

## Pascopyrum smithii - Bouteloua gracilis - Carex filifolia Herbaceous Vegetation

COMMON NAME	Western-Wheat Grass - Blue Grama - Threadleaf Sedge Herbaceous Vegetation
SYNONYM	Western Wheatgrass - Blue Grama - Threadleaf Sedge 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	<i>Pascopyrum smithii</i> Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

### RANGE

#### *Globally*

This community is found in Colorado, Wyoming, Montana, North Dakota, South Dakota, and Saskatchewan. Details of its distribution within these states are not available.

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This community is best developed on Joyner Ridge and in the northeast part of the park. Small stands occur on the floodplain, and in openings in pine forest.

### ENVIRONMENTAL DESCRIPTION

#### *Globally*

This community is found on flat or gently sloping terrain. Many stands are on floodplains or gentle valley slopes, others are on uplands (Hanson and Whitman 1938, Hansen and Hoffman 1988). The soils are clay loam, silt loam, or loam and usually deep and fertile. This community appears to be only in basins or other broad lowlands. It does not appear to be found in mountain valleys (Hanson and Dahl 1956, Jones 1992).

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This community was found on level to gently sloping sites (usually less than 10 degrees) underlain by sedimentary rocks or alluvium. No clear correlation with aspect was observed.

### MOST ABUNDANT SPECIES

#### *Globally*

<u>Strata</u>	<u>Species</u>
Herbaceous	<i>Bouteloua gracilis</i> , <i>Carex filifolia</i> , <i>Pascopyrum smithii</i> , <i>Schizachyrium scoparium</i> , <i>Stipa comata</i>

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<u>Strata</u>	<u>Species</u>
Herbaceous	<i>Pascopyrum smithii</i> , <i>Stipa comata</i> , <i>Poa pratensis</i>

### DIAGNOSTIC SPECIES

#### *Globally*

*Pascopyrum smithii*, *Carex filifolia*, *Bouteloua gracilis*, *Buchloe dactyloides*

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*Pascopyrum smithii, Stipa comata*

VEGETATION DESCRIPTION

*Globally*

This community is dominated by medium and short graminoids. Total vegetation cover is usually high (Hanson and Dahl 1956, Hansen et al. 1984.) The midgrass stratum is dominated by *Pascopyrum smithii*. Common associates include *Koeleria macrantha*, *Stipa comata*, and *Nassella viridula*. *Stipa comata* is more common on the upper slopes and drier upland sites while *Nassella viridula* is more common on the lower slopes and floodplains. Short graminoids are very abundant in this community. The most common are *Bouteloua gracilis* and *Carex filifolia*. Other upland sedges, such as *C. inops* ssp. *heliophila*, *C. eleocharis*, and *C. pensylvanica* are usually found with these. Forbs do not contribute much of the canopy cover but they are scattered throughout this community. Typical forbs are *Astragalus* spp., *Tragopogon dubius*, *Gaura coccinea*, *Hedeoma hispida*, *Lappula occidentalis*, and *Sphaeralcea coccinea*. Shrubs are a very minor component of the vegetation. The half-shrub *Artemisia frigida* is often present and some stands contain *Artemisia cana*, *Opuntia* spp., or *Symphoricarpos occidentalis*.

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This community typically has herbaceous cover greater than 60%. *Pascopyrum smithii* and *Stipa comata* are present and locally dominant. In general, species distribution is quite patchy and other graminoids may be locally dominant, including *Andropogon gerardii*, *Bouteloua curtipendula*, and *Calamovilfa longifolia*. *Bouteloua gracilis* was observed only occasionally. *Poa pratensis* is ubiquitous and may be locally dominant. Stands in which *P. pratensis* is strongly dominant have been classified as *Poa pratensis* Herbaceous Vegetation. On the floodplain, stands of this type occur as small patches in otherwise weedy vegetation (*Euphorbia esula*).

OTHER NOTEWORTHY SPECIES Information not available.

CONSERVATION RANK G4

RANK JUSTIFICATION

DATABASE CODE C EGL001579

COMMENTS

*Globally*

Fire was likely a common event in this type historically.

This type was described from communities described as *Pascopyrum smithii* - *Bouteloua gracilis* or *Pascopyrum smithii* - *Carex filifolia*. It is unclear whether *Pascopyrum smithii* - *Bouteloua gracilis* Herbaceous Vegetation overlaps with these descriptions.

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Graminoid dominance changes with the growing season.

REFERENCES

Bourgeron, P. S. and L. D. Engelking, eds. 1994. A preliminary vegetation classification of the western United States. Unpublished Report prepared by the Western Heritage Task Force for The Nature Conservancy, Boulder, CO.

Hansen, P. L., G. R. Hoffman, and A. J. Bjugstad. 1984. The vegetation of Theodore Roosevelt National Park, North Dakota: A habitat type classification. General Technical Report RM-113. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 35 p.

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. General Technical Report RM-157. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 68 p.

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Hanson, H. C. and W. Whitman. 1938. Characteristics of major grassland types in western North Dakota. Ecological Monographs 8(1):58-114.

Hanson, H. C. and E. Dahl. 1956. Some grassland communities in the mountain-front zone in northern Colorado. Vegetatio 7:249-270.

Johnston, B. C. 1987. Plant associations of region two. R2-ECOL-87-2. USDA Forest Service, Rocky Mountain Region, Lakewood, CO. 429 p.

Jones, G. 1992. Wyoming plant community classification. Unpublished draft. Wyoming Natural Diversity Database, The Nature Conservancy, Laramie, WY.