

Pascopyrum smithii - Bouteloua gracilis - Carex filifolia Herbaceous Vegetation

COMMON NAME	Western Wheatgrass - 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	PASCOPYRUM SMITHII HERBACEOUS ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM

GLOBAL RANGE

Theodore Roosevelt National Park

Stands of *Pascopyrum smithii* - *Bouteloua gracilis* are widespread throughout Theodore Roosevelt National Park. The best development appears to occur on the gently sloping footslopes associated with the upland draws.

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.

ENVIRONMENTAL DESCRIPTION

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This community can be found in a wide variety of topographic situations where the soil tends to be fine textured. The sites are generally flat to gently sloping and occur in all aspects.

Globally

This community is found on flat or gently sloping terrain. Many stands are on floodplains or gentle valley slopes, others are on uplands. Surface layers of soils are usually clay loams, although stands of this type may also be found on loams, silt loams, silty clays and clays (Hanson and Whitman 1938, Hansen and Hoffman 1988). In Alberta and Saskatchewan this association grows on solonchic soils (with an alluvial horizon above a dense clay horizon high in sodium salts) developed on thin glacial till over Cretaceous shale (Coupland 1961). This community does not appear to be found in mountain valleys (Hanson and Dahl 1956, Jones 1992).

MOST ABUNDANT SPECIES

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<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Artemisia cana</i>
Herbaceous	<i>Pascopyrum smithii</i> , <i>Bouteloua gracilis</i> , <i>Nassella viridula</i>

Globally

<u>Stratum</u>	<u>Species</u>
Graminoid	<i>Bouteloua gracilis</i> , <i>Carex filifolia</i> , <i>Elymus lanceolatus</i> , <i>Pascopyrum smithii</i>

CHARACTERISTIC SPECIES

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Pascopyrum smithii, *Bouteloua gracilis*

Globally

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

VEGETATION DESCRIPTION

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Pascopyrum smithii is the dominant species, sometimes appearing to occur as pure stands. *Artemisia cana* is a common shrub associate but with cover <25%. *Artemisia frigida* and *Bouteloua gracilis* are the major secondary species on drier sites, while *Nassella viridula* increases on the slightly concave sites that tend to be somewhat more mesic. The abundance of *Nassella viridula* tends to decrease on grazed sites while *Bouteloua gracilis* tends to increase.

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Globally

This community is dominated by medium and short graminoids. Total vegetation cover is usually high (Hanson and Dahl 1956, Hansen et al. 1984). *Pascopyrum smithii* or *Elymus lanceolatus* or both (the two species are similar both morphologically and ecologically) and *Bouteloua gracilis* usually contribute the most cover; however, *Bouteloua gracilis* may contribute little cover and it may be absent locally. *Carex filifolia*, *Carex duriuscula* (= *Carex eleocharis*), and *Carex pensylvanica* often are secondary species, but in many stands they contribute little cover and they may be absent locally. *Stipa comata* usually is present as a secondary species, but it often codominates on sandy loam soils; this species never contributes more cover than do *Pascopyrum smithii* or *Elymus lanceolatus*. In Alberta and Saskatchewan, *Stipa spartea* var. *curtiseta* may be as common as *Stipa comata*. *Koeleria macrantha* is present in most stands and may contribute substantial cover. The forbs most likely to be found in this association are *Phlox hoodii*, *Sphaeralcea coccinea*, *Polygonum ramosissimum*, *Plantago patagonica*, *Opuntia polyacantha*, *Artemisia frigida*, *Antennaria microphylla*, and *Hedeoma hispida*. In southeastern Montana, western North Dakota, and northeastern Wyoming, stands of this association often contain *Artemisia tridentata* ssp. *wyomingensis*. Exotic brome grasses, especially *Bromus commutatus* and *B. tectorum*, are present in many stands of this association and they commonly contribute substantial cover (Hanson and Dahl 1956, Coupland 1961, Hansen et al. 1984, Hansen and Hoffman 1988).

CONSERVATION RANK G4. The G4 rank is based on the broad geographic range of this type, and its status as a common vegetation type within that geographic range.

DATABASE CODE CEGL001579

SIMILAR ASSOCIATIONS

Pascopyrum smithii - *Bouteloua gracilis* Herbaceous Vegetation (is similar to this type but occurs in the southern portion of the Great Plains (where *Carex filifolia* is not as prevalent.)

Pascopyrum smithii - *Nassella viridula* Herbaceous Vegetation (Drier graminoids, such as *Bouteloua gracilis* or *Carex filifolia* are rare or absent in this type.)

Pascopyrum smithii - *Stipa comata* Central Mixedgrass Herbaceous Vegetation

Stipa comata - *Bouteloua gracilis* - *Carex filifolia* Herbaceous Vegetation (*Stipa comata* contributes more cover than do *Pascopyrum smithii* or *Elymus lanceolatus*, and the association grows on soils of loam or coarser textural classes.)

COMMENTS

The coverage of *Pascopyrum smithii* varies more with use than geographic range. *Bouteloua gracilis* and *Buchloe dactyloides* have been observed to increase with grazing as *Pascopyrum smithii* decreases. This type, as currently understood by MRO, is equivalent to the *Pascopyrum smithii* / *Carex filifolia* Herbaceous Vegetation in the Western Region's 1994 classification (Bourgeron and Engelking 1994). Fire was likely a common event in this type historically.

REFERENCES

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