

**Andropogon gerardii - Panicum virgatum - Helianthus grosseserratus
Herbaceous Vegetation**

COMMON NAME Big Bluestem - Switchgrass - Sawtooth Sunflower Herbaceous
Vegetation
SYNONYM Central Wet-mesic Tallgrass Prairie
PHYSIOGNOMIC CLASS Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP Temperate or subpolar grassland (V.A.5)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (V.A.5.N)
FORMATION Tall sod temperate grassland (V.A.5.N.a)
ALLIANCE ANDROPOGON GERARDII - (CALAMAGROSTIS CANADENSIS,
PANICUM VIRGATUM) HERBACEOUS ALLIANCE
CLASSIFICATION CONFIDENCE LEVEL 2
USFWS WETLAND SYSTEM Terrestrial

RANGE

Lacreek National Wildlife Refuge

This unit is widely scattered on mesic sites throughout the Refuge.

Globally

This big bluestem sandhills community type occurs in the central Great Plains of the United States, particularly in the Sandhills region of Nebraska and adjacent South Dakota.

ENVIRONMENTAL DESCRIPTION

Lacreek National Wildlife Refuge

Distribution is of this type is throughout the Refuge in mesic sites such as swales, and shallow bottoms. The dominant species are often patchy within a stand, with associated species such as sawtooth sunflower (*Helianthus grosseserratus*), prairie cordgrass, smooth brome, and switchgrass occupying the interstitial spaces.

Globally

This community occurs mostly in interdunal valleys and floodplains of streams and rivers, and on level ground where drainage is poor. Soils are poorly drained sandy loams and sands with considerable organic matter (but no peat accumulation) and are formed in eolian sand or alluvium. These sites are rarely, if ever, flooded but are constantly supplied by high groundwater levels (about 1 m below the surface) (Steinauer and Rolfsmeier 2000).

MOST ABUNDANT SPECIES

Lacreek National Wildlife Refuge

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Yucca glauca</i>
Herbaceous	<i>Andropogon gerardi</i> , <i>Panicum virgatum</i>

Globally

<u>Stratum</u>	<u>Species</u>
Graminoid	<i>Andropogon gerardi</i> , <i>Panicum virgatum</i> , <i>Sorghastrum nutans</i> , <i>Calamagrostis canadensis</i> , <i>Spartina pectinata</i> , <i>Agrostis stolonifera</i> , <i>Phleum pratense</i> , <i>Poa</i>

pratensis

CHARACTERISTIC SPECIES

LaCreek National Wildlife Refuge

Andropogon gerardi, *Panicum virgatum*

Globally

Andropogon gerardi, *Panicum virgatum*, *Sorghastrum nutans*

OTHER NOTABLE SPECIES

Globally

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Euthamia gymnospermoides</i> , <i>Helianthus nuttallii</i> , <i>Rudbeckia hirta</i> , <i>Solidago canadensis</i> , and <i>Solidago gigantea</i>

VEGETATION DESCRIPTION

LaCreek National Wildlife Refuge

It is often closely associated with prairie cordgrass (*Spartina pectinata*) and switchgrass (*Panicum virgatum*) map units. Big bluestem also appears to be a common constituent of many prairie restoration efforts on the Refuge. Typical stands of this association have moderate to dense herbaceous cover with typical foliar cover values ranging from 50 to 100%. Big bluestem is the dominant species, becoming more prominent later in the growing season.

Globally

This community is dominated by a dense layer of mesophytic tall grasses 1-2 m tall, with *Andropogon gerardii* and *Sorghastrum nutans* most abundant in undisturbed sites. In moist swales and wetter areas along the margin of this community, *Calamagrostis canadensis* and *Spartina pectinata* may be abundant. Cool-season Eurasian grasses such as *Agrostis stolonifera*, *Phleum pratense*, and *Poa pratensis* are commonly seeded in these sites and may dominate. Forbs are usually common, but are seldom mentioned in the literature. Conspicuous forb species include *Euthamia gymnospermoides*, *Helianthus nuttallii*, *Rudbeckia hirta*, *Solidago canadensis*, and *Solidago gigantea*. Woody plants are uncommon, though scattered thickets of *Salix exigua* may be present. In the eastern portion of its range, this community often contains forbs typical of tall-grass prairie to the east, such as *Sisyrinchium campestre* and *Viola pedatifida*. Species diversity is relatively high in undisturbed sites, and often much lower in sites seeded to exotic cool-season grasses (Steinauer and Rolfsmeier 2000).

