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James H. Peck  
*University of Arkansas - Little Rock*

Burton W. Haglan  
*Drake University*

Lawrence J. Eilers  
*University of Iowa*

Dean M. Roosa  
*Iowa Conservation Commission*

Delmar Vander Zee  
*Dordt College*

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## Checklist of the Vascular Flora of Lyon and Sioux Counties, Iowa

JAMES H. PECK, BURTON W. HAGLAN, LAWRENCE J. EILERS,  
DEAN M. ROOSA and DELMAR VANDER ZEE

Department of Biology, University of Arkansas-Little Rock, Little Rock, Arkansas 72204  
Department of Biology Drake University, Des Moines, Iowa 50311  
Department of Biology, University of Northern Iowa, Cedar Falls, Iowa 50613  
State Preserves Advisory Board, Iowa Conservation Commission, Des Moines, Iowa 50319  
Department of Biology, Dordt College, Sioux Center, Iowa 51250

The combined vascular flora of Lyon and Sioux counties, Iowa, based upon field and herbarium study, is composed of 612 species, of which 454 species (74%) occur in both counties. The Lyon County vascular flora consists of 561 species, including 13 state endangered, 9 state threatened species, and 102 non-native species. The Sioux County vascular flora consists of 506 species, including 2 state threatened species and 106 non-native species. The floras are most notable for the presence of plants with floristic affinities to the Great Plains to the west of Iowa. They also have a very high percentage (18%-20%) of their floras comprised of non-native species, reflecting the intensity of human activities on the landscape.

INDEX DESCRIPTORS: Endangered plant species, Iowa vascular flora, Lyon County flora, Sioux County flora, Threatened plant species.

Lyon and Sioux counties, located in extreme northwestern Iowa, are adjacent to Minnesota and South Dakota and are bounded on the west by the Big Sioux River. The Rock River is the major drainage of Lyon County; the Floyd River is the major drainage of Sioux County. Both rivers then drain into the Big Sioux River where they flow into the Missouri River. The landscape of these counties is gently rolling, being part of the Northwestern Iowa Plains of the Great Plains (Prior, 1976). The climate is mid-continental. Rainfall is the lowest in the state, with an average of 63 cm (25-26 in) annually (Shaw and Barger, 1956). The growing season is the shortest in the state. It may be as brief as 120 days, but averages 135-145 days per year, as compared to a state-wide average of 158 days (Oschwald, *et al.*, 1974).

The bedrock is generally buried by Pleistocene deposits. However, the exposed bedrock includes the oldest rocks in Iowa (Sioux quartzite of Precambrian age in northwest Lyon County) and the youngest exposed bedrock in Iowa (Cretaceous sedimentary rocks) in Lyon and Sioux counties (Wilder, 1900). Erratics of Sioux quartzite are also located in the southern portion of Oak Grove Park, Sioux County. The bedrock is covered by Kansan glacial till over most of these counties, but till of Wisconsin (Tazewell) is present in eastern Lyon County (Smith and Riecken, 1947). In most places the till is covered with loess from the Missouri and Big Sioux river valleys (Oschwald *et al.*, 1974). The loess ranges from 3 m deep in the southwestern edge of these counties to 1 m deep in the northeastern portion of these counties. Soils in these counties are derived from loess and glacial till in the uplands (Moody soil association) and from alluvium and glacial outwash in valley bottoms (Galva-Primghar-Sac soil association), with the latter soils more commonly encountered in Sioux County (Foth and Riecken, 1954). The soils of Lyon and Sioux counties formed under prairie vegetation. Soils which formed under the forests present after glaciation, approximately 13,000 to 9,000 years before present, appear to have been removed by soil erosion (Dankert and Hansen, 1978). At the time of settlement, less than 1% of these counties was forested (Thomson, 1980), with only 680 ha (1700 acres) in Sioux and 400 ha (1,000 acres) in Lyon counties. The remainder of the landscape was marsh or prairie.

Few studies exist on the flora and vegetation of these counties. The earliest observations were reported by Pammel (1895) who commented on the character of the woodlands and bluff prairies. Shimek (1897; 1898) reported on the presence of many rare plants associated with the Sioux quartzite outcrops in what is now Gitche Manitou State Preserve, Lyon County. Shimek (1900) also presented a preliminary

list of 275 plants and their habitats in Lyon County. Boot (1916; 1917) reported observations on the woodland and prairie communities on steep bluffs in Lyon County. Thorne (1956) noted the presence of *Buchloe dactyloides* (Buffalo Grass), a Great Plains species, at Gitche Manitou State Preserve. Carter (1960) conducted a survey of the vascular flora of northwestern Iowa, including Lyon and Sioux counties. He included dot maps which documented 419 species in Lyon County and 264 species in Sioux County. Since then, Vander Zee (1979) conducted an extensive inventory of the flora of Gitche Manitou State Preserve and reported 328 species in its flora. We noted many obvious omissions in the lists by Shimek (1900) plus Carter (1960), which indicated to us that additional field survey and herbarium search would be necessary to prepare a relatively complete vascular flora of these counties.

During 1979, the State Preserves Advisory Board sponsored a natural history foray in Lyon and Sioux counties to obtain preliminary information on natural areas and to commence an inventory of the flora and fauna. The foray initiated the preparation of this flora, which is the fourth county flora prepared in conjunction with such forays. Earlier floras were prepared for Allamakee County (Peck, Roosa, and Eilers, 1980), Fremont County (Peck, Eilers, and Roosa, 1978), and Lee County (Peck, Lammers, Haglan, Roosa, and Eilers, 1981). The checklist format employed in this report provides a functional (albeit terse) statement of floristic data for these counties. Additional data exist in the form of specimen label data, but space considerations preclude their publication. With implementation of BIOBANK (Eilers, 1979), a computer assisted specimen data system for the Iowa flora, such data will be compiled, stored, and be more conveniently available than at present. This report adds Lyon and Sioux counties to the list of Iowa counties which have been treated with modern summaries of their flora (Eilers, 1975).

### METHODS

Field collections were made mainly in 1980, with limited collecting from 1976 through 1982. All of Carter's collecting stations (20) were visited. Additional stations of botanical interest were also located. Herbarium search was conducted to corroborate the occurrence of species reported by Carter (1960) and Shimek (1897; 1898; 1900) that were not observed in the field. Herbaria at Dordt College, Northwestern College, and Iowa State University were searched; the later herbarium was completely searched since it was only partially

**LYCOPODIOPHYTA**

**SELAGINELLACEAE** (Spikemoss Family)

*!Selaginella rupestris* (L.) Spring (Rock Spikemoss) -L

**EQUISETOPHYTA**

**EQUISETACEAE** (Horsetail Family)

*Equisetum arvense* L. (Common Horsetail) -L, S  
*Equisetum hyemale* L. (Common Scouringrush) -L, S  
*Equisetum laevigatum* A. Br. (Prairie Scouringrush) -L, S  
*Equisetum X ferrissii* Clute (*E. hyemale X laevigatum*) -L, S

**POLYPODIOPHYTA**

**ASPLENIACEAE** (Common Fern Family)

*Athyrium angustum* (Willd.) Presl (Northern Lady Fern) -L  
*Cystopteris fragilis* (L.) Bernh. var. *mackayi* Laws. (Mackay's Fragile Fern) -L  
*!Woodсия oregana* D. C. Eat. (Western Cliff Fern) -L

**MARSILEACEAE** (Pepperwort Family)

*!Marsilea vestita* Hook. & Grev. (Hairy Pepperwort) -L

**OPHIOGLOSSACEAE**

(Adder's-tongue Fern Family)

*Botrychium virginianum* (L.) Sw. (Rattlesnake Fern) -L, S

**PINOPHYTA**

**CUPRESSACEAE** (Cypress Family)

*Juniperus virginiana* L. (Eastern Red Cedar) -L, S

**MAGNOLIOPHYTA: MAGNOLIATAE**

(Dicots)

