) Seem. ex Bureau - WETL; P; NICK329

Trumpet creeper

Boraginaceae

*Heliotropium indicum* L. - WETL; A, H; NICK524

Indian heliotrope

*Lithospermum canescens* (Michx.) Lehm. - MF, SCBC; P; NICK393

Hoary puccoon

*Myosotis verna* Nutt. - MF; A; NICK676

Spring forget-me-not

Brassicaceae

*Arabis canadensis* L. - MF; B; NICK695

Sicklepod

*A. laevigata* (Muhl. ex Willd.) Poir. - MF; B; NICK659

Smooth rockcress

*A. missouriensis* Greene - MF; A; NICK376

Green rockcress

*Barbarea vulgaris* Ait. f. - DAOF; P; NICK380

Garden yellowrocket

*Capsella bursa-pastoris* (L.) Medik.\* - DAOF; A; NICK039

Shepard's purse

*Cardamine hirsuta* L. - MF; A; NICK361

Hairy bittercress

*C. parviflora* L. - DAOF; A; NICK037

Sand bittercress

*Draba brachycarpa* Nutt. ex Torr. & Gray - DAOF; A; NICK384

Shortpod draba

*D. cuneifolia* Nutt. ex Torr. & Gray - DAOF; A; NICK036

Wedgeleaf draba

*Lepidium densiflorum* Schrad. - DAOF; A, H; NICK130

Common pepperweed

*L. virginicum* L. - DAOF; A; NICK390

Virginia pepperweed

*Nasturtium officinale* Ait. f.\* - WETL; P; NICK375

Watercress

*Rorippa palustris* (L.) Bess. - WETL; A; NICK158

Fernald's yellowcress

*Sibara virginica* (L.) Rollins - DAOF; A; NICK035

Virginia winged rockcress

*Sisymbrium officinale* (L.) Scop.\* - DAOF; A, H; NICK193

Hedgemustard

#### Cabombaceae

*Brasenia schreberi* J. F. Gmel. - WETL; P; NICK140

Watershield

Cactaceae

*Opuntia humifusa* (Raf.) Raf. - SCBC; P; NICK202

Prickly pear

Campanulaceae

*Campanulastrum americanum* (L.) Small - MF; P; NICK328

American bellflower

*Lobelia appendiculata* A. DC. - MF; P; NICK187

Pale lobelia

*L. cardinalis* L. - WETL; P; NICK608

Cardinalflower

*Triodanis biflora* (Ruiz & Pavón) Greene - DAOF, MF; A; NICK188

Venus' looking-glass

*T. perfoliata* (L.) Nieuwl. - DAOF; A; NICK550

Clasping Venus' looking-glass

Capparaceae

*Cleome serrulata* Pursh - DAOF, POAN; A; 1717-bwh

Rocky Mountain beeplant

*Polanisia dodecandra* (L.) DC. - DAOF, WETL; A; NICK274

Clammyweed

Caprifoliaceae

*Lonicera flava* Sims - MF; P; NICK687

Yellow honeysuckle

*L. japonica* Thunb.\* - DAOF, MF; P; NICK434

Japanese honeysuckle

*Sambucus nigra* L. - WETL; P; NICK217

Elderberry

*Symphoricarpos orbiculatus* Moench - MF, XF; P; NICK443

Coralberry

*Viburnum rufidulum* Raf. - XF; P; NICK260

Rusty blackhaw

Caryophyllaceae

*Arenaria serpyllifolia* L.\* - DAOF; A; NICK692

Thymeleaf sandwort

*Cerastium glomeratum* Thuill.\* - DAOF; A; NICK358

Sticky chickweed

*C. pumilum* W. Curtis\* - DAOF; A; NICK150

European chickweed

*Dianthus armeria* L.\* - DAOF; A; NICK256

Deptford pink

*Minuartia patula* (Michx.) Mattf. - SNPV; A, H; NICK372

Pitcher's sandwort

*Saponaria officinalis* L.\* - DAOF; P; NICK435

Bouncingbet

*Silene stellata* (L.) Ait. F. - MF; P; NICK095

Widowsfrill

*S. regia* Sims - MF; P; 1657-bwh

Royal catchfly

*S. virginica* L. - MF; P; NICK057

Fire pink

*Stellaria media* (L.) Vill.\* - DAOF, MF; A; NICK034

Common chickweed

#### Celastraceae

*Celastrus scandens* L. - MF; P; 1738-bwh

American bittersweet

#### Chenopodiaceae

*Chenopodium ambrosioides* L.\* - DAOF; A; NICK669

Mexican tea

*C. pumilio* R. Br.\* - DAOF; A; NICK125

Clammy goosefoot

Cistaceae

*Lechea mucronata* Raf. - SCBC, XF; P; NICK629

Hairy pinweed

*L. tenuifolia* Michx. - SNPV, XF; P; NICK186

Narrowleaf pinweed

Clusiaceae

*Hypericum hypericoides* (L.) Crantz - MF, XF; P; NICK326

St. Andrew's cross

*H. mutilum* L. - SNPV; P; NICK337

Dwarf St. Johnswort

*H. perforatum* L.\* - DAOF; P; NICK340

Common St. Johnswort

*H. prolificum* L. - MF; P; 1696-bwh

Shrubby St. Johnswort

*H. punctatum* Lam. - SCBC; P; NICK477

Spotted St. Johnswort

*H. sphaerocarpum* Michx. - DAOF, SCBC; P; NICK339

Roundseed St. Johnswort

Convolvulaceae

*Ipomoea coccinea* L.\* - DAOF; A; NICK610

Redstar

*I. pandurata* (L.) G. F. W. Mey. - DAOF; P; NICK534

Man of the Earth

Cornaceae

*Cornus drummondii* C. A. Mey. - DAOF, MF; P; NICK467

Roughleaf dogwood

*C. florida* L. - MF; P; NICK573

Flowering dogwood

Crassulaceae

*Sedum nuttallianum* Raf. - SNPW; A; NICK213

Yellow stonecrop

*S. pulchellum* Michx. - SNPW; A; NICK215

Widowcross

Cucurbitaceae

*Melothria pendula* L. - DAOF; P; NICK312

Guadeloupe cucumber

*Sicyos angulatus* L. - DAOF; A; NICK482

Oneseed burr cucumber

Cuscutaceae

*Cuscuta gronovii* Willd. ex J. A. Schultes - ; A; NICK637

Scaldweed

*C. indecora* Choisy - ; A; NICK658

Bigseed alfalfa dodder

Dipsacaceae

*Dipsacus fullonum* L.\* - DAOF; B, H; NICK093

Teasel

Ebenaceae

*Diospyros virginiana* L. - DAOF, MF, XF; P; NICK588

Persimmon

Ericaceae

*Rhododendron prinophyllum* (Small) Millais - XF; P; NICK084

Early azalea

*Vaccinium arboreum* Marsh. - XF; P; NICK554

Farkleberry

*V. pallidum* Ait. - XF; P; NICK012

Lowbush blueberry

*V. stamineum* L. - MF, XF; P; NICK062

Deerberry

Euphorbiaceae

*Acalypha monococca* (Engelm. ex Gray) L. Mill. & Gandhi - DAOF, MF; A; NICK612

Slender threeseed mercury

*A. rhomboidea* Raf. - DAOF, MF; A; NICK352

Threeseed mercury

*A. virginica* L. - DAOF, MF; A; 1730-bwh

Virginia threeseed mercury

*Chamaesyce maculata* (L.) Small - DAOF; A; NICK458

Spotted sandmat

*C. nutans* (Lag.) Small - DAOF; A; NICK657

Eyebane

*Croton capitatus* Michx. - DAOF; A; NICK630

Hogwort

*C. glandulosus* L. - DAOF, SNPW; A; NICK454

Vente conmigo

*C. willdenowii* G. L. Webster - SNPW; A; NICK284

Willdenow's croton

*Euphorbia corollata* L. - DAOF; P; NICK207

Flowering spurge

*E. dentata* Michx. - DAOF; A, H; NICK246

Toothed spurge

Fabaceae

*Albizia julibrissin* Durazz.\* - DAOF; P, T; NICK649

Silktree

*Amorpha canescens* Pursh - SCBC, XF; P; 1686-bwh

Leadplant

*Amphicarpaea bracteata* (L.) Fern. - XF; A; NICK615

American hogpeanut

*Baptisia alba* (L.) Vent var. *macrophylla* (Larisey) Isely - SCBC; P; NICK346

Largeleaf wild indigo

*B. bracteata* Muhl. ex Ell. var. *leucophaea* (Nutt.) Kartesz & Gandhi - MF, SCBC, XF; P;

