Vascular Flora of the Keystone Wildlife Management Area, Creek, Pawnee, and Osage Counties, Oklahoma

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This paper reports the results of an inventory of the vascular plants at the Keystone Wildlife Management Area in northeastern Oklahoma. A total of 380 taxa of vascular plants in 254 genera and 79 families were collected. The most species were collected from the families Poaceae (58), Asteraceae (57), and Fabaceae (30). There were 160 annual and 220 perennial species. Fifty-six species of woody plants were present. A total of 59 exotic species were collected representing 15% of the flora. No species tracked by the Oklahoma Natural Heritage Inventory for rarity were found.

INTRODUCTION

Floristic inventories can be undertaken to address a number of research or management objectives. For example, floristic inventories are often necessary when analyzing species distributions. Often there are gaps in the known geographic distribution of species and groups of species, so an inventory maybe required in order to complete distribution maps. Inventories are also crucial in plant conservation in order to locate populations of rare or threatened species. Finally, inventories aid land managers in both the protection of sensitive species and the location of nuisance species. Floristic inventories can be conducted at either the regional or local scale. The objective of this study was to provide a floristic inventory to aid Oklahoma Department of Wildlife Conservation personnel in management of the Keystone Wildlife Management Area (KWMA).

STUDY AREA

The KWMA is located along the upper reaches of Keystone Lake, which was flooded in 1964 (Oklahoma Water Resources Board 1990). Keystone Dam is situated just below the confluence of the Cimarron and Arkansas Rivers, both of which flow through KWMA. The KWMA was established in 1973 by the Oklahoma Department of Wildlife Conservation and is comprised of over 16,000 acres in Creek, Osage, and Pawnee Counties (Pennington 2003).

The KWMA is located within the Subtropical Humid (Cf) climate zone.
Summers are warm (mean July temperature = 27.3° C) and humid, and winters are relatively short and mild (mean January temperature = 2.6° C). Mean annual precipitation is 98 cm with periodic severe droughts (Oklahoma Climatological Survey 2003). Physiographically, the study area is located in the Osage Plains section of the Central Lowlands province (Hunt 1974) and within the Eastern Sandstone Cuesta plains of Oklahoma (Curtis and Ham 1979). The surface geology consists primarily of Pennsylvanian sandstone and shale (Branson and Johnson 1979). Outcroppings of silty sandstones occur in the eastern portion of KWMA with sandy, silty shales and limestone outcrops in the west (Grieg 1959, Oakes and Jordan 1959). The soils at KWMA are sandy loams and silt loams. Bottomland soils include Yahola very fine sandy loam and Reinach very sandy loam. Uplands soils are steep to gently rolling and consist primarily of the Eufaula loamy fine sand (Oakes 1959). The predominant potential vegetation types are post oak-blackjack and bottomland forests (Duck and Fletcher 1943). However, much of the bottomland forest area has been converted to agriculture and is now actively cultivated or in old-fields. Upland forests have been heavily modified as well.

METHODS

Collections were also made randomly throughout the KWMA from March through October 2002. Sixteen collection sites were established to represent the greatest variety of habitats for intensive floristic sampling. Sites were selected following a review of U. S. Geological Survey 1:24,000 topographic maps and field reconnaissance. Vouchers for exotic species were made from naturalized populations only, thus excluding cultivated and ornamental plants. Specimens were processed and a voucher set was deposited at the Robert Bebb Herbarium of the University of Oklahoma (OKL) following standard curatorial procedures (Bridson 1992). Manuals used for specimen identification included Keys to the Flora of Oklahoma (Waterfall 1969), Flora of the Great Plains (Barkley 1986), Shinners & Mahler’s Illustrated Flora of North Central Texas (Diggs et al 1999), and Steyermark’s Flora of Missouri (Yatsievych 1999).

RESULTS AND DISCUSSION

A total of 380 taxa of vascular plants in 254 genera and 79 families were collected. Among the angiosperms, 294 were dicots and 83 were monocots. In addition, there were two ferns, and one gymnosperm. The Poaceae (58), Asteraceae (57), and Fabaceae (30) had the greatest numbers of species. The genera Polygonum (8), Quercus (7), Carex (6), Desmodium (6), and Eragrostis (6) contained the greatest numbers of species. There were 160 annual and 220 perennial species. Fifty-six species were woody plants, 30 of which were trees, 11 shrubs, and 15 vines.

Fifteen percent of the flora was exotic. A total of 59 exotic species were collected in 20 families. The greatest numbers of exotic species were in the
Poaceae (12) and Fabaceae (8). These families also had the greatest number of exotic species at the Chickasaw National Recreation Area (Hoagland and Johnson 2001). In that study, 12% of the flora was composed of exotic species. Six of the eight species reported in the Caryophyllaceae were exotic, the highest ratio for any family. The greatest number of introduced species was in the genus *Bromus* (4). No species tracked by the Oklahoma Natural Heritage Inventory for rarity were encountered.