**ACANTHACEAE** (Acanthus Family)

*Ruellia humilis* Nutt. (Wild Petunia) -S

**ACERACEAE** (Maple Family)

*Acer negundo* L. (Box-elder) -L, S  
*Acer saccharinum* L. (Silver Maple) -L, S

**AMARANTHACEAE** (Amaranth Family)

*Amaranthus albus* L. (Tumbleweed) -L, S  
*\*Amaranthus graecizans* L. (Prostrate Pigweed) -L, S  
*\*Amaranthus retroflexus* L. (Redroot Pigweed) -L, S  
*Amaranthus tamariscinus* Nutt. (Water-hemp) -L, S

**ANACARDIACEAE** (Cashew Family)

*Rhus glabra* L. (Smooth Sumac) -L, S  
*Toxicodendron radicans* (L.) Kuntze ssp. *negundo* (Greene) Gillis (Poison Ivy) -L, S

**APIACEAE** (Parsley Family)

*Cicuta maculata* L. (Water Hemlock) -L  
*Cryptotaenia canadensis* (L.) DC. (Honewort) -L, S  
*\*Daucus carota* L. (Wild Carrot) -L, S  
*Heracleum lanatum* Michx. (Cow-parsnip) -L, S  
*!Lomatium foeniculaceum* (Nutt.) C. & R. -L, S  
*!Lomatium orientale* C. & R. -L  
*Osmorhiza claytonii* (Michx.) Clarke (Sweet Cicely) -S  
*Osmorhiza longistylis* (Torr.) DC. (Anise-root) -L, S  
*\*Pastinaca sativa* L. (Wild Parsnip) -S  
*Sanicula canadensis* L. (Canadian Snakeroot) -L, S  
*Sanicula gregaria* Bickn. (Common Snakeroot) -S  
*Sanicula marilandica* L. (Black Snakeroot) -S  
*Sium suave* Walt. (Water Parsnip) -L  
*Thaspium barbinode* (Michx.) Nutt. (Meadow Parsnip) -S  
*Zizia aurea* (L.) W. D. J. Koch (Golden Alexanders) -L, S

**APOCYNACEAE** (Dogbane Family)

*Apocynum cannabinum* L. (Indian Hemp) -L, S  
*Apocynum sibiricum* Jacq. (Indian Hemp) -L, S

**ARALIACEAE** (Ginseng Family)

*Aralia nudicaulis* L. (Wild Sarsaparilla) -S

**ASCLEPIDACEAE** (Milkweed Family)

*Asclepias hirtella* (Pennell) Woodson (Hairy Milkweed) -S  
*Asclepias incarnata* L. (Swamp Milkweed) -L, S  
*!Asclepias lanuginosa* Nutt. (Woolly Milkweed) -L  
*!Asclepias speciosa* Torr. -L  
*Asclepias syriaca* L. (Common Milkweed) -L, S  
*Asclepias tuberosa* L. (Butterfly-weed) -L, S  
*Asclepias verticillata* L. (Whorled Milkweed) -L, S  
*Asclepias viridiflora* Raf. (Green Milkweed) -L, S

**ASTERACEAE** (Aster Family)

*\*Achillea millefolium* L. (Common Yarrow) -L, S  
*Agoseris cuspidata* (Pursh) Raf. (Prairie Dandelion) -L, S  
*Ambrosia artemisiifolia* L. (Small Ragweed) -L, S  
*Ambrosia psilostachya* DC. (Perennial Ragweed) -L, S  
*Ambrosia trifida* L. (Giant Ragweed) -L, S  
*Antennaria neglecta* Greene (Field Pussytoes) -L, S

*\*Anthemis cotula* L. (Dog Fennel) -L, S  
*\*Arctium minus* Schk. (Common Burdock) -L, S  
*\*Artemisia absinthium* L. (Wormwood) -L, S  
*\*Artemisia biennis* Willd. (Wormwood) -L, S  
*Artemisia campestris* L. (Wormwood) -L  
*!Artemisia canadensis* Michx. -L  
*Artemisia caudata* Michx. -L, S  
*Artemisia dracunculul* L. -L, S  
*Artemisia frigida* Willd. -L  
*Artemisia ludoviciana* Nutt. (Prairie Sage) -L, S  
*Aster eriocoides* L. (Heath Aster) -L, S  
*Aster laevis* L. (Smooth Aster) -L, S  
*Aster lucidulus* (Gray) Wieg. (Shining Aster) -L  
*Aster novae-angliae* L. (New England Aster) -L, S  
*Aster oblongifolius* Nutt. (Aromatic Aster) -L, S  
*Aster ontariensis* Wieg. (Ontario Aster) -L, S  
*Aster ptarmicoides* (Nees) T. & G. -L, S  
*Aster sericeus* Vent. (Silky Aster) -L, S  
*Aster simplex* Willd. (Panicked Aster) -L, S  
*Bidens cernua* L. (Stick-tight) -L, S  
*Bidens frondosa* L. (Beggars Ticks) -L, S  
*Bidens vulgata* Greene (Stick-tight) -L, S  
*\*Carduus acanthoides* L. (Erect Musk Thistle) -L, S  
*\*Carduus nutans* L. (Nodding Musk Thistle) -L, S  
*\*Centaurea maculosa* Lam. (Star Thistle) -S  
*Chrysopsis villosa* L. (Pursh) Nutt. (Hairy Golden Aster) -L  
*Cirsium altissimum* (L.) Spreng. (Tall Thistle) -L, S  
*\*Cirsium arvense* L. Scop. (Canadian Thistle) -L, S  
*Cirsium discolor* (Muhl.) Spreng. (Field Thistle) -L, S  
*Cirsium floodmanii* (Rydb.) Arthur (Dog Thistle) -L, S  
*\*Cirsium vulgare* (Savi) Tenore (Bull Thistle) -L, S  
*Coryza canadensis* (L.) Cron. (Horseweed) -L, S  
*Coreopsis palmata* Nutt. (Tickseed) -L, S  
*Dysodia papposa* (Vent.) Hitchc. (Fetid Marigold) -L, S  
*Echinacea pallida* Nutt. (Purple Coneflower) -L, S  
*\*Erigeron annuus* (L.) Pers. (Daisy Fleabane) -L, S  
*Erigeron philadelphicus* L. (Common Fleabane) -L, S  
*Eupatorium altissimum* L. (Thoroughwort) -S  
*\*Erigeron strigosus* Muhl. (Daisy Fleabane) -L, S  
*Eupatorium perfoliatum* L. (Boneset) -L, S  
*Eupatorium rugosum* Houtt. (White Snakeroot) -L, S  
*Grindelia squarrosa* (Pursh) Dunal (Gum Plant) -L, S  
*Helenium autumnale* L. (Sneezeweed) -L, S  
*Helianthus annuus* L. (Common Sunflower) -L, S  
*Helianthus grosserratus* Martens (Serrate Sunflower) -L, S  
*Helianthus laetiflorus* Pers. (Beautiful Sunflower) -L, S  
*Helianthus maximiliani* Schrad. -L, S  
*Helianthus tuberosus* L. (Jerusalem Artichoke) -L, S  
*Helopsis belianthoides* L. Sweet (Ox-eye) -L, S  
*Iva xanthifolia* Nutt. (Marsh-elder) -L, S  
*Kubnia eupatorioides* L. (False-boneset) -L, S  
*Lactuca biennis* (Moench) Fern. (Wild Lettuce) -L  
*Lactuca canadensis* L. (Wild Lettuce) -L, S  
*Lactuca floridana* L. Gaertn. (Blue Lettuce) -L, S  
*Lactuca ludoviciana* (Nutt.) Riddell (Louisiana Lettuce) -S  
*Lactuca pulchella* (Pursh) DC. (Wild Lettuce) -L, S  
*\*Lactuca serriola* L. (Prickly Lettuce) -L, S  
*Liatris aspera* Michx. (Rough Blazing Star) -L, S  
*Liatris punctata* Hook. (Dotted Blazing Star) -L, S  
*Lygodesmia juncea* (Pursh) D. Don (Skeleton Weed) -L, S  
*\*Matricaria matricarioides* (Less.) Porter (Pine-apple Weed) -L, S  
*Prenanthes alba* L. (White Rattlesnake-root) -S  
*Prenanthes aspera* Michx. (Harsh Rattlesnake-root) -L, S  
*Ratibida columnifera* (Nutt.) Wooton & Standl. (Long-headed Coneflower) -L, S  
*Ratibida pinnata* (Vent.) Barneg. (Prairie Coneflower) -L, S  
*Rudbeckia hirta* L. (Black-eyed Susan) -L, S  
*Rudbeckia laciniata* L. (Tall Cone Flower) -L, S  
*Senecio plattensis* Nutt. (Prairie Ragwort) -L, S  
*Silphium laciniatum* L. (Compass Plant) -L, S  
*Silphium perfoliatum* L. (Cup Plant) -L, S  
*Solidago canadense* L. (Tall Goldenrod) -L, S  
*Solidago gigantea* Ait. (Late Goldenrod) -L, S  
*Solidago missouriensis* Nutt. (Missouri Goldenrod) -L, S  
*Solidago nemoralis* Ait. (Gray Goldenrod) -L, S  
*Solidago rigida* L. (Stiff Goldenrod) -L, S  
*Solidago speciosa* Nutt. (Showy Goldenrod) -L, S