NICK507

Longbract wild indigo

*B. x sulphurea* (pro. sp.) - XF; P; NICK509

Wild indigo

*Cercis canadensis* L. - ; P; NICK059

Redbud

*Chamaecrista fasciculata* (Michx.) Greene - DOAF, MF; A; NICK448

Sleeping plant

*C. nictitans* (L.) Moench - DAOF, SCBC; A; NICK602

Partridge pea

*Clitoria mariana* L. - MF, XF; P; NICK136

Atlantic pigeonwings

*Dalea candida* Michx. ex Willd. - SCBC; P; NICK516

White prairieclover

*D. purpurea* Vent. - SCBC; P; NICK237

Purple prairieclover

*Desmodium ciliare* (Muhl. ex Willd.) DC. - MF; P; NICK635

Hairy small-leaf ticktrefoil

*D. cuspidatum* (Muhl. ex Willd.) DC. ex Loud. - MF; P; NICK592

Largebract ticktrefoil

*D. glutinosum* (Muhl. ex Willd.) Wood - MF; P; NICK341

Pointedleaf ticktrefoil

*D. nudiflorum* (L.) DC. - MF; P; NICK486

Nakedflower ticktrefoil

*D. paniculatum* (L.) DC. - DAOF, SCBC, XF; P; NICK471

Panicled ticktrefoil

*D. rotundifolium* DC. - XF; P; NICK594

Prostrate ticktrefoil

*Galactia volubilis* (L.) Britt. - MF; P; AB-4046

Downy milkpea

*Kummerowia stipulacea* (Maxim.) Makino\* - DAOF; A, H; NICK578

Korean clover

*K. striata* (Thunb.) Schindl.\* - DAOF; A, H; NICK563

Japanese clover

*Lespedeza cuneata* (Dum.-Cours.) G. Don\* - DAOF; P, H; NICK437

Chinese lespedeza

*L. hirta* (L.) Hornem. - SCBC; P; NICK606

Hairy lespedeza

*L. procumbens* Michx. - MF, XF; P; NICK456

Trailing lespedeza

*L. stuevei* Nutt. - SCBC; P; NICK596

Tall lespedeza

*L. violacea* (L.) Pers. - MF, XF; P; NICK648

Violet lespedeza

*L. virginica* (L.) Britt. – SCBC; P; NICK595

Virginia lespedeza

*Mimosa nuttallii* (DC.) B. L. Turner - DAOF, SCBC; P; NICK310

Nuttall's sensitive-briar

*Phaseolus polystachios* (L.) B.S.P. - MF, XF; P; NICK620

Thicket bean

*Rhynchosia latifolia* Nutt. ex Torr. & Gray - XF; P; NICK241

Prairie snoutbean

*Robinia pseudoacacia* L. - DAOF; P, T; NICK099

Black locust

*Senna marilandica* (L.) Link - DAOF, WETL; P, H; NICK336

Maryland senna

*Sesbania herbacea* (P. Mill.) McVaugh - DAOF, WETL; A; NICK758

bigpod sesbania

*Strophostyles helvula* (L.) Ell. - DAOF; P, H; NICK501

Trailing fuzzybean

*Stylosanthes biflora* (L.) B.S.P. - DAOF, SCBC, SNPV; P; NICK242

Pencilflower

*Tephrosia virginiana* (L.) Pers. - SCBC, XF; P; NICK159

Goatsrue

*Trifolium arvense* L.\* - DAOF; A, H; NICK257

Rabbitfoot clover

*T. dubium* Sibthorp\* - DAOF; A, H; NICK131

Suckling clover

*T. pratense* L.\* - DAOF; A, H; NICK548

Red clover

*T. reflexum* L.\* - DAOF; P, H; NICK128

Reflex clover

*Vicia caroliniana* Walt. - MF; P; NICK102

Carolina vetch

*V. minutiflora* F. G. Dietr. - MF; A; NICK378

Pygmyflower vetch

*V. sativa* L.\* - DAOF; A, H; NICK377

Garden vetch

*V. villosa* Roth\* - DAOF; A, H; NICK031

Winter vetch

#### Fagaceae

*Castanea pumila* (L.) P. Mill. var. *ozarkensis* (Ashe) Tucker - XF; P; AB-4022

Ozark chinkapin

*Quercus alba* L. - MX, XF; P; NICK604

White oak

*Q. macrocarpa* Michx. - MF; P; NICK356

Bur oak

*Q. marilandica* Muenchh. - XF; P; NICK651

Blackjack oak

*Q. muehlenbergii* Engelm. - MF; P; NICK050

Chinkapin oak

*Q. palustris* Muenchh. - MF, POAN; P; NICK661

Pin oak

*Q. rubra* L. - MF; P; NICK141

Red oak

*Q. shumardii* Buckl. - MF, POAN; P; NICK101

Shumard's oak

*Q. stellata* Wangenh. - MF, XF; P; NICK587

Post oak

*Q. velutina* Lam. - XF; P; NICK199

Black oak

#### Fumariaceae

*Corydalis flavula* (Raf.) DC. - MF; A; NICK007

Yellow fumewort

#### Gentianaceae

*Sabatia angularis* (L.) Pursh - DAOF, WETL; A; NICK408

Rose pink

#### Geraniaceae

*Geranium carolinianum* L. - DAOF; A, H; NICK195

Carolina geranium

*G. maculatum* L. - MF; P; NICK685

Spotted geranium

Hippocastanaceae

*Aesculus glabra* Willd. - MF; P; NICK060

Ohio buckeye

Hydrangeaceae

*Hydrangea arborescens* L. - MF; P; NICK114

Wild hydrangea

Hydrocharitaceae

*Elodea canadensis* Michx. - WETL; P; 1697-bwh

Canadian waterweed

Hydrophyllaceae

*Ellisia nyctelea* (L.) L. - DAOF; P, H; NICK690

Aunt lucy

*Hydrophyllum virginianum* L. - MF; P; NICK546

Virginia waterleaf

*Phacelia hirsuta* Nutt. - MF; A; NICK544

Fuzzy phacelia

Juglandaceae

*Carya alba* (L.) Nutt. ex Ell. - MF; P; NICK703

Mockernut hickory

*C. cordiformis* (Wangenh.) K. Koch - MF; P; NICK591

Bitternut hickory

*C. texana* Buckl. - XF; P; NICK495

Black hickory

*Juglans nigra* L. - MF; P; NICK318

Black walnut

Lamiaceae

*Agastache scrophulariifolia* (Willd.) Kuntze - MF; P; NICK650

Purple gaint hyssop

*Cunila origanoides* (L.) Britt. - MF, XF; P; NICK603

Common dittany

*Hedeoma hispida* Pursh - SCBC, SNPV; A; NICK552

Rough false pennyroyal

*Lamium amplexicaule* L.\* - DAOF; A; NICK680

Henbit deadnettle

*L. purpureum* L.\* - DAOF; A; NICK046

Purple deadnettle

*Mentha x piperata* (pro. sp.)\* - WETL; P; NICK453

Peppermint

*Monarda fistulosa* L. - SCBC, XF; P; NICK330

Wild bergamont

*M. russeliana* Nutt. ex Sims - MF; P; NICK557

Redpurple beebalm

*Perilla frutescens* (L.) Britt.\* - DAOF, MF; A; NICK580

Beefsteakplant

*Physostegia aungustifolia* Fern. - DAOF, SCBC; P; NICK138

Narrowleaf false dragonhead

*Prunella vulgaris* L. - DAOF, MF, POAN; P; NICK227

Heal-all

*Pycnanthemum albescens* Torr. & Gray - XF; P; NICK462

Whiteleaf mountainmint

*P. tenuifolium* Schrad. - DAOF, MF; P; NICK462

Narrowleaf mountainmint

*P. verticillatum* (Michx.) Pers. var. *pilosum* (Nutt.) Cooperrider - DAOF; P; NICK484

Whorled mountainmint

*Salvia azurea* Michx. ex Lam. - DAOF, SCBC; P; NICK579

Azure blue sage

*S. lyrata* L. - MF; P; NICK072

Lyreleaf sage

*Scutellaria ovata* Hill - SCBC, SNPV; P; NICK259

Heartleaf skullcap

Lauraceae

*Lindera benzoin* (L.) Blume - MF; P; NICK040

Spicebush

*Sassafras albidum* (Nutt.) Nees - MF; P; NICK607

Sassafrass

Lentibulariaceae

*Utricularia gibba* L. - WETL; P; NICK659

Humped bladderwort

Linaceae

*Linum medium* (Planch.) Britt. var. *texanum* (Planch.) Fern. - SCBC, SNPV; A; NICK415