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Keystone Wildlife Management Area
Annotated Species List

Growth habit is designated as F; forb, G; graminoid, H; herb, S; shrub, T; tree, and V; woody vine. Life history is designated as A; annual/biennial or P; perennial. Origin is noted as N; native or I; introduced.

Pteridophyta (Ferns and allies)

Aspleniaceae
Asplenium platyneuron (L.) B.S.P.
  ebony spleenwort; F or H, P, N

Dryopteridaceae
Woodsia obtusa (Spreng.) Torr.
  bluntlobe cliff fern; F or H, P, N

Coniferophyta (Gymnosperms)

Cupressaceae
Juniperus virginiana L.
  eastern redcedar; T, P, N

Magnoliophyta (Angiosperms)

Monocotyledonae

Araceae
Arisaema dracontium (L.) Schott
  green dragon; F or H, P, N

Alistmataceae
Sagittaria montevidensis Cham. & Schlect.
  giant arrowhead; F or H, P, I

Commelinaceae
Tradescantia ohiensis Raf.
  bluejacket; F or H, P, N

Cyperaceae
Carex albicans Willd. Ex Spreng.
  whitetinge sedge; G, P, N
Carex amphibola Steud.
  eastern narrowleaf sedge; G, P, N
Carex brevior (Dewey) Mackenzie
  shortbeak sedge; G, P, N

Carex bushii Mackenzie
  Bush’s sedge; G, P, N
Carex caroliniana Schwein.
  Carolina sedge; G, P, N
Carex leavenworthii Dewey
  Leavenworth’s sedge; G, P, N
Cyperus croceus Vahl
  Baldwin’s flatsedge; G, P, N
Cyperus echinatus (L.) Wood
  Globe flatsedge; G, P, N
Cyperus erythrorhizos Muhl.
  redroot flatsedge; G, P, N
Cyperus lupulinus (Spreng.) Marcks
  Great Plains flatsedge; G, P, N
Cyperus setigerus Torr. & Hook.
  lean flatsedge; G, P, N
Eleocharis engelmannii Steud.
  Engelmann’s spikerush; G, P, N
Fimbristylis puberula (Michx.) Vahl
  hairy fimbry; G, P, N

Iridaceae
Sisyrinchium angustifolium P. Mill.
  narrowleaf blue-eyed grass; F or H, P, N

Juncaceae
Juncus brachyphyllus Wieg.
  tuftedstem rush; G, P, N
Juncus dudleyi Wieg.
  Dudley’s rush; G, P, N
Juncus marginatus Rostk.
  grassleaf rush; G, P, N

Liliaceae
Allium per dulce S.V. Fraser
  plains onion; F or H, P, N
Erythronium sp. L.
troutlily; F or H, P, N

Nothoscordum bivalve (L.) Britt.
crowpoison; F or H, P, N

Poaceae

Agrostis hyemalis (Walt.) B.S.P.
winter bentgrass; G, P, N

Alopecurus carolinianus Walt.
Carolina foxtail; G, A, N

Andropogon gerardii Vitman
big bluestem; G, P, N

Andropogon ternarius Michx.
splitbeard bluestem; G, P, N

Bouteloua rigidiseta (Stud.) A.S. Hitchc.
Texas grama; G, P, N

Bromus catharticus Vahl
rescuegrass; G, A, I

Bromus hordeaceus L.
soft brome; G, P, I

Bromus japonicus (L.) Scop.
Japanese brome; G, A, I

Bromus tectorum L.
cheatgrass; G, A, I

Buchloe dactyloides (Nutt.) Engelm.
buffalograss; G, P, N

Cenchrus spinifex Cav.
coastal sandbur; G, P, N

Chasmanthium latifolium (Michx.) Yates
Indian woodoats; G, P, N

Chloris verticillata Nutt.
tumble windmill grass; G, P, N

Coelorachis cylindrica (Michx.) Nash
cylinder jointtail grass; G, P, N

Cynodon dactylon (L.) Pers.
Bermudagrass; G, P, I

Dichanthelium aciculare (Desv. ex Poir.)
Gould & C.A. Clark
needleleaf rosette grass; G, P, N

Dichanthelium acuminatum (Sw.) Gould &
C.A. Clark var. fasciculatum (Torr.)
Freckmann western panicgrass;
G, P, N

Dichanthelium malacophyllum Nash (Gould)
softleaf rosette grass; G, P, N

Dichanthelium oligosanthes (J. A. Schultes)
Gould var. oligosanthes
Heller’s rosette grass; G, P, N