*\*Sonchus arvensis* L. (Perennial Sow-thistle) -L, S  
*\*Sonchus uliginosus* L. (Marsh Sow-thistle) -L, S  
*\*Taraxacum officinale* Weber (Common Dandelion) -L, S  
*\*Tragopogon dubius* Scop. (Goat's Beard) -L, S  
*Veronica fasciculata* Michx. (Bunched Ironweed) -L, S  
*\*Xanthium strumarium* L. (Cockle-bur) -L, S

**BALSAMIACEAE** (Touch-me-not Family)

*Impatiens biflora* Walt. (Spotted Touch-me-not) -L, S  
*Impatiens pallida* Nutt. (Pale Touch-me-not) -L, S

**BERBERIDACEAE** (Barberry Family)

*\*Berberis thunbergii* DC. (Japanese Barberry) -S  
*Caulophyllum thalictroides* (L.) Michx. (Blue Cohosh) -S

**BETULACEAE** (Birch Family)

*Ostrya virginiana* (Mill.) K. Koch (Hop-hornbean) -L, S

**BORAGINACEAE** (Borage Family)

*\*Lappula echinata* Gilib. (Stickseed) -L, S  
*Lappula pedunculata* (Hornem.) Greene (Stickseed) -L, S  
*Lithospermum canescens* (Michx.) Lehm. (Hoary Puccoon) -L, S  
*Lithospermum incisum* Lehm. (Narrow-leaved Puccoon) -L, S  
*Onosmodium occidentale* Mack. (False Gromwell) -L, S

**BRASSICACEAE** (Mustard Family)

*Arabis canadensis* L. (Sickle-pod) -L  
*Arabis hirsuta* (L.) Scop. (Hairy Rock Cress) -L, S  
*Arabis perstellata* E. L. Br. (Rock Cress) -S  
*\*Amaracia rusticana* Gaertn. (Horse-radish) -S  
*\*Barbarea vulgaris* R. Br. (Yellow Rocket) -L, S  
*\*Berteroa incana* (L.) DC. (Hoary Alyssum) -L, S  
*\*Brassica juncea* (L.) Coss. (Chinese Mustard) -L  
*\*Brassica kaber* (DC.) L. C. Wheeler (Charlock) -L, S  
*\*Capsella bursa-pastoris* (L.) Medic. (Shepard's-purse) -L, S  
*\*Cardaria draba* (L.) Desv. (Hoary Cress) -S  
*Descurainia pinnata* (Walt.) Britt. (Tansy Mustard) -L, S  
*Descurainia sophia* (L.) Webb. (Tansy Mustard) -L, S  
*Draba reptans* (Lam.) Fern. (Whitlow Grass) -L  
*\*Erysimum cheiranthoides* L. (Wormseed Mustard) -S  
*Hesperis matronalis* L. (Dame's Rocket) -L, S  
*\*Lepidium densiflorum* Schrad. (Peppergrass) -L, S  
*\*Lepidium virginicum* L. (Poor Man's Pepper) -S  
*\*Raphanus raphanistrum* L. (Jointed Charlock) -L  
*Rorippa islandica* (Oeder) Borbas. (Yellow Marsh Cress) -L, S  
*!Rorippa sinuata* (Nutt.) Hitchc. (Spreading Yellow Cress) -L, S  
*\*Sisymbrium altissimum* L. (Tumbling Mustard) -L, S  
*\*Sisymbrium officinale* (L.) Scop. (Hedge Mustard) -S  
*\*Thlaspi arvense* L. (Pennycress) -L, S

**CACTACEAE** (Cactus Family)

*!Opuntia fragilis* (Nutt.) Haw. (Prickly Pear Cactus) -L

**CAMPANULACEAE** (Bluebell Family)

*Campanula americana* L. (Tall Bellflower) -L, S  
*Triodanis perfoliata* (L.) Nieuwl. (Venus' Looking-glass) -L, S

**CANNABINACEAE** (Hemp Family)

*\*Cannabis sativa* L. (Hemp) -L, S  
*\*Humulus japonicus* Sieb. & Zucc. (Japanese Hops) -S  
*Humulus lupulus* L. (Common Hops) -L, S

**CAPPARIDACEAE** (Capper Family)

*\*Cleome serrulata* Pursh (Stinking-clover) -L, S  
*Polanisia dodecandra* (L.) DC. (Clammyweed) -S

**CAPRIFOLIACEAE** (Honeysuckle Family)

*Lonicera dioica* L. (Honeysuckle) -L, S  
*Sambucus canadensis* L. (Elderberry) -L, S  
*Symphoricarpos occidentalis* Hoek. (Wolfberry) -L, S  
*Triosteum perfoliatum* L. (Tinker'sweed) -S  
*Viburnum lentago* L. (Nannyberry) -L, S

**CARYOPHYLLACEAE** (Pink Family)

*\*Cerastium viscosum* L. (Mouse-ear Chickweed) -L, S  
*\*Lychmis alba* Mill. (White Campion) -L, S  
*\*Saponaria officinalis* L. (Bouncing Bet) -L, S  
*Silene antirrhina* L. (Sleepy Catchfly) -L, S  
*Silene stellata* (L.) Ait. f. (Starry Campion) -L, S  
*\*Stellaria media* (L.) Cyrill. (Common Chickweed) -L, S

**CELASTRACEAE** (Bittersweet Family)

*Celastrus scandens* L. (Bittersweet) -L, S  
*Euonymus atropurpureus* Jacq. (Wahoo) -L, S