Stiff yellow flax

Lythraceae

*Cuphea viscosissima* Jacq. - WETL; A; NICK464

Blue waxweed

Malvaceae

*Callirhoe digitata* Nutt. - SCBC; P, H; NICK279

Winecup

*Hibiscus moscheutos* L. - WETL; P; NICK412

Crimson-eyed rosemallow

*H. syriacus* L.\* - DAOF; P; NICK466

Rose-of-Sharon

*Sida spinosa* L. - DAOF; A; NICK627

Prickly fanpetals

Menispermaceae

*Cocculus carolinus* (L.) DC. - DAOF, MF; P; NICK314

Carolina snailseed

*Menispermum canadense* L. - MF; P; NICK439

Moonseed

Molluginaceae

*Mollugo verticillata* L. - DAOF; A; NICK233

Green carpetweed

Moraceae

*Morus rubra* L. - MF; P; NICK266

Red mulberry

Nelumbonaceae

*Nelumbo lutea* Willd. - WETL; P; NICK321

American lotus

Nyctaginaceae

*Mirabilis albida* (Walt.) Heimerl - DAOF, SCBC; P, H; NICK474

White four o'clock

Nyssaceae

*Nyssa sylvatica* Marsh. - MF; P; NICK619

Blackgum

Oleaceae

*Fraxinus americana* L. - MF; P; NICK514

White ash

*F. pennsylvanica* Marsh. - MF, POAN; P; NICK196

Green ash

*Ligustrum sinense* Lour.\* - DAOF, MF; P; NICK432

Chinese privet

Onagraceae

*Gaura longiflora* Spach - SCBC; A; NICK500

Longflowered beeblossom

*Ludwigia alternifolia* L. - WETL; P; NICK351

Seedbox

*L. decurrens* Walt. - WETL; P; NICK759

Wingleaf primrose-willow

*L. palustris* (L.) Ell. - WETL; P; NICK166

Marsh seedbox

*Oenothera biennis* L. - DAOF; P; NICK460

Common evening-primrose

*O. laciniata* Hill - DAOF; P; NICK108

Cutleaf evening-primrose

*O. linifolia* Nutt. - SNPV; A; NICK283

Threadleaf evening-primrose

Oxalidaceae

*Oxalis stricta* L. - DAOF; P, H; NICK682

Common yellow oxalis

*O. violacea* L. - XF; P; NICK061

Violet woodsorrel

Papaveraceae

*Papaver dubium* L.\* - DAOF; A, H; NICK536

Field poppy

*Sanguinaria canadensis* L. - MF; P; NICK001

Bloodroot

Passifloraceae

*Passiflora incarnata* L. - DAOF; P; NICK221

Purple passionfruit

*P. lutea* L. - MF, XF; P; NICK315

Yellow passionfruit

Phytolaccaceae

*Phytolacca americana* L. - DAOF; P; NICK231

Pokeweed

Plantaginaceae

*Plantago aristata* Michx. - DAOF, SNPW; A; NICK090

Largebracted plantain

*P. rugelii* Dcne. - DAOF; P; NICK525

Blackseeded plantain

*P. virginica* L. - SNPV; A, H; NICK558

Virginia plantain

Platanaceae

*Platanus occidentalis* L. - POAN; P; NICK601

Sycamore

Polemoniaceae

*Phlox divaricata* L. - MF; P; NICK363

Wild blue philox

*Polemonium reptans* L. - MF; P; NICK054

Jacob's ladder

Polygalaceae

*Polygala sanguinea* L. - SCBC; A; 1691-bwh

Purple milkwort

*P. verticillata* L. - SCBC, XF; A; NICK170

Whorled milkwort

Polygonaceae

*Fagopyrum esculentum* Moench\* - DAOF; A; NICK308

Buckwheat

*Polygonum hydropiper* L.\* - WETL; A; NICK178

Marshpepper knotweed

*P. hydropiperoides* Michx. - WETL; P, H; NICK631

Swamp smartweed

*P. lapathifolium* L. - WETL; A; NICK440

Nodding smartweed

*P. persicaria* L. - WETL; A; NICK111

Spoted smartweed

*P. scandens* L. - DAOF; P; NICK263

Climbing false buckwheat

*P. virginianum* L. - MF, POAN; P; NICK574

Jumpseed

*Rumex crispus* L. - DAOF, WETL; P, H; NICK451

Curly dock

*R. hastatulus* Baldw. - DAOF; A; NICK052

Heartwing sorrel

*R. obtusifolius* L.\* - DAOF; P, H; NICK269

Bitter dock

Portulacaceae

*Claytonia virginica* L. - DAOF; P; NICK027

Virginia springbeauty

*Portulaca oleracea* L. - DAOF, SNPV; A, H; NICK621

Little hogweed

*Talinum parviflorum* Nutt. - SNPV; ; P, H; NICK077

Sunbright

Primulaceae

*Lysimachia lanceolata* Walt. - WETL; P, H; NICK745

Lanceleaf loosestrife

Ranunculaceae

*Anemone virginiana* L. - DAOF; P; NICK203

Tall thimbleweed

*Clematis versicolor* Small ex Rydb. - DAOF, MF; P; NICK191

Pale leatherflower

*C. virginiana* L. - DAOF, MF; P; NICK475

Devil's darning needles

*Delphinium carolinianum* Walt. - DAOF, SCBS; P; NICK081

Carolina larkspur

*Enemion biternatum* Raf. - MF; P; NICK025

False rue anemone

*Ranunculus fascicularis* Muhl. ex Bigelow - MF; P; NICK382

Early buttercup

*R. harveyi* (Gray) Britt. - MF; A; NICK369

Harvey's buttercup

*R. hispidus* Michx. - DAOF; P; NICK017

Bristly buttercup

*R. micranthus* Nutt. - MF; A; NICK354

Rock buttercup

#### Rhamnaceae

*Ceanothus americanus* L. - SCBC, XF; P; NICK155

New Jersey tea

*Frangula caroliniana* (Walt.) Gray - MF; P; NICK572

Carolina buckthorn

#### Rosaceae

*Agrimonia rostellata* Wallr. - MF; P; NICK277

Beaked agrimony

*Amelanchier arborea* (Michx. f.) Fern. - MF, XF; P; NICK220

Serviceberry

*Crataegus crus-galli* L. - XF; P; NICK406

Cockspur hawthorn

*C. pruinosa* (Wendl. f.) K. Koch - MF; P; 1678-bwh

Waxy fruit hawthorn

*C. punctata* Jacq. - MF; P; 1679-bwh

Dotted hawthorn

*C. viridis* L. - MF; P; NICK418

Green hawthorn

*Geum canadense* Jacq. - MF; P; NICK264

White avens

*G. vernum* (Raf.) Torr. & Gray - MF; P; NICK566

Spring avens

*Physocarpus opulifolius* (L.) Maxim. var. *intermedius* (Rydb.) B.L. Robins. - POAN; P;