Dichanthelium scoparium Lam. (Gould)
velvet panicum; G, P, N

Digitaria sanguinalis (L.) Scop.
hairy crabgrass; G, A, N

Echinochloa crus-galli (L.) Beauv.
barnyardgrass; G, A, I

Eleusine indica (L.) Gaertn.
Indian goosegrass; G, A, I

Elymus virginicus L.
Virginia wildrye; G, P, N

Eragrostis barleri D. Daveau
Mediterannean lovegrass; G, A, I

Eragrostis hirsuta (Michx.) Nees
bigtop lovegrass; G, P, N

Eragrostis pilosa (L.) Beauv.
Indian lovegrass; G, A, N

Eragrostis secundiflora J. Pesl
red lovegrass; G, P, N

Eragrostis spectabilis (Pursh) Steud.
purple lovegrass; G, P, N

Eragrostis trichodes (Nutt.) Wood
sand lovegrass; G, P, N

Eriochloa contracta A.S. Hitchc.
prairie cupgrass; G, A, N

Gymnopogon ambiguous (Michx.) B.S.P.
bearded skeletongrass; G, P, N

Hordeum pusillum Nutt.
little barley; G, A, N

Leersia virginica Willd.
whitegrass; G, P, N

Leptochloa fusca (L.) Kunth
Malabar sprangletop; G, P, N

Leptochloa panacea (Retz.) Ohwi ssp.
mucronata (Michx.) Nowack
mucronate sprangletop; G, A, N

Lolium arundinaceum (Schreb.) S.J.
Darbyshire
tall fescue; G, P, I

Lolium perenne L.

Hoagland, B.W. and Buthod, A.K.
Hoagland, B.W. and Buthod, A.K.

perennial ryegrass; G, P, I
Muhlenbergia frondosa (Poir.) Fern.
wirestem muhly; G, P, N
Muhlenbergia sobolifera
(Muh. ex Willd.) Trin.
rock muhly; G, P, N
Neeragrostis reptans (Michx.) Nicora
creeping lovegrass; G, A, N
Panicum anceps Michx.
beaked panicgrass; G, P, N
Panicum philadelphicum Bernh. ex Trin.
Philadelphia panicgrass; G, A, N
Panicum virgatum L.
switchgrass; G, P, N
Paspalum pubiflorum Rupe. ex Fourn.
hairyseed paspalum; G, P, N
Paspalum setaceum Michx.
thin paspalum; G, P, N
Poa annua L.
annual bluegrass; G, A, I
Poa arachnifera Torr.
Texas bluegrass; G, P, N
Poa pratensis L.
Kentucky bluegrass; G, P, I
Schedonnardus paniculatus (Nutt.) Trel.
Tumblegrass; G, P, N
Schizachyrium scoparium (Michx.) Nash
little bluestem; G, P, N
Setaria pumila (Poir.) Roemer & J.A.
Schultes
yellow bristlegrass; G, A, I
Sorghastrum nutans (L.) Nash
Indiangrass; G, P, N
Sorghum halepense (L.) Pers.
Johnsongrass; G, P, I
Sphenopholis obtusata (Michx.) Scribn.
prairie wedgescale; G, P, N
Tridens flavus (L.) A.S. Hitchc.
purpletop tridens; G, P, N
Tripsacum dactyloides (L.) L.
eastern gamagrass; G, P, N
Vulpia sciuera (Nutt.) Henr.
squirreltail fescue; G, A, N

Smilacaceae
Smilax bona-nox L.
saw greenbriar; S, SS, V, P, N
Smilax rotundifolia L.
roundleaf greenbriar; S, SS, V, P, N

Dicotyledonae

Acanthaceae
Dicliptera brachiata (Pursh) Spreng.
branched foldwing; F or H, A, N
Ruellia humilis Nutt.
fringeleaf wild petunia; F or H, P, N
Ruellia strepens L.
limestone wild petunia; F or H, P, N

Aceraceae
Acer negundo L.
boxelder; T, P, N
Acer saccharinum L.
silvermaple; T, P, N

Amaranthaceae
Amaranthus rudis Sauer
tall amaranth; F or H, A, N
Froelichia floridana (Nutt.) Moq.
plains snakecotton; F or H, A, N
Froelichia gracilis (Hook.) Moq.
slender snakecotton; F or H, A, N
Iresine rhizomatosas Standl.
Juda’s bush; F or H, P, N

Anacardiaceae
Rhus aromatica Ait.
fragrant sumac; S, P, N
Rhus copallinum L.
flameleaf sumac; T, S, P, N

Taxoicodendron radicans (L.) Kuntze
eastern poison ivy; S, SS, V, P, N

Apiaceae
Ammoselinum popei Torr. & Gray
plains sandparsley; F or H, A, N
Chaerophyllum tainturieri Hook.
hairyfruit chervil; F or H, A, N
*Cicuta maculata* L.
spotted water hemlock; F or H, P, N
*Daucus pusillus* Michx.
American wild carrot; F or H, A, N
*Eryngium leavenworthii* Torr. & Gray
Leavenworth’s eryngo; F or H, A, N
*Polytaenia nuttallii* DC.
Nuttall’s prairie parsley; F or H, P, N
*Ptilimnium nuttallii* (DC.) Britt.
laceflower; F or H, A, N
*Sanicula canadensis* L.
Canadian blacksnakeroot; F or H, P, N
*Spermolepis divaricata* (Walt). Raf. ex Ser.
roughfruit scaleseed; F or H, A, N
*Trepocarpus aethusae* Nutt. ex DC.
whitenymph; F or H, A, N
*Torilis arvensis* (Huds.) Link
spreading hedgeparsley; F or H, A, I