**CERATOPHYLLACEAE** (Hornwort Family)

*Ceratophyllum demersum* L. (Coontail) -S

CHENOPODIACEAE (Goosefoot Family)  
 \**Cenopodium album* L. (Lamb's-quarter) -L, S  
*Cenopodium hybridum* L. (Maple-leaved Goosefoot) -L, S  
*Cenopodium leptophyllum* Nutt. (Narrow-leaved Lamb's-quarter) -L, S  
 \**Kochia scoparia* (L.) Roth. (Summer-cypress) -L, S  
 \**Salsola iberica* Sennen & Paul. (Russian Thistle) -L, S  
 CONVOLVULACEAE (Morning-glory Family)  
 \**Convolvulus arvensis* L. (Field Bindweed) -L, S  
*Convolvulus sepium* L. (Wild Morning-glory) -L, S  
 \**Ipomoea purpurea* (L.) Roth. (Common Morning-glory) -S  
 CORNACEAE (Dogwood Family)  
*Cornus drummondii* Mey. (Rough-leaved Dogwood) -L, S  
 CUCURBITACEAE (Gourd Family)  
*Echinocystis lobata* (Michx.) T. & G. (Wild Cucumber) -L, S  
 CUSCUTACEAE (Dodder Family)  
*Cuscuta glomerata* Choisy (Dodder) -L, S  
*Cuscuta groenovi* Willd. -S  
*Cuscuta pentagona* Engelm. -L  
*Cuscuta polygonorum* Engelm. -L  
 ELAEAGNACEAE (Oleaster Family)  
 \**Elaeagnus angustifolia* L. (Russian Olive) -L, S  
 EUPHORBIACEAE (Spurge Family)  
*Acalypha rhomboidea* Raf. (Three-seeded Mercury) -L, S  
*Euphorbia corollata* L. (Flowering Spurge) -L, S  
*Euphorbia cyparissias* L. (Cypress Spurge) -S  
*Euphorbia dentata* Michx. (Toothed Spurge) -L, S  
*Euphorbia dictyosperma* Fisch. & Mey. (Spurge) -L  
 \**Euphorbia esula* L. (Leafy Spurge) -L, S  
*Euphorbia glyptosperma* Engelm. (Spurge) -L, S  
*Euphorbia heterophylla* L. (Wild Poinsettia) -L, S  
*Euphorbia maculata* L. (Spotted Spurge) -L, S  
*Euphorbia marginata* Pursh (Snow-on-the-Mountain) -L, S  
*Euphorbia serpyllifolia* Pers. (Spurge) -S  
*Euphorbia supina* Raf. (Milk-purslane) -S  
 FABACEAE (Bean Family)  
*Amorpha canescens* Pursh (Leadplant) -L, S  
*Amorpha fruticosa* L. (Wild False Indigo) -L, S  
 !!*Amorpha nana* Nutt. (Fragrant False Indigo) -L  
*Ampicarpa bracteata* (L.) Fern. (Hog-peanut) -L, S  
*Astragalus canadensis* L. (Milk-vetch) -L, S  
*Astragalus crassicaulis* Nutt. (Ground-plum) -L, S  
*Astragalus lotiflorus* Hook. (Prairie Milk-vetch) -L, S  
*Chamaecrista fasciculata* (Michx.) Greene (Partridge-pea) -L, S  
*Desmodium canadense* (L.) DC. (Tick-clover) -L, S  
*Desmodium glutinosum* (Muhl.) Wood (Pointed Tick Trefoil) -S  
*Gleditsia triacanthos* L. (Honey Locust) -L, S  
*Glycyrrhiza lepidota* (Nutt.) Pursh (Wild Licorice) -L, S  
*Gymnocladus dioica* (L.) Koch (Kentucky Coffee Tree) -L, S  
*Lathyrus palustris* L. (Vetchling) -L  
*Lathyrus venosus* Muhl. (Vetchling) -L, S  
*Lespedeza capitata* Michx. (Bush Clover) -L, S  
*Lotus americanus* (Nutt.) Bisch. -L, S  
 \**Lotus corniculatus* L. (Bird's-foot Trefoil) -S  
 \**Medicago falcata* L. -L  
 \**Medicago lupulina* L. (Black Medic) -L, S  
 \**Medicago sativa* L. (Alfalfa) -L, S  
 \**Melilotus alba* Desr. (White Sweet Clover) -L, S  
 \**Melilotus officinalis* (L.) Lam. (Yellow Sweet Clover) -L, S  
*Oxytropis lambertii* Pursh (Loco-weed) -L, S  
*Petalostemum candidum* (Willd.) Michx. (White Prairie-clover) -L, S  
*Petalostemum purpureum* (Vent.) Rydb. (Purple Prairie-clover) -L, S  
*Psoralea argophylla* Pursh (Hoary Scurf-pea) -L, S  
*Psoralea lanceolata* Pursh. (Scurf-pea) -S  
 \**Robinia pseudoacacia* L. (Black Locust) -L, S  
*Strophostyles leiosperma* (T. & G.) Piper (Wild Bean) -L  
 \**Trifolium hybridum* L. (Alsike Clover) -L, S  
 \**Trifolium pratense* L. (Red Clover) -L, S  
 \**Trifolium repens* L. (White Clover) -L, S  
*Vicia americana* Muhl. (American Vetch) -L, S  
 FAGACEAE (Beech Family)  
 \**Quercus borealis* Mich. f. (Red Oak) -L, S

*Quercus macrocarpa* Michx. (Bur Oak) -L, S  
 FUMARIACEAE (Fumitory Family)  
*Corydalis micrantha* (Engelm.) Gray (Slender Fumewort) -L, S  
*Dicentra cucullaria* (L.) Bernh. (Dutchman's Breeches) -L, S  
 GENTIANACEAE (Gentian Family)  
*Gentiana puberula* Michx. (Downy Gentian) -L, S  
 GERANIACEAE (Geranium Family)  
*Geranium carolinianum* L. (Carolina Cranesbill) -L  
 HYDROPHYLLACEAE (Waterleaf Family)  
*Ellisia myctela* L. (Waterpod) -L, S  
*Hydrophyllum virginianum* L. (John's-cabbage) -L, S  
 HYPERICACEAE (St. John's-wort Family)  
*Hypericum majus* (Gray) Britt. (St. John's-wort) -L  
 JUGLANDACEAE (Walnut Family)  
*Juglans nigra* L. (Black Walnut) -L, S  
 LAMIACEAE (Mint Family)  
 !!*Agastache foeniculum* (Pursh) Kuntze (Giant Hyssop) -L  
*Agastache nepetoides* (L.) Kuntze (Giant Hyssop) -L, S  
 \**Glechoma hederacea* L. (Ground Ivy) -L, S  
*Hedeoma hispida* Pursh (Rough Pennyroyal) -L, S  
 \**Isanthus brachiatus* (L.) BSP. (False Pennyroyal) -L  
 \**Leonuris cardiaca* L. (Motherwort) -L, S  
*Lycopus americanus* Muhl. (Water Hoarhound) -L, S  
*Lycopus asper* Green (Water Horehound) -L  
*Mentha arvensis* L. (Wild Mint) -L, S  
*Monarda fistulosa* L. (Wild Bergamot) -L, S  
 \**Nepeta cataria* (Catnip) -L, S  
*Phytostegia parviflora* Nutt. (False Dragonhead) -L, S  
 \**Prunella vulgaris* L. (Selfheal) -L  
*Salvia reflexa* Hornem. (Lance-leaved Salvia) -L, S  
*Scutellaria lateriflora* L. (Mad-dog Skullcap) -L, S  
*Scutellaria parvula* Michx. (Small Skullcap) -L, S  
*Stachys hispida* Pursh (Woundwort) -L  
*Stachys palustris* L. (Woundwort) -L, S  
 LOBELIACEAE (Lobelia Family)  
*Lobelia siphilitica* L. (Blue Lobelia) -S  
*Lobelia spicata* Lam (Pale Lobelia) -L, S  
 LYTHRACEAE (Loosestrife Family)  
*Ammannia coccinea* Rottb. (Tooth-cup) -L, S  
*Lythrum dactyanum* Nieuwl. (Common Loosestrife) -L, S  
 MALVACEAE (Mallow Family)  
*Abutilon theophrasti* Medic (Velvet-leaf) -S  
*Callirhoe involucrata* (T. & G.) Gray -L  
*Hibiscus trionum* L. (Flower-of-an-hour) -S  
 \**Maltva neglecta* Waltr. (Cheeses) -L, S  
 MENISPERMACEAE (Moonseed Family)  
*Menispermum canadense* L. (Moonseed) -L, S  
 MORACEAE (Mulberry Family)  
 \**Morus alba* L. (White Mulberry) -L, S  
 NYCTAGINACEAE (Four O'clock Family)  
*Mirabilis birsuta* (Pursh) MacM. (Hairy Four O'clock) -L, S  
*Mirabilis nyctaginea* (Michx.) MacM. (Wild Four O'clock) -L, S  
 NYMPHAEACEAE (Water-lily Family)  
*Nuphar luteum* (L.) Sibh. & Sm. (Yellow Pond-lily) -L  
*Nymphaea tuberosa* Paine (White Water-lily) -L  
 OLEACEAE (Olive Family)  
*Fraxinus pennsylvanica* Marsh. (Green Ash) -L, S  
 ONAGRACEAE (Evening Primrose Family)  
*Epilobium adenocaulon* Haussk. (Northern Willow Herb) -L  
*Gaura coccinea* Pursh (Gaura) -L, S  
*Oenothera biennis* L. (Evening Primrose) -L, S  
*Oenothera serrulata* Nutt. (Toothed Evening Primrose) -L, S  
 OROBANCHACEAE (Broom-rape Family)  
 !!*Orobancha ludoviciana* Nutt. (Broom-rape) -L  
 OXALIDACEAE (Wood-sorrel Family)  
*Oxalis stricta* L. (Yellow Wood-sorrel) -L, S  
*Oxalis violacea* L. (Violet Wood-sorrel) -L, S  
 PAPAVERACEAE (Poppy Family)  
*Sanguinaria canadensis* L. (Bloodroot) -S  
 PLANTAGINACEAE (Plantain Family)  
 \**Plantago major* L. (Common Plantain) -L, S  
*Plantago patagonica* Jacq. (Hairy Plantain) -L, S  
*Plantago purshii* R. & S. (Plantain) -L, S  
*Plantago rugelii* Dcne. (Rugel's Plantain) -L, S  
 POLEMONIACEAE (Phlox Family)  
 \**Collomia linearis* Nutt. -L

