

## Schizachyrium scoparium - Bouteloua (curtipendula, gracilis) - Carex filifolia Herbaceous Vegetation

COMMON NAME	Little Bluestem - (Sideoats Grama, Blue Grama) - Threadleaf Sedge Herbaceous Vegetation
SYNONYM	Northern Great Plains Little Bluestem 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	Medium-tall sod temperate or subpolar grassland (V.A.5.N.c)
ALLIANCE	SCHIZACHYRIUM SCOPARIUM - BOUTELOUA CURTIPENDULA HERBACEOUS ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM

RANGE

### **Theodore Roosevelt National Park**

This community is generally found in small patches (< 0.5 ha) on course textured soils that often occur on the slopes and shoulders of upland draws. Stands of *Schizachyrium scoparium* can also be located on gentle to moderately steep slopes.

### **Globally**

This community is found in western North Dakota, western South Dakota, eastern and northern Wyoming, central and eastern Montana, southern Saskatchewan, and southern Manitoba.

ENVIRONMENTAL DESCRIPTION

### **Theodore Roosevelt National Park**

Soils associated with stands of *Schizachyrium scoparium* tend to be fairly deep loamy sand and sandy loam. Typically, stands are associated with shoulders and gently sloping backslopes of upland draws and drainages.

### **Globally**

This community is usually found on gentle to steep slopes with variable aspects (Hansen et al. 1984, Johnston 1987, Hansen and Hoffman 1988). The soil may be loamy sand, sandy loam, loam, or clay loam. There may be a substantial component of gravel. Hansen et al. (1984) found 7-36% gravel by weight in 16 stands in western North Dakota. The soils are typically shallow and occur over sandstone or limestone (Johnston 1987, Thilenius et al. 1995).

MOST ABUNDANT SPECIES

### **Theodore Roosevelt National Park**

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Schizachyrium scoparium</i> , <i>Bouteloua curtipendula</i> , <i>Carex filifolia</i>

### **Globally**

<u>Stratum</u>	<u>Species</u>
Graminoid	<i>Bouteloua curtipendula</i> , <i>Bouteloua gracilis</i> , <i>Schizachyrium scoparium</i>

CHARACTERISTIC SPECIES

### **Theodore Roosevelt National Park**

*Schizachyrium scoparium*, *Bouteloua curtipendula*

### **Globally**

*Bouteloua curtipendula*, *Bouteloua gracilis*, *Carex filifolia*, *Schizachyrium scoparium*

VEGETATION DESCRIPTION

### **Theodore Roosevelt National Park**

Foliar cover on these sites is typically 75-100%. *Schizachyrium scoparium* is the dominant species and is usually less than 1 m in height. *Carex filifolia* is usually a major constituent on most sites while *Bouteloua curtipendula* is a minor secondary species

### **Globally**

This community is predominantly composed of graminoid species less than 1 m tall. Occasional *Pinus ponderosa* are scattered throughout the type. The vegetation cover is moderate to high. Thilenius et al. (1995) found that vegetation cover was 44 percent in

**USGS-NPS Vegetation Mapping Program**  
**Theodore Roosevelt National Park**

---

Wyoming, and Hansen and Hoffman (1988) found 75 percent cover in North Dakota. The dominant species is *Schizachyrium scoparium* with *Bouteloua curtipendula*, *Bouteloua gracilis*, and *Carex filifolia* as associates or codominants. *Andropogon gerardii*, *Carex inops ssp. heliophila*, *Carex duriuscula* (= *Carex eleocharis*), *Koeleria macrantha* and *Calamovilfa longifolia* are often present. *Calamovilfa longifolia* may be abundant on sandier soils. *Muhlenbergia cuspidata*, *Stipa comata*, *Pascopyrum smithii*, and *Nassella viridula* may also be present. *Pseudoroegneria spicata* may be found in the western portions of this community (Jones 1992). In Manitoba, the graminoids *Festuca ovina* and *Elymus trachycaulus* and the lichen *Selaginella densa* are more abundant (Greenall 1995). Forbs do not contribute greatly to the canopy, but many species may be found in this community (Hanson and Whitman 1938). Among the forbs that may be found are *Echinacea angustifolia*, *Aster oblongifolius*, *Aster ericoides*, *Gaura coccinea*, *Lygodesmia juncea*, *Helianthus pauciflorus ssp. pauciflorus*, *Rosa arkansana*, *Liatris punctata*, *Pedimelum argophyllum* (= *Psoralea argophyllum*), *Dalea purpurea*, *Phlox hoodii*, and *Campanula rotundifolia*. There are very few woody species; those that are present are usually short shrubs such as *Artemisia frigida*, *Juniperus horizontalis*, and *Yucca glauca*. Litter often accumulates and may cover more than 50 percent of the ground (Hirsch 1985).