**Apocynaceae**
*Apocynum cannabinum* L.
Indian hemp; F or H, P, N

**Aristolochiaceae**
*Aristolochia tomentosa* Sims
woolly dutchman’s pipe; V, P, N

**Asclepiadaceae**
*Asclepias amplexicaulis* Sm.
clasping milkweed; F or H, P, N
*Asclepias tuberosa* L.
butterfly milkweed; F or H, P, N
*Asclepias viridis* Walt.
green antelope horn; F or H, P, N

**Asteraceae**
*Achillea millefolium* L.
common yarrow; F or H, P, N
*Ambrosia artemisiifolia* L.
annual ragweed; F or H, A, N
*Ambrosia trifida* L.
great ragweed; F or H, A, N
*Amphiachyris dracunculoides* (DC.) Nutt.
prairie broomweed; F or H, A, N

*Artemisia ludoviciana* Nutt.
white sagebrush; F or H, P, N
*Ageratina altissima* (L.) King & H.E. Robins.
white snakeroot; F or H, P, N
*Antennaria parlinii* Fern.
Parlin’s pussytoes; F or H, P, N
*Bidens bipinnata* L.
Spanish needles; F or H, A, N
*Brickellia eupatorioidea* (L.) Shinners
false boneset; F or H, P, N
*Chrysopsis pilosa* Nutt.
soft goldenaster; F or H, A, N
*Cirsium altissimum* (L.) Hill
tall thistle; F or H, P, N
*Conyza canadensis* (L.) Cronq.
Canadian horseweed; F or H, A, N
Coreopsis grandiflora Hogg ex Sweet
largeflower tickseed; F or H, P, N
*Coreopsis tinctoria* Nutt.
golden tickseed; F or H, A, N
*Dracopis amplexicaulis* (Vahl) Cass.
clasping coneflower; F or H, A, N
*Eclipta prostrata* (L.) L.
fake daisy; F or H, A, N
*Elephantopus carolinianus* Raeusch.Carolina elephantsfoot;
F or H, P, N
*Erigeron tenuis* Torr. & Gray
slenderleaf fleabane; F or H, P, N
*Eupatorium altissimum* L.
tall thoroughwort; F or H, P, N
*Eupatorium serotinum* Michx.
lateflowering thoroughwort;
F or H, P, N
*Gaillardia pulchella* Foug.
firewheel; F or H, A, N
*Gamochaeta purpurea* (L.) Cabrera
spoonleaf purple everlasting;
F or H, P, N
*Grindelia papposa* Nesom & Suh
Spanish gold; F or H, A, N
*Helenium amarum* (Raf.) H. Rock

Hoagland, B.W. and Buthod, A.K.
Yellowdicks; F or H, A, N
*Helianthus annuus* L.
common sunflower; F or H, A, N
*Helianthus hirsutus* Raf.
hairy sunflower; F or H, P, N
*Helianthus maximiliani* Schrad.
Maximilian sunflower; F or H, P, N
*Helianthus petiolaris* Nutt.
prairie sunflower; F or H, A, N
*Helianthus tuberosus* L.
Jerusalem artichoke; F or H, P, N
*Heterotheca subaxillaris* (Lam.) Britt. & Rusby
camphorweed; F or H, A, N
*Hieracium longipilum* Torr.
hairy hawkweed; F or H, P, N
*Krigia caespitosa* (Raf.) Chambers
weedy dwarfdandelion; F or H, A, N
*Lactuca canadensis* L.
Canada lettuce; F or H, A, N
*Lactuca floridana* (L.) Gaertn.
woodland lettuce; F or H, A, N
*Liatris aspera* Michx.
tall blazingstar; F or H, P, N
*Liatris punctata* Hook.
dotted blazingstar; F or H, P, N
*Oligoneuron rigidum* (L.) Small
stiff goldenrod; F or H, P, N
*Parthenium hysterophorus* L.
Santa Maria feverfew; F or H, A, I
*Pluca odorata* (L.) Cass.
sweetscent; F or H, A, N
*Pseudognaphalium obtusifolium* (L.) Hilliard & Burtt
rabbittobacco; F or H, A, N
*Pyrrhopappus carolinianus* (Walt.) DC.
Carolina desert-chicory; F or H, A, N
*Ratibida columnifera* (Nutt.)
Woot. & Standl.
upright prairie coneflower;
F or H, P, N
*Rudbeckia hirta* L.
blackeyed Susan; F or H, P, N
*Solidago gigantea* Ait.
giant goldenrood; F or H, P, N
*Sonchus asper* (L.) Hill
spiny sowthistle; F or H, A, I
*Symphyotrichum drummondii* (Lindl.) Nesom
Drummond’s aster; F or H, P, N
*Symphyotrichum ericoides* (L.) Nesom
white heath aster; F or H, P, N
*Symphyotrichum oolentangiense* (Riddell) Nesom
skyblue aster; F or H, P, N
*Symphyotrichum patens* (Ait.) Nesom
late purple aster; F or H, P, N
*Symphyotrichum subulatum* (Michx.) Nesom
eastern annual saltmarsh aster; F or H, A, N
*Taraxacum officinale* G.H. Weber ex Wiggers
common dandelion; F or H, P, I
*Thelesperma ambiguum* Gray
Colorado greenthread; F or H, P, N
*Thelesperma filifolium* (Hook.) Gray
stiff greenthread; F or H, P, N
*Tragopogon dubius* Scop.
yellow salsify; F or H, A, I
*Verbesina virginica* L.
white crownbeard;
F or H, P, N
*Vernonia baldwinii* Torr.
Baldwin’s ironweed; F or H, P, N
*Xanthium strumarium* L.
rough cocklebur; F or H, A, N