*Phlox pilosa* L. (Prairie Phlox) -L, S  
*Polemonium reptans* L. (Jacob's Ladder) -S  
 POLYGALACEAE (Milkwort Family)  
*Polygala abla* Nutt. (Milkwort) -S  
*Polygala verticillata* L. (Milkwort) -L, S  
 POLYGONACEAE (Buckwheat Family)  
 \**Polygonum aviculare* L. (Knotweed) -L, S  
*Polygonum coccineum* Muhl. (Water Smartweed) -L, S  
 \**Polygonum convolvulus* L. (Black Bindweed) -L, S  
*Polygonum erectum* L. (Erect Knotweed) -L  
 \**Polygonum hydropiper* L. (Knotweed) -L  
*Polygonum lapathifolium* L. (Pale Smartweed) -L, S  
*Polygonum pennsylvanicum* L. (Pinkweed) -L, S  
 \**Polygonum persicaria* L. (Lady's-thumb) -L, S  
*Polygonum punctatum* Ell. (Water Smartweed) -L, S  
*Polygonum ramosissimum* Michx. (Bushy Knotweed) -L, S  
*Polygonum scandens* L. (Climbing False Buckwheat) -L, S  
*Polygonum tenue* Michx. (Slender Knotweed) -L, S  
*Rumex altissimus* Wood (Pale Dock) -L, S  
 \**Rumex crispus* L. (Curly Dock) -L, S  
*Rumex maritimus* L. (Golden Dock) -L, S  
*Rumex mexicanus* Meisn. (Mexican Knotweed) -L  
*Rumex orbiculatus* Gray (Great Water Dock) -L  
 \**Rumex patientia* L. (Patience Dock) -L, S  
 PORTULACACEAE (Purslane Family)  
 \**Portulaca oleracea* L. (Common Purslane) -L, S  
 !!*Talinum parviflorum* Nutt. (Fame Flower) -L  
 PRIMULACEAE (Primrose Family)  
*Androsace occidentalis* Pursh (Western Rock Jasmine) -L, S  
*Lysimachia ciliata* L. (Fringed Loosestrife) -L, S  
 RANUNCULACEAE (Buttercup Family)  
*Anemone canadensis* L. (Meadow Anemone) -L, S  
*Anemone caroliniana* Walt. (Carolina Anemone) -L, S  
*Anemone cylindrica* Gray (Thimbleweed) -L, S  
*Anemone patens* L. (Pasque Flower) -L, S  
*Anemone virginiana* L. (Tall Anemone) -L, S  
*Aquilegia canadensis* L. (Columbine) -L, S  
*Clematis virginiana* L. (Virgin's Bower) -L, S  
*Delphinium virscens* Nutt. (Prairie Larkspur) -L, S  
*Ranunculus abortivus* L. (Small-flowered Crowfoot) -L, S  
*Ranunculus circinatus* Sibth. (White Water Crowfoot) -L  
*Ranunculus cymbalaria* Pursh (Seaside Crowfoot) -L, S  
*Ranunculus cylindricus* L. f. (Bristly Crowfoot) -L, S  
*Ranunculus rhomboideus* Goldie (Prairie Crowfoot) -L  
*Ranunculus scleratus* L. (Cursed Crowfoot) -S  
*Ranunculus septentrionalis* Poir. (Northern Buttercup) -S  
*Thalictrum dasycarpum* Fisch. & Lall (Meadow-rue) -L, S  
 RHAMNACEAE (Buckthorn Family)  
*Ceanothus americanus* L. (New Jersey Tea) -L, S  
*Ceanothus herbaceus* Raf. (Redroot) -L, S  
 \**Rhamnus frangula* L. (Buckthorn) -L, S  
 ROSACEAE (Rose Family)  
*Agrimonia pubescens* Wallr. (Downy Agrimony) -S  
*Agrimonia striata* Michx. (Agrimony) -L  
*Amelanchier sanguinea* (Pursh) DC. (Red Shadbush) -L, S  
*Crataegus rotundifolia* Moench. (Hawthorn) -L  
*Crataegus succulenta* Jacq. (Hawthorn) -L, S  
*Fragaria vesca* L. (Woodland Strawberry) -L, S  
*Fragaria virginiana* Dcne. (Wild Strawberry) -L, S  
*Geum canadense* Jacq. (White Avens) -L, S  
*Geum laciniatum* Murr. (Rough Avens) -L, S  
*Potentilla arguta* Pursh (Prairie Cinquefoil) -L, S  
*Potentilla norvegica* L. (Rough Cinquefoil) -L, S  
*Potentilla pensylvanica* L. (Cinquefoil) -L  
 \**Potentilla recta* L. (Sulfur Cinquefoil) -L, S  
*Potentilla rivalis* Nutt. (River Cinquefoil) -L  
*Prunus americana* Marsh. (Wild Plum) -L, S  
*Prunus pumila* L. (Sand Cherry) -L, S  
*Prunus virginiana* L. (Choke Cherry) -L, S  
*Rosa blanda* Ait. (Wood Rose) -L, S  
*Rosa carolina* L. (Pasture Rose) -L  
*Rosa suffulta* Greene (Prairie Rose) -L, S  
*Rubus occidentalis* L. (Black Raspberry) -L, S  
 RUBIACEAE (Madder Family)  
*Galium aparine* L. (Cleavers) -L, S  
*Galium obtusum* Bigel. (Wild Madder) -L, S  
*Galium triflorum* Michx. (Sweet-scented Bedstraw) -L, S  
 RUTACEAE (Rue Family)  
*Zanthoxylum americanum* Mill. (Prickly-ash) -L, S