NICK774

Ninebark

*Potentilla recta* L.\* - DAOF; P; NICK071

Sulphur cinquefoil

*P. simplex* Michx. - MF; P; NICK461

Common cinquefoil

*Prunus americana* Marsh. - DAOF; P; NICK152

American plum

*P. mexicana* S. Wats. - DAOF, XF; P; NICK134

Mexican plum

*P. serotina* Ehrh. - MF, XF; P; NICK368

Black cherry

*Pyrus calleryana* Dcne.\* - DAOF; P; NICK345

Callery pear

*Rosa multiflora* Thunb. ex Murr.\* - DAOF; P; NICK074

Multiflora rose

*R. setigera* Michx. - SCBC, MF; P; NICK540

Climbing rose

*Rubus bushii* Bailey - MF; P; NICK120

Bush's blackberry

*R. occidentalis* L. - DAOF; P; NICK673

Black raspberry

#### Rubiaceae

*Cephalanthus occidentalis* L. – WETL; P; NICK747

Buttonbush

*Diodia virginiana* L. - WETL; P; NICK324

Virginia buttonweed

*Galium aparine* L. - DAOF; A, H; NICK083

Stickywilly

*G. circaezans* Michx. - MF; P; NICK118

Licorice bedstraw

*G. obtusum* Bigelow - MF; P; NICK103

Bluntleaf bedstraw

*G. pilosum* Ait. - MF; P; 1729-bwh

Hairy bedstraw

*G. virgatum* Nutt. - DAOF; A, H; NICK044

Southwestern bedstraw

*Houstonia longifolia* Gaertn. - DAOF, SNPV; P; NICK160

Longleaf summer bluet

*H. purpurea* L. - DAOF, SNPV; P; NICK664

Venus' pride

*H. pusilla* Schoef - DAOF, SNPV; A; NICK024

Tiny bluet

#### Rutaceae

*Ptelea trifoliata* L. - SCBC, XF; P; 1663-bwh

Common hoptree

#### Salicaceae

*Populus alba* L.\* - DAOF; P, T; NICK414

White poplar

*Salix caroliniana* Michx. - POAN; P; NICK605

Ward's willow

Santalaceae

*Comandra umbellata* (L.) Nutt. - SCBC; P; NICK018

Bastard toadflax

Sapotaceae

*Sideroxylon lanuginosum* Michx. - MF, XF; P; NICK064

Gum bully

Saururaceae

*Saururus cernuus* L. - WETL; P; NICK431

Lizard's tail

Saxifragaceae

*Heuchera americana* L. - MF; P; NICK688

American alumroot

*Saxifraga virginiana* Michx. - MF; P; NICK023

Early saxifrage

Scrophulariaceae

*Aureolaria grandiflora* (Benth.) Pennell - MF; A; NICK270

Largeflower yellow false foxglove

*Collinsia violacea* Nutt. - DAOF, MF; A; NICK379

Violet blue-eyed Mary

*Gratiola neglecta* Torr. - WETL; A; NICK113

Clammy hedgehyssop

*Kickxia elatine* (L.) Dumort. - DAOF; A; NICK331

Sharpleaf cancerwort

*Leucospora multifida* (Michx.) Nutt. - DAOF, WETL; A; NICK526

Narrowleaf paleseed

*Lindernia dubia* (L.) Pennell var. *anagallidea* (Michx.) Cooperrider - WETL; A; NICK469