**Bignoniaceae**
*Campsis radicans* (L.) Seem. ex Bureau
trumpet creeper; V, P, N

**Boraginaceae**
*Buglossoides arvensis* (L.) I.M. Johnston
corn gromwell; F or H, A, I
*Heliotropium curassavicum* L.

Hoagland, B.W. and Buthod, A.K.
salt heliotrope; F or H, A, N
*Heliotropium indicum* L.
Indian heliotrope; F or H, A, I

**Brassicaceae**

*Arabis canadensis* L.
sicklepod; F or H, B, N
*Capsella bursa-pastoris* (L.) Medik.
shepherd’s purse; F or H, A, I
*Cardamine parviflora* L.
sand bittercress; F or H, A, N
*Draba brachycarpa* Nutt. ex Torr. & Gray
shortpod draba; F or H, A, N
*Draba reptans* (Lam.) Fern.
Carolina draba; F or H, A, N
*Erysimum repandum* L.
spreading wallflower; F or H, A, I
*Lepidium densiflorum* Schrad.
common pepperweed; F or H, A, N
*Lepidium virginicum* L.
Virginia pepperwood; F or H, A, N
*Rorippa palustris* (L.)
bog yellowcress; F or H, A, N
*Selenia aurea* Nutt.
golden selenia; F or H, A, N

**Cactaceae**

*Opuntia macrorhiza* Engelm.
twistspine pricklypear; S, P, N

**Campanulaceae**

*Triodanis perfoliata* (L.) Nieuwl.
clasping Venus’ looking-glass; F or H, A, N

**Caprifoliaceae**

*Lonicera japonica* Thunb.
Japanese honeysuckle; V, P, I
*Symphoricarpos orbiculatus* Moench
coralberry; S, P, N
*Viburnum rufidulum* Raf.
rusty blackhaw; T, S, P, N

**Caryophyllaceae**

*Arenaria serpyllifolia* L.
thymeleaf sandwort; ; F or H, A, I
*Cerastium glomeratum* Thuill.

**Celastraceae**

*Celastrus scandens* L.
American bittersweet; V, P, N

**Chenopodiaceae**

*Chenopodium ambrosioides* L.
Mexican tea; F or H, A, I
*Chenopodium leptophyllum* (Moq.) Nutt. ex S. Wats.
narrowleaf goosefoot; F or H, A, N

**Cistaceae**

*Lechea mucronata* Raf.
hairy pinweed; F or H, P, N
*Lechea tenuifolia* Michx.
narrowleaf pinweed; F or H, P, N

**Clusiaceae**

*Hypericum punctatum* Lam.
spotted St. Johnswort; F or H, P, N

**Convolulaceae**

*Convolvulus arvensis* L.
field bindweed; F or H, P, I
*Ipomoea hederacea* Jacq.
ivyleaf morning-glory; F or H, A, I
*Ipomoea lacunosa* L.
whitestar; F or H, A, N

**Cornaceae**

*Cornus drummondii* C.A. Mey.
roughleaf dogwood; T, S, P, N

**Cucurbitaceae**

*Melothria pendula* L.
Guadeloupe cucumber; F or H, P, N
*Sicyos angulatus* L.  
oneseed burr cucumber;  
F or H, A, N

**Ebenaceae**
*Diospyros virginiana* L.  
common persimmon; T, P, N

**Euphorbiaceae**
*Acalypha monopodia* (Engelm. ex Gray) L. Mill. & Gandhi  
slender threeseed mercury;  
F or H, A, N
*Acalypha ostryifolia* Riddell  
pineland threeseed mercury;  
F or H, A, N
*Acalypha rhomboidea* Raf.  
Virginia threeseed mercury;  
F or H, A, N