VASCULAR PLANTS OF LYON AND SIOUX COUNTIES

SALICACEAE (Willow Family)  
 \**Populus alba* L. (Silver-leaved Poplar) -L, S  
*Populus deltoides* Marsh. (Eastern Cottonwood) -L, S  
*Populus sargentii* Dode. (Western Cottonwood) -L, S  
*Salix amygdaloides* Anders. (Peach-leaved Willow) -L, S  
*Salix discolor* Muhl. (Pussy Willow) -L, S  
*Salix humilis* Marsh. (Prairie Willow) -L, S  
*Salix interior* Rowlee (Sandbar Willow) -L, S  
*Salix rigida* Muhl. (Heart-leaved Willow) -L, S  
 SANTALACEAE (Sandalwood Family)  
*Commandra umbellata* (L.) Nutt. (Bastard Toadflax) -L, S  
 SAXIFRAGACEAE (Saxifrage Family)  
*Heuchera richardsonii* R. Br. (Alum Root) -L, S  
*Penthorum sedoides* L. (Ditch Stonecrop) -L, S  
*Ribes americanum* Mill. (Wild Black Currant) -L, S  
*Ribes missouriense* Nutt. (Wild Gooseberry) -L, S  
 SCROPHULARIACEAE (Figwort Family)  
*Bacopa rotundifolia* (Michx.) Wettst. (Water Hyssop) -L  
*Castilleja sessiliflora* Pursh (Downy Painted-cup) -L, S  
 \**Chaenorrhinum minus* (L.) Lange (Dwarf Snapdragon) -L, S  
*Gerardia aspera* Dougl. (Harsh Gerardia) -L, S  
*Gerardia tenuifolia* Vahl. (Slender False Foxglove) -L  
*Gratiola neglecta* Torr. (Hedge-hyssop) -L  
 \**Linaria vulgaris* Hill (Butter-and-eggs) -L, S  
*Lindernia dubia* (L.) Pennell (False Pimpernel) -L  
*Mimulus ringens* L. (Monkey Flower) -L  
*Pedicularis canadensis* L. (Lousewort) -L, S  
*Pedicularis lanceolata* Michx. (Swamp Lousewort) -L  
*Penstemon albidus* Nutt. (White Prairie Beard-tongue) -L, S  
 !*Penstemon gracilis* Nutt. (Violet Prairie Beard-tongue) -L, S  
*Penstemon grandiflorus* Nutt. (Giant Blue Beard-tongue) -L, S  
*Scrophularia lanceolata* Pursh (Early Figwort) -L, S  
 \**Verbascum thapsus* L. (Common Mullein) -L, S  
*Veronica peregrina* L. (Neckweek) -L  
*Veronica persica* Poir. (Purslane Speedwell) -S  
*Veronicastrum virginicum* Fabr. (Culver's-root) -S  
 SOLANACEAE (Tomato Family)  
*Physalis heterophylla* Ness (Ground Cherry) -L, S  
*Physalis virginiana* Mill. (Ground Cherry) -L, S  
 \**Solanum nigrum* L. (Black Nightshade) -L, S  
*Solanum rostratum* Dunal. (Buffalo-bur) -L, S  
 TILIACEAE (Basswood Family)  
*Tilia americana* L. (Basswood) -L, S  
 ULMACEAE (Elm Family)  
*Celtis occidentalis* L. (Hackberry) -L, S  
*Ulmus americana* L. (American Elm) -L, S  
 \**Ulmus pumila* L. (Dwarf Elm) -L, S  
*Ulmus rubra* Muhl. (Slippery Elm) -L, S  
 URTICACEAE (Nettle Family)  
*Laportea canadense* (L.) Wedd. (Wood Nettle) -L, S  
*Parietaria pennsylvanica* Muhl. (Pellitory) -L, S  
*Urtica dioica* L. (Stinging Nettle) -L, S  
 VERBENACEAE (Vervain Family)  
*Lippia lanceolata* Michx. (Frogfruit) -L  
*Verbena bracteata* Lag. & Rodr. (Bracted Vervain) -L, S  
*Verbena hastata* L. (Blue Vervain) -L, S  
*Verbena simplex* Lehm. (Narrow-leaved Vervain) -L  
*Verbena stricta* Vent. (Hoary Vervain) -L, S  
*Verbena urticifolia* L. (White Vervain) -L, S  
 VIOLACEAE (Violet Family)  
*Viola canadensis* L. (White Violet) -S  
*Viola papilionacea* Pursh (Common Blue Violet) -L, S  
*Viola pedatifida* G. Don. (Prairie Violet) -L, S  
*Viola pubescens* Ait. (Smooth Yellow Violet) -S  
*Viola rugulosa* Greene (White Violet) -L, S  
*Viola sagittata* Ait. (Arrow-leaved Violet) -L  
*Viola sororia* Willd. (Downy Blue Violet) -L, S  
 VITACEAE (Grape Family)  
*Parthenocissus quinquefolia* (L.) Planch. (Virginia Creeper) -L, S  
*Parthenocissus vitacea* (Knerr) Hitchc. -L, S  
*Vitis riparia* Michx. (Riverbank Grape) -L, S  
 MAGNOLIOPHYTA: LILIATAE  
 ALISMATACEAE (Water-plantain Family)  
*Alisma subcordata* Raf. (Water-plantain) -L, S  
*Sagittaria cuneata* Sheldon (Wapato) -L

*Sagittaria engelmanniana* J. G. Smith (Engelmann's Arrowhead) -L  
*Sagittaria latifolia* Willd. (Common Arrowhead) -L, S  
 ARACEAE (Arum Family)  
*Acorus calamus* L. (Sweetflag) -L  
*Arisaema triphyllum* (L.) Schott (Jack-in-the-pulpit) -L, S  
 COMMELINACEAE (Spiderwort Family)  
*Tradescantia bracteata* Sm. (Prairie Spiderwort) -L, S  
*Tradescantia obtusifolia* Raf. (Common Spiderwort) -L, S  
 CYPERACEAE (Sedge Family)  
*Carex annectans* Bickn. (Connecting Sedge) -L, S  
*Carex atherodes* Spreng. (Slough Sedge) -L, S  
*Carex bebbii* Olney (Bebb's Sedge) -L, S  
*Carex bicknellii* Britt. (Bicknell's Sedge) -L, S  
*Carex blanda* Dew. (Woodland Sedge) -L, S  
*Carex brevior* (Dew.) Mack. (Fescue Sedge) -L, S  
*Carex cristatella* Britt. (Dense-flowered Sedge) -L  
*Carex cumulata* (Bailey) Mack. -L  
*Carex eleocharis* Bailey -L, S  
*Carex festucaceae* Schkuhr. (Fescue Sedge) -L  
*Carex gravida* Bailey (Heavy Sedge) -L, S  
*Carex haydenii* Dewey (Hayden's Sedge) -L  
*Carex hystericina* Muhl. (Porcupine Sedge) -L  
*Carex laeviconica* Dewey (Smooth-coned Sedge) -L  
*Carex lasiocarpa* Ehrh. (Hairy Sedge) -L, S  
 !!*Carex meadii* Dewey (Mead's Sedge) -L  
*Carex molestae* Mack. (Troublesome Sedge) -L  
*Carex pennsylvanica* Lam. (Pennsylvania Sedge) -L, S  
*Carex praegracilis* Boot (Prairie Sedge) -L  
*Carex rosea* Schkuhr. (Broom Sedge) -S  
 !!*Carex saximontana* Mack. (Rocky Mountain Sedge) -L  
*Carex sprengei* Dewey (Sprengel's Sedge) -L, S  
*Carex stricta* Lam. (Tussock Sedge) -L  
*Carex tetanica* Schkuhr. -L  
*Carex tribuloides* Wahl. (Angled Sedge) -L  
*Carex vulpinoidea* Michx. (Foxtail Sedge) -L, S  
*Cyperus acuminatus* Torr. & Hook. (Tapered Sedge) -L  
*Cyperus erythrorhizos* Muhl. (Red-rooted Sedge) -L, S  
 \**Cyperus esculentus* L. (Yellow Nutsedge) -L, S  
*Cyperus inflexus* Muhl. -L  
*Cyperus odoratus* L. (Fragrant Sedge) -L, S  
*Cyperus strigosus* L. (False Nutsedge) -L, S  
*Eleocharis acicularis* (L.) R. & S. (Needle-shaped Spikerush) -L, S  
*Eleocharis compressa* Sulliv. (Flattened Spikerush) -L  
*Eleocharis engelmannii* Steud. (Engleman's Spikerush) -L  
*Eleocharis erythropoda* Dewey. (Red-footed Spikerush) -L, S  
*Eleocharis obtusa* (Willd.) Schultes (Needle Spikerush) -L, S  
*Scirpus americanus* Pers. (Three-square Rush) -L  
*Scirpus atrovirens* Willd. (Dark Green Bulrush) -L, S  
*Scirpus fluviatilis* (Torr.) Gray (River Bulrush) -L, S  
*Scirpus validus* Vahl. (Soft-stemmed Bulrush) -L, S  
 HYDROCHARITACEAE (Frog's-bit Family)  
*Elodea canadensis* Michx. (Waterweed) -L, S  
 IRIDACEAE (Iris Family)  
*Iris virginica* L. (Blue Flag) -L, S  
*Sisyrinchium campestre* Bickn. (Great Plains Blue-eyed-grass) -L, S  
 JUNCACEAE (Rush Family)  
*Juncus interior* Wieg. (Inland Rush) -L, S  
*Juncus tenuis* Willd. (Path Rush) -L, S  
*Juncus torreyi* Coville (Torrey's Rush) -L, S  
 LEMNACEAE (Duckweed Family)  
*Lemna minor* L. (Duckweed) -L, S  
*Spirodela polyrrhiza* (L.) Schleid. (Water Flaxseed) -L, S  
 LILIACEAE (Lily Family)  
*Allium canadense* L. (Wild Garlic) -L, S  
*Allium stellatum* Ker. (Wild Onion) -L, S  
 \**Asparagus officinalis* L. (Asparagus) -L, S  
*Erythronium albidum* Nutt. (White Trout Lily) -L, S  
*Polygonatum canaliculatum* (Muhl.) Pursh (Solomon's-seal) -L, S  
*Smilacina racemosa* (L.) Desf. (Large False Solomon's-seal) -L, S  
*Smilacina stellata* (L.) Desf. (Small False Solomon's-seal) -L, S  
*Trillium nivale* Riddell (Snow Trillium) -L, S