Yellowseed false pimpernel

*Mimulus alatus* Ait. - WETL; P; 1721-bwh

Sharpwing monkeyflower

*Nuttallanthus texanus* (Scheele) D. A. Sutton - DAOF; A; NICK543

Texas toadflax

*Pedicularis canadensis* L. - MF; P; NICK053

Canadian lousewort

*Penstemon digitalis* Nutt. ex Sims - DAOF; P; NICK551

Foxglove beardtongue

*P. tubiflorus* Nutt. - DAOF; P, H; NICK133

White wand beardtongue

*Scrophularia marilandica* L. - MF; A; NICK459

Carpenter's square

*Verbascum blattaria* L.\* - DAOF; A; NICK559

Moth mullein

*V. thapsus* L.\* - DAOF; A; NICK229

Common mullein

*Veronica peregrina* L. - DAOF; A; NICK386

Neckweed

#### Simaroubaceae

*Ailanthus altissima* (P. Mill.) Swingle\* - DAOF; P; NICK219

Tree of Heaven

#### Solanaceae

*Datura stramonium* L.\* - DAOF; A; NICK349

Jimsonweed

*Physalis angulata* L. - DAOF; A; NICK296

Cutleaf groundcherry

*P. pubescens* L. var. *pubescens* - DAOF; A; NICK628

Husk tomato

*P. pubescens* L. var. *integrifolia* (Dunal) Waterfall - DAOF; A; NICK276

Husk tomato

*P. virginiana* P. Mill. - DAOF; P; NICK299

Virginia groundcherry

*Solanum americanum* P. Mill. - DAOF; A; NICK189

American black nightshade

*S. carolinense* L. - DAOF; P; NICK280

Carolina horsenettle

*S. physalifolium* Rusby\* - DAOF; A; NICK110

Hoe nightshade

#### Staphyleaceae

*Staphylea trifolia* L. - MF; P; NICK146

American bladdernut

#### Tiliaceae

*Tilia americana* L. - MF; P; 1667-bwh

American basswood

#### Ulmaceae

*Celtis laevigata* Willd. - MF; P; NICK319

Sugarberry

*Ulmus alata* Michx. - MF, XF; P; 1724-bwh

Winged elm

*U. americana* L. - MF; P; NICK320

American elm

*U. rubra* Muhl. - MF; P; NICK618

Red elm

#### Urticaceae

*Boehmeria cylindrica* (L.) Sw. - MF; P; NICK327

Smallspike false nettle

*Parietaria pensylvanica* Muhl. ex Willd. - DAOF, MF, POAN; A; NICK416

Pennsylvania pellitory

*Urtica chamaedryoides* Pursh - MF, POAN; A; NICK672

Heartleaf nettle

#### Valerianaceae

*Valerianella longiflora* (Torr. & Gray) Walp. - POAN; A; NICK570

Longtube cornsalad

*V. radiata* (L.) Dufr. - DAOF, WETL; A; NICK399

Beaked cornsalad

Verbenaceae

*Phyla lanceolata* (Michx.) Greene - DAOF, WETL; P; NICK762

Lanceleaf frogfruit

*Phryma leptostachya* L. - MF; P; NICK449

American lopseed

*Verbena stricta* Vent. - WETL; P; NICK226

Hoary vervain

*V. urticifolia* L. - MF, POAN; A; NICK184

White vervain

Violaceae

*Viola bicolor* Pursh - DAOF; A; NICK022

Johnny-jump-up

*V. palmata* L. - MF; P; NICK008

Early blue violet

*V. pedata* L. - MF; P; NICK014

Birdfoot violet

*V. pubescens* Ait. - MF; P; NICK364

Downy yellow violet

*V. sororia* Willd. - DAOF, MF; P; NICK381

Common blue violet

*V. villosa* Walt. - MF; P; NICK396

Carolina violet

Viscaceae

*Phoradendron leucarpum* (Raf.) Reveal & M. C. Johnston - MF, XF; P; NICK655

Mistletoe

Vitaceae

*Ampelopsis arborea* (L.) Koehne - DAOF, WETL; P; NICK433

Peppervine

*A. cordata* Michx. - DAOF; P; NICK253

Heartleaf peppervine

*Parthenocissus quinquefolia* (L.) Planch. - DAOF; P; NICK751

Virginia creeper

*Vitis aestivalis* Michx. - MF, XF; P; NICK529

Summer grape

*V. cinerea* (Engelm.) Millard - MF; P; NICK192

Graybark grape

*V. palmata* Vahl - MF; P, V; NICK153

Catbird grape

*V. riparia* Michx. - MF; P; NICK689

Riverbank grape

LILIOPSIDA

Agavaceae

*Manfreda virginica* (L.) Salisb. ex Rose - SCBC, SNPV; P; NICK096

False aloe

Alismataceae

*Sagittaria ambigua* J. G. Smith - WETL; P; AB-4146

Kansas arrowhead

*S. graminea* Michx. - WETL; P; NICK182

Grassy arrowhead

*S. latifolia* Willd. - WETL; P; NICK614

Duck-potato

Araceae

*Ariseama dracontium* (L.) Schott - MF; P; NICK079

Green dragon

Commelinaceae

*Commelina erecta* L. - MF; P; NICK291

Whitemouth dayflower

*C. virginica* L. - MF; P; NICK638

Virginia dayflower

*Tradescantia ernestiana* E. S. Anderson & Woods. - MF; P; NICK392

Ernest's spiderwort

*T. ozarkana* E. S. Anderson & Woods. - MF; P; NICK691

Ozark spiderwort

### Cyperaceae

*Bulbostylis capillaris* (L.) Kunth ex C. B. Clarke - SCBC, SNPV; A; NICK290

Densefruit hairsedge

*Carex albicans* Willd. ex Spreng. - MF, XF; P; NICK005

Whitetinge sedge

*C. blanda* Dewey - MF, POAN; P; NICK724

Eastern woodland sedge

*C. brevior* (Dewey) Mackenzie - DAOF, SCBC; P; NICK728

Shortbeak sedge

*C. bushii* Mackenzie - DAOF; P; NICK716

Bush's sedge

*C. cephalophora* Muhl. ex Willd. - MF; P; NICK729

Oval-leaf sedge

*C. digitalis* Willd. - MF; P; NICK730

Slender woodland sedge

*C. festucacea* Schkuhr ex Willd. - MF; P; NICK718

Fescue sedge

*C. frankii* Kunth - WETL; P; NICK287

Frank's sedge

*C. gravida* Bailey - MF; P; NICK715

Heavy sedge

*C. hirsutella* Mackenzie - MF; P; NICK722

Fuzzy sedge

*C. louisianica* Bailey - WETL; P; NICK727

Louisiana sedge

*C. oklahomensis* Mackenzie - MF; P; NICK727

Oklahoma sedge

*C. oligocarpa* Schkuhr ex Willd. - MF; P; NICK731

Richwoods sedge

*C. oxylepis* Torr. & Hook. - MF; P; NICK721

Sharpscale sedge

*C. retroflexa* Muhl. ex Willd. - MF, XF; P; NICK719

Reflexed sedge

*C. squarrosa* L. - WETL; P; NICK674

Squarrose sedge

*C. vulpinoidea* Michx. - WETL; P; NICK725

Fox sedge

*Cyperus acuminatus* Torr. & Hook. ex Torr. - DAOF; P; NICK121

Tapertip sedge

*C. echinatus* (L.) Wood - DAOF; P; NICK245

Globe flatsedge

*C. iria* L. - DAOF, WETL; P; NICK428

Ricefield lacesedge

*C. squarrosus* L. - WETL; A; NICK313

Bearded flatsedge

*Eleocharis acicularis* (L.) Roemer & J. A. Schultes - WETL; A; NICK533

Needle spikerush

*E. erythropoda* Steud. - WELT; P; NICK169

Bald spikerush

*Eleocharis lanceolata* Fern. - WETL; A; NICK420

Daggerleaf spikerush

*E. obtusa* (Willd.) J. A. Schultes - WETL; A; NICK201

Blunt spikerush

*E. quadrangulata* (Michx.) Roemer & J. A. Schultes - WETL; P; NICK137

Squarestem spikerush

*Fimbristylis autmunalis* (L.) Roemer & J. A. Schultes - WETL; A; 1690-bwh

Slender fimbry

*Isolepis carinata* Hook. & Arn. ex Torr. - DAOF; A; NICK541

Keeled bulrush

*Scirpus atrovirens* Willd. - DAOF; P; NICK700

Green bulrush

Dioscoreaceae

*Dioscorea quaternata* J. F. Gmel. - MF; P; NICK549

Fourleaf yam

*D. villosa* L. - MF; P; NICK194

Wild yam

Iridaceae

*Iris cristata* Ait. - MF, POAN; P; NICK013

Dwarf crested iris

Juncaceae

*Juncus diffusissimus* Buckl. - WETL; P; NICK214

Slimpod rush

*J. dudleyi* Wieg. - WETL; P; NICK123

Dudley's rush

*J. marginatus* Rostlk. - DAOF; P; NICK122

Grassleaf rush

*J. tenuis* Willd. - DAOF; P; NICK127

Poverty rush

*J. torreyi* Coville - DAOF; P; NICK353

Torrey's rush

*Luzula bulbosa* (Wood) Smyth & Smyth - DAOF, MF, XF; A; NICK011

Bulbous woodrush

Lemnaceae

*Spirodela polyrrhiza* (L.) Schleid. - WETL; P; s.n.

Common duckeat

*Wolffia columbiana* Karst - WETL; A; s.n.