*Chamaesyce maculata* (L.) Small  
spotted sandmat; F or H, A, N
*Chamaesyce nutans* (Lag.) Small  
eyebane; F or H, A, N
*Chamaesyce serpens* (Kunth) Small  
matted sandmat; F or H, A, N
*Cnidoscolus texanus* (Muell.-Arg.) Small  
Texas bullnettle; F or H, P, N
*Croton glandulosus* L.  
vente conmigo; F or H, A, N
*Croton monanthogynus* Michx.  
prairie tea; F or H, A, N
*Croton texensis* (Klotzsch) Mull.-Arg.  
Texas croton; F or H, A, N
*Euphorbia cyathophora* Murr.  
fire on the mountain; F or H, A, N
*Euphorbia dentata* Michx.  
toothed spurge; F or H, A, N,
*Euphorbia hexagona* Nutt. ex Spreng.  
sixangle spurge; F or H, A, N
*Euphorbia marginata* Pursh  
snow on the mountain; F or H, A, N
*Stillingia sylvatica* Garden ex L.  
queen’s-delight; F or H, P, N

-Tragia betonicifolia* Nutt.  
betonyleaf noseburn; F or H, P, N

**Fabaceae**
*Albizia julibrissin* Durazz.  
silk tree; T, S, P, I
*Amorpha canescens* Pursh  
leadplant; SS, S, P, N
*Amorpha fruticosa* L.  
desert false indigo; S, P, N
*Chamaecrista fasciculata* (Michx.) Greene  
sleeping plant; F or H, A, N
*Dalea candida* Michx. ex Willd.  
white prairie clover; F or H, P, N
*Desmanthus illinoensis* (Michx.) MacM. ex B.L. Robins. & Fern.  
prairie bundleflower; F or H, P, N
*Desmodium ciliare* (Muhl. ex Willd.) DC.  
hairy smallleaf ticktrefoil;  
F or H, P, N
*Desmodium laevigatum* (Nutt.) DC.  
smooth ticktrefoil; F or H, P, N
*Desmodium nudiflorum* (L.) DC.  
nakedflower ticktrefoil; F or H, P, N
*Desmodium obtusum* (Muhl. ex Willd.) DC.  
stiff ticktrefoil; F or H, P, N
*Desmodium paniculatum* (L.) DC.  
panicededleaf ticktrefoil; F or H, P, N
*Desmodium sessilifolium* (Torr.)  
Torr. & Gray  
sessileleaf ticktrefoil; F or H, P, N
*Galactia volubilis* (L.) Britt.  
downy milkpea; F or H, P, N
*Gleditsia triacanthos* L.  
honeylocust; T, S, P, N
*Gymnocladus dioicus* (L.) K. Koch  
Kentucky coffeetree; T, P, N
*Lathyrus hirsutus* L.  
Caley pea; F or H, A, I
*Lathyrus pusillus* Ell.  
tiny pea; F or H, A, N
*Lespedeza capitata* Michx.  
roundhead lespedeza; F or H, P, N

Hoagland, B.W. and Buthod, A.K.
Lespedeza stuevei Nutt.
  tall lespedeza; F or H, P, N
Medicago lupulina L.
  black medick; F or H, P, I
Medicago sativa L.
  alfalfa; F or H, P, I
Melilotus officinalis (L.) Lam.
  yellow sweetclover; F or H, A, I
Psoralidium tenuiflorum (Pursh) Rydb.
  slimflower scurfpea; F or H, P, N
Robinia pseudoacacia L.
  black locust; T, P, N
Strophostyles helvula (L.) Ell.
  trailing fuzzybean; F or H, A, N
Trifolium arvense L.
  rabbitfoot clover; F or H, A, I
Trifolium campestre Schreb.
  field clover; F or H, A, I
Trifolium vesiculosum Savi
  arrowleaf clover; F or H, A, I
Vicia sativa L.
  golden vetch; V, F or H, A, I
Vicia villosa Roth
  winter vetch; V, F or H, A, I

Fagaceae
Quercus falcata Michx.
  southern red oak; T, P, N
Quercus macrocarpa Michx.
  bur oak; T, S, P, N
Quercus marilandica Muench.
  blackjack oak; T, S, P, N
Quercus muehlenbergii Engelm.
  chinkapin oak; T, P, N
Quercus shumardii Buckl.
  Shumard’s oak; T, S, P, N
Quercus stellata Wangenh.
  post oak; T, P, N
Quercus velutina Lam.
  black oak; T, P, N

Fumariaceae
Corydalis micrantha
  (Engelm. Ex Gray) Gray
  smallflower fumewort; F or H, A, N

Gentianaceae
Sabatia campestris Nutt.
  Texas star; F or H, A, N

Geraniaceae
Geranium carolinianum L.
  Carolina geranium; F or H, A, B, N
Geranium molle L.
  dovefoot geranium; F or H, A, I