NAJADACEAE (Naiad Family)  
*Najas flexilis* (Willd.) Rostk. & Schmidt (Naiad) -L, S  
 POACEAE (Grass Family)  
 \**XAgrobrordeum macouinii* (Vasey) Lepage -L, S  
 \**Agropyron cristatum* (L.) Gaertn. (Fairway Crested Wheat) -L  
*Agropyron desertorum* (Fisch.) Schult. (Wheat Grass) -L  
 \**Agropyron repens* (L.) Beauv. (Quack Grass) -L, S  
*Agropyron smithii* Rydb. (Wheat Grass) -L, S  
*Agropyron trachycaulum* (Link) Steud. (Wheat Grass) -L, S  
 \**Agrastis alba* L. (Redtop) -L, S  
*Agrastis hyemalis* (Walt.) BSP (Tickle Grass) -L, S  
 \**Agrastis palustris* Huds. (Creeping Bent) -L  
*Agrastis perennans* (Walt.) Tuckerm. (Upland Bent) -L, S  
*Agrastis scabra* Willd. (Tickle Grass) -L  
*Alopecurus aequalis* Sobol. (Foxtail) -L, S  
*Alopecurus carolinianus* Walt. (Carolina Foxtail) -L, S  
*Andropogon gerardi* Vitman (Big Bluestem) -L, S  
*Andropogon scoparius* Michx. (Little Bluestem) -L, S  
*Aristida curtisii* (Gray) Nash (Curtis' Three Awn Grass) -L, S  
*Aristida longiseta* Steud. (Dogtown Grass) -L, S  
 \**Avena sativa* L. (Cultivated Oats) -L, S  
*Bachmannia ziygachne* (Steud.) Fern. -L, S  
*Bouteloua curtipendula* (Michx.) Torr. (Side-oats Grama) -L, S  
*Bouteloua gracilis* (HBK) Lag. (Blue Grama) -L, S  
*Bouteloua hirsuta* Lag. (Hairy Grama) -L, S  
*Bromus commutatus* Schrad. -L  
 \**Bromus inermis* Leyss. (Hungarian brone) -L, S  
 \**Bromus japonicus* Thunb. (Japanese Chess) -L, S  
*Bromus latiglumis* (Shear) Hitchc. (Brome Grass) -L  
*Bromus purgans* L. (Brome Grass) -L, S  
 \**Bromus tectorum* L. (Downy Chess) -L, S  
 !!*Buchloe dactyloides* (Nutt.) Engelm. (Buffalo Grass) -L  
*Calamagrostis inexpansa* Gray (Bluejoint) -L  
*Calamovilfa longifolia* (Hook.) Scribn. -L, S  
*Cenchrus longispinus* (Hack.) Fern. (Sand-spur) -S  
 \**Dactylis glomerata* L. (Orchard Grass) -L, S  
*Danthonia spicata* (L.) Beauv. (Poverty Oats Grass) -S  
 \**Digitaria ischaemum* (Schreb.) Muhl. (Smooth Crab Grass) -L, S  
 \**Digitaria sanguinalis* (L.) Scop. (Common Crab Grass) -L, S  
 \**Echinochloa crus-galli* (L.) Beauv. (Barnyard Grass) -L, S  
*Echinochloa pungens* (Poir) Rydb. (Barnyard Grass) -L, S  
*Elymus canadensis* L. (Wild Rye) -L, S  
*Elymus villosus* Muhl. -L, S  
*Elymus virginicus* L. (Virginia Wild Rye) -L, S  
 \**Eragrostis cilianensis* (All.) Link (Stink Grass) -L, S  
*Eragrostis hypnoides* (Lam.) BSP. -L, S  
*Eragrostis pectinacea* (Michx.) Nees -L, S  
*Eragrostis spectabilis* (Pursh.) Steud. (Petticoat Climber) -S  
*Festuca arundinacea* Schreb. (Alta Fescue) -S  
*Festuca obtusa* Biehler (Nodding Fescue) -L, S  
*Festuca octiflora* Walt. (Six-weeks Fescue) -L, S  
*Glyceria grandis* S. Wats. (Reed Meadow Grass) -L, S  
*Glyceria striata* (Lam.) Hitchc. (Fowl Manna Grass) -L  
*Hordeum jubatum* L. (Squirreltail Grass) -L, S  
*Hordeum pusillum* Nutt. (Little Barley) -L  
*Hystrix patula* Moench. (Bottle-brush grass) -L, S  
*Koeleria cristata* (L.) Pers. (June Grass) -L, S  
*Leersia oryzoides* (L.) Sw. (Rice Cut Grass) -L, S  
*Leersia virginica* Willd. (White Grass) -L, S  
*Muhlenbergia cuspidata* (Torr.) Rydb. -L, S  
*Muhlenbergia frondosa* (Poir.) Fern. -L  
*Muhlenbergia racemosa* (Michx.) BSP. -L, S  
*Oryzopsis racemosa* (Smith) Ricker (Mountain Wild Rice) -S  
*Panicum capillare* L. (Witch grass) -L, S  
*Panicum depasuperatum* Muhl. (Panic Grass) -L  
*Panicum dichotomiflorum* Michx. -L, S  
*Panicum implicatum* Scribn. -L, S  
*Panicum leibergii* (Vasey) Scribn. (Leibig's Panicum) -L, S  
*Panicum oligosanthes* Schutt. (Few-flowered Panicum) -L  
*Panicum perlongum* Nash (Elongate Panicum) -L  
*Panicum praecoxius* Hitchc. & Chase (Early Panic Grass) -L  
*Panicum scribnerianum* Nash (Small Panic Grass) -L, S