Water meal

Liliaceae

*Allium canadense* L. - MF; P; NICK697

Meadow garlic

*A. vineale* L.\* - DAOF; P; NICK465

Wild garlic

*Camassia scilloides* (Raf.) Cory - SCBC, MF; P; NICK070

Wild Hyacinth

*Erythronium mesochoreum* Knerr - MF; P; NICK043

Prairie dog-tooth-violet

*Maianthemum racemosum* (L.) Link - MF; P; NICK085

False Solomon's Seal

*Nothoscordum bivalve* (L.) Britt. - DAOF, SCBC; P; NICK048

Crowpoison

*Polygonatum biflorum* (Walt.) Eil. - MF; P; NICK293

Solomon's Seal

*Trillium sessile* L. - MF; P; NICK401

Toadshade

*T. viridescens* Nutt. - MF; P; NICK681

Tapertip wake robin

*Uvularia grandiflora* Sm. - MF; P; NICK400

Largeflower bellwort

#### Orchidaceae

*Cypripedium parviflorum* Salisb. var. *parviflorum* - MF; P; NICK702

Lesser yellow lady's slipper

*Spiranthes vernalis* Engelm. & Gray - DAOF; P; NICK282

Spring ladie's tresses

#### Poaceae

*Agrostis hyemalis* (Walt.) B. S. P. - WETL; P; NICK508

Winter bentgrass

*A. stolonifera* L. - MF; P; NICK735

Redtop bentgrass

*Aira elegans* Willd. ex Kunth\* - DAOF; A; NICK520

Annual silver hairgrass

*Alopecurus carolinianus* Walt. - WETL; A; NICK068

Carolina foxtail

*Andropogon gerardii* Vitman - DAOF, SCBC; P; NICK316

Big bluestem

*A. virginicus* L. - DAOF; P; NICK488

Broomsedge

*Aristida basiramea* Engelm. ex Vasey - DAOF; A, G; NICK502

Forked three-awn

*Arundinaria gigantea* (Walt.) Muhl. - POAN; P; NICK058

Giant cane

*Arthraxon hispidus* (Thunb.) Makinl - WETL; A; 1740-bwh

Small carpgrass

*Bouteloua curtipendula* (Michx.) Torr. - SCBS; P; NICK750

Sideoats grama

*Brachyelytrum erectum* (Schreb. Ex Spreng.) Beauv. - MF; P; NICK427

Breaded shorthusk

*Bromus hordeaceus* L. - DAOF; A; NICK518

Soft brome

*B. pubescens* Muhl. ex Willd. - MF; P; NICK149

Downy brome

*B. tectorum* L.\* - DAOF; A; NICK049

Cheatgrass

*Chasmanthium latifolium* (Michx.) Yates - PAON; P; NICK755

Fish-on-a-pole

*Cinna arundinacea* L. - MF, POAN; P; NICK760

Sweet woodreed

*Cynodon dactylon* (L.) Pers.\* - DAOF; P; NICK234

Bermuda grass

*Dactylis glomerata* L.\* - DAOF; P; NICK076

Orchardgrass

*Danthonia spicata* (L.) Beauv. ex Roemer & J. A. Schultes - MF, XF; P; NICK740

Poverty oatgrass

*Dichantherium aciculare* (Desv. Ex Poir.) Gould & C. A. Clark - MF; P; NICK523

Needleleaf rosette-grass

*D. acuminatum* (Sw.) Gould & C. A. Clark var. *fasciculatum* (Torr.) Freckmann - DAOF,  
MF; P; NICK204

Western panicgrass

*D. acuminatum* (Sw.) Gould & C. A. Clark var. *lindheimeri* (Nash) Gould & C. A. Clark –  
DOF, MF; P; NICK338

Lindheimer panicgrass

*D. boscii* (Poir.) Gould & C. A. Clark - MF; P; NICK183

Bosc's panicgrass

*D. clandestinum* (L.) Gould - MF; P; NICK167

Deertongue

*D. dichotomum* (L.) Gould - DAOF; A; NICK522

Cypress panicgrass

*D. linearifolium* (Scribn. ex Nash) Gould - MF; P; NICK515

Slimleaf panicgrass

*D. oligosanthos* (J. A. Schultes) Gould var. *scribnerianum* (Nash) Gould - DAOF, SCBC;