Hydrophyllaceae
Phacelia strictiflora (Engelm. & Gray) Gray
  prairie phacelia; F or H, A, N

Juglandaceae
Carya alba (L.) Nutt. ex Ell.
  mockernut hickory; T, P, N
Carya illinoinsis (Wangenh.) K. Koch
  pecan; T, P, N
Carya texana Buckl.
  black hickory; T, P, N
Juglans nigra L.
  black walnut; T, P, N

Lamiaceae
Hedeoma hispida Pursh
  rough false pennyroyal; F or H, A, N
Lamium amplexicaule L.
  henbit deadnettle; F or H, A, I
Lamium purpureum L.
  purple deadnettle; F or H, A, I
Monarda fistulosa L.
  wild bergamot; F or H, P, N
Monarda punctata L.
  spotted beebalm; F or H, P, N
Salvia azurea Michx. ex Lam.
  azure blue sage; F or H, P, N
Teucrium canadense L.
  Canada germander; F or H, P, N

Lythraceae
Ammannia coccinea Rottb.
  valley redstem; F or H, A, N
Lythrum alatum Pursh
  winged lythrum; F or H, P, N

Malvaceae
Abutilon theophrasti Medik.

Hoagland, B.W. and Buthod, A.K.
velvetleaf; F or H, A, I

*Callirhoe alcaeidus* (Michx.) Gray
light poppymallow; F or H, P, N

*Callirhoe involucrata* (Torr. & Gray) Gray
purple poppymallow; F or H, P, N

*Sida spinosa* L.
prickly fanpetals; F or H, A, N

**Menipsermaceae**
*Cocculus carolinus* (L.) DC.
Carolina coralbead; V, S, P, N

**Molluginaceae**
*Mollugo verticillata* L.
green carpetweed; F or H, A, N

**Moraceae**
*Maclura pomifera* (Raf.) Schneid.
osage orange; T, S, P, N

*Morus alba* L.
white mulberry; T, S, P, I

**Nyctaginaceae**
*Mirabilis nyctaginea* (Michx.) MacM.
heartleaf four o’clock; F or H, P, N

**Oleaceae**
*Fraxinus americana* L.
white ash; T, P, N

**Onagraceae**
*Gaura longiflora* Spach
longflower beebslassom; F or H, A, N

*Gaura mollis* James
velvetweed; F or H, A, N

*Ludwigia peploides* (Kunth) Raven
floating primrosewillow; F or H, P, N

*Oenothera jamesii* Torr. & Gray
trumpet evening primrose;
F or H, P, N

*Oenothera rhombipetala* Nutt.
ex Torr. & Gray
fourpoint evening primrose;
F or H, P, N

**Oxalidaceae**
*Oxalis stricta* L.
common yellow oxalis; F or H, P, N

*Oxalis violacea* L.
violet wood sorrel; F or H, P, N

**Passifloraceae**
*Passiflora incarnata* L.
purple passionflower; F or H, P, N

*Passiflora lutea* L.
yellow passionflower; F or H, P, N

**Phytolaccaceae**
*Phytolacca americana* L.
American pokeweed; F or H, P, N

**Plantaginaceae**
*Plantago aristata* Michx.
largebracted plantain; F or H, A, N

*Plantago patagonica* Jacq.
woolly plantain; F or H, A, N

*Plantago rhodosperma* Dcne.
redseed plantain; F or H, A, N

*Plantago rugelii* Dcne.
blackseed plantain; F or H, P, N

**Platanaceae**
*Platamus occidentalis* L.
American sycamore; T, P, N

**Polemoniaceae**
*Phlox pilosa* L.
downy phlox; F or H, P, N

**Polygonaceae**
*Polygala incarnata* L.
procession flower; F or H, A, N

**Polygonaceae**
*Polygonum amphibium* L.
water knotweed; F or H, P, N

*Polygonum aviculare* L.
prostrate knotweed; F or H, A, I

*Polygonum lapathifolium* L.
curlytop knotweed; F or H, A, N

*Polygonum persicaria* L.
spotted ladysthumb; F or H, A, N

*Polygonum punctatum* Ell.
dotted smartweed; F or H, A, N

*Polygonum ramosissimum* Michx.