CONSERVATION RANK G3? Many sites in the eastern portion of the range of this community have been converted to cropland. Excessive center-pivot irrigation may lower the water table enough to convert some remaining sites to dry prairie communities. Most remaining sites have been seeded to exotic grasses and legumes.

DATABASE CODE C EGL002023

SIMILAR ASSOCIATIONS

Andropogon hallii - *Calamovilfa longifolia* Herbaceous Vegetation

COMMENTS

LaCreek National Wildlife Refuge

(n/a)

Globally

This type is geographically defined to include areas of the Nebraska (and adjacent South Dakota) Sandhills region.

REFERENCES

- Allard, D. J. 1990. Southeastern United States ecological community classification. Interim report, Version 1.2. The Nature Conservancy, Southeast Regional Office, Chapel Hill, NC. 96 pp.
- Evans, M. 1991. Kentucky ecological communities. Draft report to the Kentucky Nature Preserves Commission. 19 pp.
- Foti, T., compiler. 1994. Natural vegetation classification system of Arkansas, draft five. Unpublished document. Arkansas Natural Heritage Commission, Little Rock. 8 pp.
- Foti, T., M. Blaney, X. Li, and K. G. Smith. 1994. A classification system for the natural vegetation of Arkansas. *Proceedings of the Arkansas Academy of Science* 48:50-53.
- Hladek, K. L., G. K. Hulett, and G. W. Tomanek. 1972. The vegetation of remnant shale-limestone prairies in western Kansas. *Southwestern Naturalist* 17(1):1-10.
- Hoagland, B. W. 1997. Preliminary plant community classification for Oklahoma. Unpublished draft document, version 35629. University of Oklahoma, Oklahoma Natural Heritage Inventory, Norman. 47 pp.
- Lauver, C. L., K. Kindscher, D. Faber-Langendoen, and R. Schneider. 1999. A classification of the natural vegetation of Kansas. *The Southwestern Naturalist* 44:421-443.
- Minnesota Natural Heritage Program. 1993. Minnesota's native vegetation: A key to natural communities. Version 1.5. Minnesota Department of Natural Resources, Natural Heritage Program, St. Paul, MN. 110 pp.
- Nelson, P. W. 1985. The terrestrial natural communities of Missouri. Missouri Natural Areas Committee, Jefferson City. 197 pp. Revised edition, 1987.
- Smith, D. D. 1981. Iowa prairie--An endangered ecosystem. *Proceedings of the Iowa Academy of Science* 88(1):7-10.
- Steinauer, G., and S. Rolfsmeier. 2000. Terrestrial natural communities of Nebraska (January 2000 version). Unpublished report of the Nebraska Game and Parks Commission. Lincoln, NE. 143 pp.
- Weakley, A. S., K. D. Patterson, S. Landaal, M. Pyne, and others, compilers. 1998. International classification of ecological communities: Terrestrial vegetation of the Southeastern United States. Working draft of March 1998. The Nature Conservancy, Southeast Regional Office, Southern Conservation Science Department, Community Ecology Group. Chapel Hill, NC. 689 pp.
- Weaver, J. E. 1958. Native grassland of southwestern Iowa. *Ecology* 39(4):733-750.
- White, J., and M. Madany. 1978. Classification of natural communities in Illinois. Pages 311-405 in: *Natural Areas Inventory technical report: Volume I, survey methods and results*. Illinois Natural Areas Inventory, Urbana, IL.