P; NICK639

Scribner's rosette grass

*Echinochloa crus-galli* (L.) Beauv.\* - DAOF, WETL; A; NICK765

Barnyard grass

*Eleusine indica* (L.) Gaertn.\* - DAOF; A; NICK584

Indian goosegrass

*Elymus canadensis* L. - DAOF, MF; P; NICK105

Canada wildrye

*E. hystrix* L. - MF, POAN; P; NICK218

Bottlebrush grass

*E. virginicus* L. - DAOF; P; NICK092

Virginia wildrye

*Eragrostis capillaris* (L.) Nees - SCBC; A; NICK422

Lace grass

*E. hirsuta* (Michx.) Nees - SCBC; P; NICK301

Bigtop lovegrass

*E. intermedia* A. S. Hitchc. - DAOF; P; NICK423

Plains lovegrass

*E. pectinacea* (Michx.) Nees ex Steud. - DAOF; A; NICK468

Tufted lovegrass

*E. pilosa* (L.) Beauv.\* - DAOF; A; NICK288

Indian lovegrass

*E. trichodes* (Nutt.) Wood - DAOF; P; NICK503

Sand lovegrass

*Festuca paradoxa* Desv. - MF; P; NICK739

Clustered fescue

*F. subverticillata* (Pers.) Alexeev - MF; P; NICK738

Nodding fescue

*Glyceria acutiflora* Torr. - WETL; P; NICK746

Sharp-glumed manna grass

*G. striata* (Lam.) A. S. Hitchc. - WETL; P; NICK107

Fowl manna grass

*Leersia oryzoides* (L.) Sw. - WETL; P; NICK616

Rice cutgrass

*L. virginica* Willd. - MF; P, G; NICK617

White grass

*Lolium perenne* L.\* - DAOF; P; NICK244

Perennial ryegrass

*Melica nitens* (Scribn.) Nutt. ex Piper - MF; P, G; NICK510

Threeflower melica

*Microstegium vimineum* (Trin.) A. Camus\* - DAOF; A; NICK632

Nepalese browntop

*Muhlenbergia sobolifera* (Muhl. ex. Willd.) Trin. – XF; P; NICK763

Rock muhly

*Panicum anceps* Michx. - DAOF, MF; P; NICK445

Beaked panicgrass

*P. capillare* L. - DAOF; A; NICK749

Witch grass

*P. dichotomiflorum* Michx. - DAOF; P; NICK496

Fall panicgrass

*Paspalum leave* Michx. - DAOF; P; NICK343

Field paspalum

*Phleum pretense* L.\* - DAOF; A; NICK322

Timothy

*Poa annua* L.\* - DAOF; A; NICK028

Annual bluegrass

*P. champaniana* Scribn. - MF; A, G; NICK678

Chapman's bluegrass

*P. sylvestris* Gray - MF; P, G; NICK564

Woodland bluegrass

*Schedonorus phoenix* (Scop.) Holub\* - DAOF; P; NICK701

Tall fescue

*Setaria italica* (L.) Beauv.\* - DAOF; A; NICK297

Foxtail bristlegrass

*S. pumila* (Poir.) Roemer & J. A. Schultes - DAOF; A; NICK403

Yellow foxtail

*S. viridis* (L.) Beauv. - DAOF; A; NICK487

Green bristlegrass

*Sorghastrum nutans* (L.) Nash - DAOF, SCBC; P; NICK447

Indiangrass

*Sorghum halepense* (L.) Pers.\* - DAOF; P; NICK317

Johnsongrass

*Sporobolus vaginiflorus* (Torr. ex Gray) Wood - ; A; NICK764

Poverty grass

*Sphenopholis intermedia* (Rydb.) Rydb. - WETL; P; NICK736

Slender wedgescale

*Tridens flavus* (L.) A. S. Hitchc. - DAOF, XF; P; NICK450

Purpletop

*Vulpia octoflora* (Walt.) Rydb. - DAOF, SCBC, SNPV; A; NICK069

Sixweeks fescue

## Ponteridaceae

*Heteranthera limosa* (Sw.) Willd. - WETL; A; AB-4145