*Panicum virgatum* L. (Switchgrass) -L, S  
*Panicum wilcoxianum* Vasey (Wilcox's Panic Grass) -L, S  
*Paspalum ciliatifolium* Michx. (Hairy Bead Grass) -S  
*Phalaris arundinacea* L. (Reed Canary Grass) -L, S  
*\*Phleum pratense* L. (Timothy) -L, S  
*Phragmites australis* (Cav.) Steud. (Reed Grass) -L, S  
*Poa arida* Vasey (Plains Bluegrass) -L  
*\*Poa compressa* L. (Canadian Bluegrass) -L, S  
*Poa palustris* L. (Fowl Bluegrass) -L, S  
*\*Poa pratensis* L. (Kentucky Bluegrass) -L, S  
 !!*Schedonardus paniculatus* (Nutt.) Trel. (Tumblegrass) -L  
*\*Scaevola cereale* L. (Cultivated Rye) -S  
*\*Setaria italica* (L.) Beauv. (Foxtail Millet) -L, S  
*\*Setaria lutescens* (Weigel) Hubb. (Yellow Foxtail) -L, S  
*\*Setaria viridis* (L.) Beauv. (Green Foxtail) -L, S  
*Sorghastrum nutans* (L.) Nash (Indian Grass) -L, S

*Spartina pectinata* Link (Slough Grass) -L, S  
*Sphenopobolus obtusata* (Michx.) Scribn. (Wedge Grass) -L, S  
*Sporobolus asper* (Michx.) Kunth. (Dropseed) -L, S  
*Sporobolus cryptandrus* (Torr.) Gray (Sand Dropseed) -L, S  
*Sporobolus heterolepis* Gray (Prairie Dropseed) -L, S  
*Sporobolus neglectus* Nash (Sheathed Dropseed) -L  
*Sporobolus vaginiflorus* (Torr.) Wood (Poverty Grass) -L  
*Stipa spartea* Trin. (Porcupine Grass) -L, S  
*Stipa viridula* Trin. (Feather Bunchgrass) -L, S  
 !!*Zizania aquatica* L. (Wild Rice) -L  
 PONTEDERIACEAE (Pickerelweed Family)  
*Heteranthera dubia* (Jacq.) MacM. (Water Star-grass) -L, S  
 !!*Heteranthera limosa* (Sw.) Willd. (Water Star-grass) -L  
 POTAMOGETONACEAE (Pondweed Family)  
*Potamogeton foliosus* Raf. (Leafy Pondweed) -L, S

*Potamogeton friesii* Repr. (Fries' Pondweed) -L  
*Potamogeton illinoensis* Morong (Illinois Pondweed) -L, S  
*Potamogeton nodosus* Poir. (Long-leaved Pondweed) -L, S  
*Potamogeton pectinatus* L. (Sago) -L, S  
*Potamogeton zosteriformis* Fern. (Flat-stemmed Pondweed) -L  
 SMILACACEAE (Greenbrier Family)  
*Smilax cincinnata* (Engelm.) S. Wats. (Greenbrier) -L, S  
*Smilax herbacea* L. (Carrion Flower) -L, S  
*Smilax hispida* Muhl. (Greenbrier) -L, S  
 SPARGANIACEAE (Burreed Family)  
*Sparganium eurycarpum* Engelm. (Common Burreed) -L, S  
 TYPHACEAE (Cattail Family)  
*Typha angustifolia* L. (Narrow-leaved Cattail) -L, S  
*Typha latifolia* L. (Wide-leaved Cattail) -L, S  
*Typha X glauca* Godr. (*T. angustifolia* X *latifolia*) -L, S

examined by Carter. Our vouchers are deposited at Dordt College, Iowa State University, and University of Northern Iowa.

The checklist was alphabetized to facilitate manual and computer processing. Family and higher categories are in general agreement with treatments by Cronquist (1968) for seed plants and Crabbe, Jermy, and Mickel (1975) for ferns and fern allies. Binomials and common names were selected to follow 1) recent Iowa taxonomic treatments for the Apiaceae (Crawford, 1970), Orchidaceae (Niemann, 1974), Poaceae (Pohl, 1966), ferns and fern allies (Peck, 1976), and aquatic and wetland plants (Lammers & van der Valk, 1977; 1979), 2) regional manuals (Fernald, 1950; Gleason & Cronquist, 1963), and 3) state manuals of adjacent South Dakota (van Bruggen, 1976). The list was annotated with an asterisk (\*) before the binomial of non-native plants, a double exclamation mark (!!) before an Iowa endangered plant, and a single exclamation mark (!) before an Iowa threatened plant (Roosa & Eilers, 1978). The county in which the species occurs was indicated after the binomial with an initial for Lyon county (L) and Sioux County (S).

## RESULTS

The combined floras of Lyon and Sioux counties consist of 612 species, with 454 species (74%) present in both counties. Lyon County has 107 species not present in Sioux County, while Sioux County has 52 species not present in Lyon County. The flora of Lyon County consists of 561 species, including 13 state endangered, 9 state threatened, and 102 non-native species. The flora of Sioux County consists of 506 species, including 2 state threatened species and 106 non-native species. The floras presented here represent a 34% increase in the number of species known from Lyon County and a 92% increase in the number of species known from Sioux County. These counties have largely been placed into agricultural practice, such as feed lots, row crops, and pastures, which has resulted in sufficient opportunities for many non-native species to become introduced, established, and naturalized. Non-native species consequently constitute 18% of the Lyon County flora and 20% of the Sioux County Flora (Table 1).

Less than one percent of the landscape is covered with native vegetation in these counties. Any remaining natural vegetation or recovering vegetation is a significant expression of Iowa's natural heritage. Although tracts of outstanding botanical value (particularly prairies) were located during field survey, many areas in these counties which were also of significance are already public tracts. Areas of value in Lyon County include: Big Island County Park, Big Sioux Wildlife Areas (Grothe, Kroger, and Olson tracts), Gitchie Manitou State Preserve, and Roeman-Stettinicks County Wildlife Area. Areas of value in Sioux County include: Big Sioux Park, Fairview Park, Oak Grove Park, Rock River Access, Rock Sioux Access, and Winterfield Boating and Fishing Area. The importance of such areas in preserving the flora and vegetation types of the region, even if rather small parcels of land, should not be underestimated. For example, Gitchie Manitou

State Preserve, a 37 ha tract, has a flora of 328 species (Vander Zee, 1979) which is 60% of the species known from Lyon County. Protection of additional tracts of native vegetation is warranted.

One aspect of the flora of these counties which warrants special mention is the presence of species with a geographical affinity to the flora of the Great Plains. Species representative of this relationship (Roosa and Eilers, 1978) include: *Agropyron desertorum*, *Artemisia ludoviciana*, *Buchloe dactyloides*, *Calamovilfa longifolia*, *Callirhoe involu-crata*, *Dyssodia papposa*, *Grindelia squarrosa*, *Marsilea vestita*, *Oenothera serrulata*, *Panicum wilcoxianum*, *Penstemon albidus*, *Penstemon gracilis*, *Plantago purshii*, *Salvia reflexa*, *Solanum rostratum*, and *Vicia americana*. These species tend to occur not very far east into Iowa, but may be found to the west in Kansas, Nebraska, North Dakota, and South Dakota (van Bruggen, 1976).

Table 1. Summary of floras for Lyon and Sioux counties.

	Lyon County	Sioux County
# Families	88	86
# Genera	288	280
# Species (total)	561	506
(non-native)	102	106
(State endangered)	13	0
(State threatened)	9	2

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