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Hoagland, B.W. and Buthod, A.K.
bushy knotweed; F or H, A, N
*Polygonum scandens* L.
climbing false buckwheat;
F or H, P, N
*Polygonum virginianum* L.
jumpseed; F or H, P, N
*Rumex crispus* L.
curly dock; F or H, P, I

*Rumex hastatus* Baldw.
heartwing sorrel; F or H, P, N
*Rumex pulcher* L.
fiddle dock; F or H, P, I

**Portulacaceae**
*Claytonia virginica* L.
Virginia springbeauty; F or H, P, N
*Portulaca oleracea* L.
little hogweed; F or H, A, N

**Primulaceae**
*Androsace occidentalis* Pursh
western rockjasmine; F or H, A, N

**Ranunculaceae**
*Delphinium carolinianum* Walt.
Carolina larkspur; F or H, P, N
*Myosurus minimus* L.
tiny mousetail; F or H, A, N
*Ranunculus abortivus* L.
littleleaf buttercup; F or H, P, N
*Ranunculus sceleratus* L.
cursed buttercup; F or H, A, N

**Rosaceae**
*Geum canadense* Jacq.
white avens; F or H, P, N
*Prunus angustifolia* Marsh.
Chickasaw plum; T, S, P, N
*Prunus mexicana* S. Wats.
Mexican plum; T, S, P, N
*Prunus serotina* Ehrh.
black cherry; T, S, P, N
*Rubus trivialis* Michx.
southern dewberry; S, V, P, N

**Rubiaceae**
*Cephalanthus occidentalis* L.
common buttonbush; T, S, P, N
*Diodia teres* Walt.
poorjoe; F or H, A, P, N
*Diodia virginiana* L.
Virginia buttonweed; F or H, A, N
*Galium aparine* L.
stickywilly; F or H, A, N
*Galium pilosum* Ait.
hairy bedstraw; F or H, P, N
*Galium virgatum* Nutt.
southwestern bedstraw; F or H, A, N
*Houstonia pusilla* Schoepf
tiny bluet; F or H, A, N

**Salicaceae**
*Populus deltoides* Bartr. ex Marsh.
eastern cottonwood; T, P, N
*Salix nigra* Marsh.
black willow; T, P, N

**Sapindaceae**
*Cardiospermum halicacabum* L.
love in a puff; F or H, A, N
*Sapindus saponaria* L. var. *drummondii* (Hook. & Arn.) L. Benson
western soapberry; T, S, P, N

**Sapotaceae**
*Sideroxylon lanuginosum* Michx.
gumbully; T, S, P, N

**Scrophulariaceae**
*Castilleja indivisa* Engelm.
etireleaf Indian paintbrush; F or H, A, N
*Leucospora multifida* (Michx.) Nutt.
narrowleaf paleseed; F or H, A, N
*Lindernia dubia* (L.) Pennell
yellowseed false pimpernel;
F or H, A, N
*Nuttallanthus texanus* (Scheele) D.A. Sutton
Texas toadflax; F or H, A, N
*Scrophularia marilandica* L.
carpenter’s square; F or H, P, N
Verbascum thapsus L.  
common mullein; F or H, B, I

Veronica polita Fries  
gray field speedwell; F or H, A, I

Solanaceae
Physalis angulata L.  
cutleaf groundcherry; F or H, A, N
Physalis heterophylla Nees  
clammy groundcherry; F or H, P, N
Solanum carolinense L.  
Carolina horsenettle; F or H, P, N
Solanum dimidiatum Raf.  
western horsenettle; F or H, P, N
Solanum elaegnifolium Cav.  
silverleaf nightshade; F or H, P, N
Solanum ptychanthum Dunal  
West Indian nightshade; F or H, A, N
Solanum rostratum Dunal  
buffalobur nightshade; F or H, A, N

Tamaricaceae
Tamarix chinensis Lour.  
fivestamen tamarisk; T, S, P, I

Ulmaceae
Celtis laevigata Willd.  
sugarberry; T, S, P, N
Ulmus americana L.  
American elm; T, P, N
Ulmus rubra Muhl.  
slippery elm; T, P, N

Urticaceae
Laportea canadensis (L.) Weddell  
Canadian woodnettle; F or H, P, N
Parietaria pensylvanica Muhl. ex Willd.  
Pennsylvania pellitory; F or H, A, N

Valerianaceae
Valerianella radiata (L.) Dufr.  
beaked cornsalad; F or H, A, N

Verbenaceae
Glandularia canadensis (L.) Nutt.  
rose mock vervain; F or H, P, N
Glandularia pumila (Rydb.) Umber  
pink mock vervain; F or H, A, N
Phyla nodiflora (L.) Greene  
turkey tangle fogfruit; F or H, P, N

Verbena stricta Vent.  
hoary verbena; F or H, P, N
Verbena urticifolia L.  
white vervain; F or H, P, N

Violaceae
Viola affinis Le Conte  
sand violet; F or H, P, N
Viola bicolor Pursh  
field pansy; F or H, A, N

Vitaceae
Ampelopsis cordata Michx.  
heartleaf peppervine; V, P, N
Cissus trifoliata (L.) L.  
sorrelvine; V, SS, P, N
Parthenocissus quinquefolia (L.) Planch.  
Virginia creeper; V, P, N
Vitis cinera (Engelm.) Millard  
graybark grape; V, P, N
Vitis riparia Michx.  
riverbank grape; V, P, N
Vitis vulpina L.  
frost grape; V, P, N

Zygophyllaceae
Tribulus terrestris L.  
puncturevine; F or H, A, I