Blue mudplantain

Potamogetonaceae

*Potamogeton diversifolius* Raf. - WETL; P; 1659-bwh

Waterthread pondweed

Smilacaceae

*Smilax bona-nox* L. - MF, XF; P; NICK693

Saw greenbrier

*S. rotundifolia* L. - MF, XF; P; NICK067

Roundleaf greenbrier

*S. tamnoides* L. - MF; P; NICK647

Bristly greenbrier

Sparganiaceae

*Sparganium americanum* Nutt. - WETL; P; NICK745

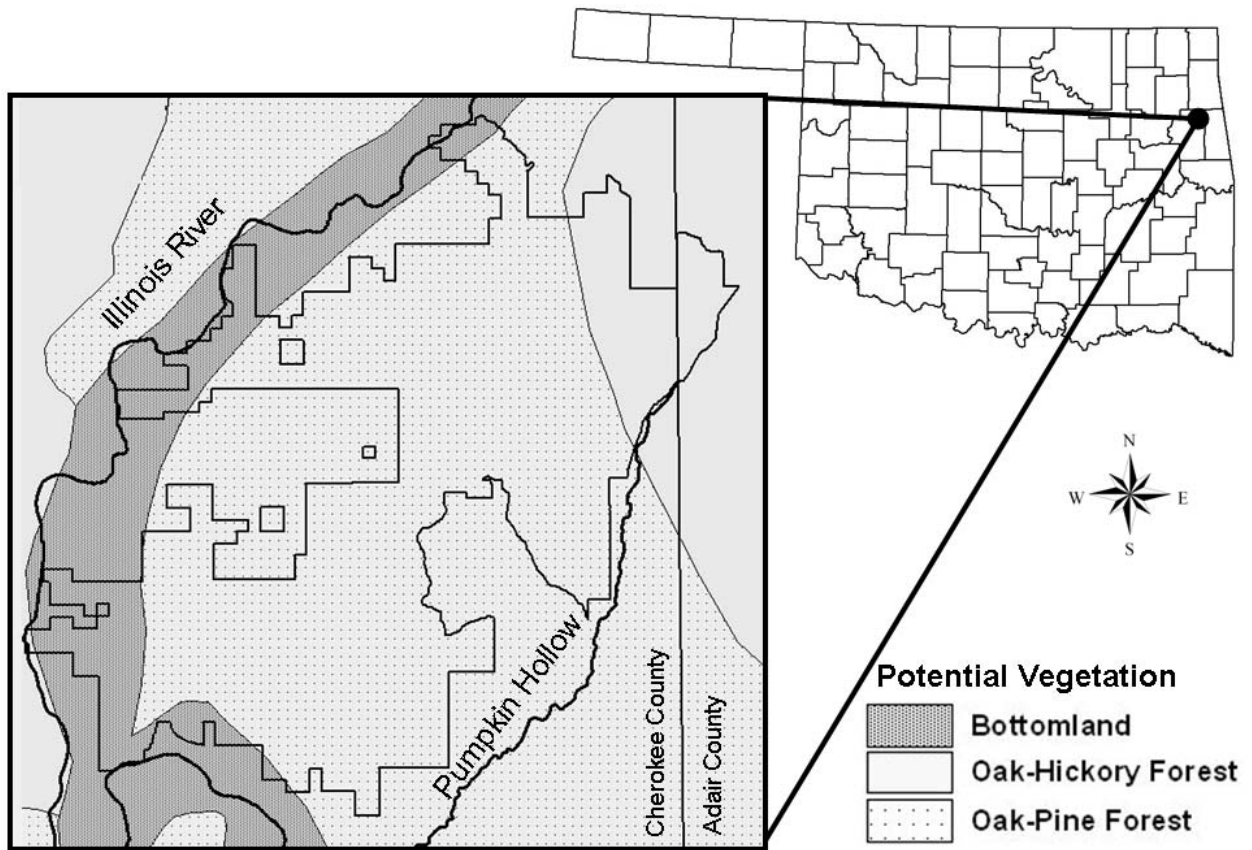
American bur-reed

Typhaceae

*Typha latifolia* L. - WETL; P; NICK098

Broad-leaf cattail

Figure 1: Location of The Nature Conservancy's J. T. Nickel Family Nature and Wildlife Preserve in the Ozark Plateau of Oklahoma. Potential vegetation is adapted from Duck and Fletcher (1943).



Appendix 2: UTM Coordinates for regularly visited collection sites at the T. Nickel Family Nature and Wildlife Preserve, Cherokee County, Oklahoma. All coordinates are in NAD 27, UTM zone 15.

---

Site	UTM-Easting	UTM-Northing	Vegetation
1	328182	3984183	Mesic Forest
2	334902	3990885	Mesic Forest
3	334401	3988613	Wetland
4	331621	3985031	Glade
5	335167	3989496	Oldfield
6	336879	3989451	Oldfield
7	337575	3992021	Second growth forest
8	333308	3991315	Xeric forest
9	3308829	398818	Xeric forest
10	333775	3989615	Xeric forest

---

Appendix 3: UTM Coordinates for rare species encountered at the T. Nickel Family Nature and Wildlife Preserve, Cherokee County, Oklahoma. All coordinates are in NAD 27, UTM zone 15.

Species	UTM-Easting	UTM-Northing
<i>Brachyelytrum erectum</i>	334902	3990885
<i>Brasenia schreberi</i>	333506	3988934
	333704	3988172
	334401	3988613
	335126	3988089
	335492	3989906
	338392	3992322
<i>Carex cephalophora</i>	334902	3990885
<i>Carex oklahomensis</i>	336396	3991915
<i>Carex oxylepis</i>	336863	3991041
<i>Castanea pumila</i> var. <i>ozarkana</i>	335593	3991518
	335654	3991598
	335684	3990808
	335959	3990875
	337126	3991738
	337289	3992730
	337603	3992286

Species	UTM-Easting	UTM-Northing
	338392	3992322
	338394	3991930
	3358442	3989966
<i>Clematis vigniana</i>	336594	3990072
<i>Cypripedium parviflorum</i>	335237	3990977
	336233	3990063
<i>Glyceria acutiflora</i>	334401	3988613
<i>Impatiens pallida</i>	336396	3991915
<i>Iris cristata</i>	334902	3990885
<i>Phaseolus polystachios</i>	336594	3990072
<i>Physocarpus opulifolius</i>	335954	3993729
<i>Silene regia</i>	336041	3991728
	336256	3991839
	336649	3990444
	336743	3991059
	336753	3989868
	336760	3989943
	336761	3989760
	336768	3989959
	336784	3989841

---

Species	UTM-Easting	UTM-Northing
	336822	3989795
	336852	3989743
	339022	3992424
<i>Tradescantia ernestiana</i>	334902	3990885
<i>Tradescantia ozarkana</i>	328182	3984183
<i>Urtica chamaedryoides</i>	334902	3990885
<i>Uvularia grandiflora</i>	334902	3990885

---