CONSERVATION RANK G3G4.

DATABASE CODE CEGL001681

**SIMILAR ASSOCIATIONS**

*Pinus ponderosa* / *Schizachyrium scoparium* Woodland (has similar composition to this type; the presence of *Pinus ponderosa* is the best distinguishing characteristic.)

**COMMENTS**

This type occurs on variable aspects throughout its range. Hansen et al. (1984) and McAdams et al. (1998) report this type on southerly aspects for western South Dakota and southwestern North Dakota. Butler et al. (1986) found that, in a ravine in western North Dakota, the most abundant species on a south-facing footslope were *Bouteloua curtipendula* and *Carex filifolia*. Other species that were abundant were *Schizachyrium scoparium* and *Calamovilfa longifolia*. Fire probably played a major role in this type, whereby periodic fires would increase graminoid production and deter tree growth.

**REFERENCES**

- Butler, J., H. Goetz, and J.L. Richardson. 1986. Vegetation and soil-landscape relationships in the North Dakota Badlands. *Am. Midl. Nat.* 116(2):278-386.
- Greenall, J. A. 1995. Draft element descriptions for natural communities of southern Manitoba (prairie and parkland regions). Manitoba Conservation Data Centre, Winnipeg. 17p.
- Hansen, P. L., G. R. Hoffman, and A. J. Bjugstad. 1984. The vegetation of Theodore Roosevelt National Park, North Dakota: A habitat type classification. U. S. Dep. Agric., For. Serv., Rocky Mt. For. and Range Exp. Sta., Gen. Tech. Rep. RM-113. Fort Collins, Colo. 35 p.
- Hansen, P.L. 1985. An ecological study of the vegetation of the Grand River/Cedar River, Sioux, and Ashland Districts of the Custer National Forest. Unpublished dissertation, South Dakota State University. 257 pp.
- Hansen, P.L. and G.R. Hoffman. 1988. The vegetation of the Grand River/Cedar River, Sioux, and Ashland Districts of the Custer National Forest: a habitat type classification. USDA Forest Service General Technical Report RM-157, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.
- Hansen, P.L. and G.R. Hoffman. 1988. The vegetation of the Grand River/Cedar River, Sioux, and Ashland Districts of the Custer National Forest: a habitat type classification. USDA Forest Service General Technical Report RM-157, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.
- Hanson, H. C., and W. Whitman. 1938. Characteristics of major grassland types in western North Dakota. *Ecol. Monogr.* 8(1):57-114.
- Hirsch, K.J. 1985. Habitat type classification of grasslands and shrublands of southwestern North Dakota. Ph.D. Thesis. NDSU, Fargo, ND.
- Johnston, B.C. 1987. Plant associations of region two: potential plant communities of Wyoming, South Dakota, Nebraska, Colorado, and Kansas. Ed 4. USDA Forest Service, Rocky Mountain Region. R2-Ecol-87-2. 429 pp.
- Jones, G. 1992. Wyoming plant community classification (Draft). Wyoming Natural Diversity Database, Laramie, WY. 183 pp.
- McAdams, A.G., D.A. Stutzman, and D. Faber-Langendoen. 1998. Black Hills Community Inventory, unpublished data. The Nature Conservancy, Midwest Regional Office, Minneapolis, MN.
- Montana Natural Heritage Program (MT NHP). 1988. Draft Guide to the natural vegetation of Montana. Montana Natural Heritage Program, Helena. 389 p.
- Thilenius, J. F. 1972. Classification of deer habitat in the ponderosa pine forest of the Black Hills, South Dakota. RM-91. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 28p.

**USGS-NPS Vegetation Mapping Program**  
**Theodore Roosevelt National Park**

---

Thilenius, J. F., G. R. Brown, and A. L. Medina. 1995. Vegetation on semi-arid rangelands, Cheyenne River Basin, Wyoming. General Technical Report RM-GTR-263. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 60 pp.