

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 may be 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

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(Trewartha 1968). 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 Hoagland, B.W. and Buthod, A.K.

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), Shinnery & Mahler's Illustrated Flora of North Central Texas (Diggs et al 1999), and Steyermark's Flora of Missouri (Yatsievych 1999). Origin and nativity for species was determined by reference to Taylor and Taylor (1991) and the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS 2003). Nomenclature follows USDA-NRCS (2003).

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 perdulce 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* (Steud.) 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* Thunb. ex Murr.
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)
Hoagland, B.W. and Buthod, A.K.
- 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 barrelieri* Daveau
Mediterranean 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.

perennial ryegrass; G, P, I
Muhlenbergia frondosa (Poir.) Fern.
wirestem muhly; G, P, N
Muhlenbergia sobolifera
(Muhl. 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 Rupr. 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 sciurea (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 rhizomatosa 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
Toxicodendron 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.
 Indianhemp; 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

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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 eupatorioides (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.
 false 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

- 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 dwarf dandelion; 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
Plucea odorata (L.) Cass.
sweetscent; F or H, A, N
Pseudognaphalium obtusifolium (L.)
Hilliard & Burt
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 goldenrod; 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.

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.

sticky chickweed; F or H, A, I
Dianthus armeria L.
 Deptford pink; F or H, A, I
Holosteum umbellatum L.
 jagged chickweed; F or H, A, I
Sagina decumbens (Ell.) Torr. & Gray
 trailing pearlwort; F or H, A, N
Scleranthus annuus L.
 German knotgrass; F or H, A, I
Silene antirrhina L.
 sleepy silene; F or H, A, N
Stellaria media (L.) Vill.
 common chickweed; F or H, A, I

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

Convolvulaceae
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 monococca (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

Cnidioscolus 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) Muell.-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.
silktree; 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.
panicledleaf 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 dioica (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

Psoraleidum 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

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

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.

mockerknut hickory; T, P, N

Carya illinoensis (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, A, 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.

velvetleaf; F or H, A, I
Callirhoe alcaeoides (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 beeblossom; 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

Platanus occidentalis L.
American sycamore; T, P, N

Polemoniaceae

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

Polygalaceae

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.

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 hastatulus 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

Saliaceae

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.

entireleaf 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 elaeagnifolium 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.) DuRoi.

beaked cornsalad; F or H, A, N

Verbenaceae

Glandularia canadensis (L.) Nutt.

rose mock vervain; F or H, P, N

Glandularia pumila (Rydb.) Unger

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