

V.A.5.N.J. TEMPORARILY FLOODED TEMPERATE OR SUBPOLAR GRASSLAND

V.A.5.N.j.22. HORDEUM JUBATUM TEMPORARILY FLOODED HERBACEOUS ALLIANCE

Foxtail Barley Temporarily Flooded Herbaceous Alliance

Alliance Identifier: A.1358

***Hordeum jubatum* Herbaceous Vegetation**

Foxtail Barley Herbaceous Vegetation

Foxtail Barley Meadow

ELEMENT CONCEPT

GLOBAL SUMMARY: This foxtail barley community type is found in the northern and central Great Plains of the United States and Canada, Utah and may occur elsewhere in the interior western U.S. Stands are found in lowlands with moderately to strongly saline soils. The topography is flat and the soils are often flooded or saturated in the spring. The vegetation is dominated by short and medium tall graminoids with a total vegetation cover of nearly 100%. Shrubs are usually absent. *Hordeum jubatum* dominates the community. Other common species in this community are *Elymus trachycaulus*, *Distichlis spicata*, *Pascopyrum smithii*, *Poa arida*, *Poa compressa*, and *Rumex crispus*.

ENVIRONMENTAL DESCRIPTION

USFWS WETLAND SYSTEM: PALUSTRINE

Ouray National Wildlife Refuge Environment: *Ouray National Wildlife Refuge*

Foxtail Barley Herbaceous Vegetation has become established on the upper edge of the natural basin in Wyasket Bottom, which is filled with water early in the growing season and dries by mid-July. *Hordeum jubatum* and *Pascopyrum smithii* are nearly co-dominant on the clay soils of the basin edge; these soils exhibit cracking as drying occurs. In Sheppard Bottom the drained basin soils are silty clay and exhibit cracking following drying.

Global Environment: This association has been reported from lowlands across the northern Great Plains, in intermountain parks in Colorado and northeastern Utah. The climate is semi-arid continental with mean annual precipitation of 25-48 cm. Elevation generally ranges from 750-1600 m, and up to 2600 m in South Park, Colorado. Stands are located in lowlands with moderately to strongly saline soils (Barnes and Tieszen 1978). The topography is flat, and the soils are often flooded or saturated in the spring (Redmann 1972). *Hordeum jubatum* is often found dominating disturbed areas such as roadsides and over-grazed bottomland.

VEGETATION DESCRIPTION

Ouray National Wildlife Refuge Vegetation: Foxtail Barley Herbaceous Vegetation was only rarely observed in stands or patches in the Refuge. Typically, the species is an associate of other emergent wetland vegetation types. The small stand observed in Sheppard Bottom was estimated to have 50% foliar cover, of which *Hordeum jubatum* provided approximately 30%. Associated species were typical of other basin floras and included *Malvella leprosa*, *Kochia scoparia*, and *Atriplex patula*. In Wyasket Bottom, *Hordeum jubatum* was present at approximately 40% foliar cover and *Pascopyrum smithii* was present at approximately 30% foliar cover. The total foliar cover for this stand was approximately 80% in the densest portion, the remaining vegetative cover was provided by *Ambrosia tomentosa*, *Atriplex rosea*, *Lepidium latifolium*, and other common forbs.

Global Vegetation: The typically dense vegetation is dominated by short and medium-tall graminoids with a total vegetation cover of nearly 100%, but may occur in sparser stands (25-30% cover) (Barnes and Tieszen 1978, Von Loh 2000). Shrubs are usually absent. *Hordeum jubatum* dominates the community. Other common species in this community are *Elymus trachycaulus*, *Distichlis spicata*, *Pascopyrum smithii*, *Poa arida*, *Poa compressa*, *Rumex crispus*, *Ambrosia tomentosa*, and *Malvella leprosa*. Introduced species may be common in some stands including *Bassia scoparia* (= *Kochia scoparia*), *Sonchus arvensis*, and *Lepidium latifolium*.

Ouray National Wildlife Refuge Vegetation Mapping Project

Dynamics: Total vegetation cover (density and height), species composition, and soil salinity depend on the amount and timing of precipitation and flooding. Growth-inhibiting salt concentrations are diluted when the soil is saturated, allowing the growth of less salt-tolerant species and more robust growth (Ungar 1967). *Hordeum jubatum* will replace *Distichlis spicata* in those communities when heavily grazed (Jones and Walford 1995).

MOST ABUNDANT SPECIES

Ouray National Wildlife Refuge

Stratum	Species
HERBACEOUS	<i>Hordeum jubatum</i> , <i>Pascopyrum smithii</i> , <i>Malvella leprosa</i> , <i>Ambrosia tomentosa</i> , <i>Lepidium latifolium</i>

Global

Stratum	Species
GRAMINOID	<i>Hordeum jubatum</i>

CHARACTERISTIC SPECIES

Ouray National Wildlife Refuge

Species
Hordeum jubatum, *Pascopyrum smithii*, *Ambrosia tomentosa*, *Malvella leprosa*

Global

Species
Hordeum jubatum

OTHER NOTEWORTHY SPECIES

Ouray National Wildlife Refuge

Stratum	Species
N/A	

Global

Stratum	Species
N/A	

GLOBAL SIMILAR ASSOCIATIONS:

Distichlis spicata - *Hordeum jubatum* - *Puccinellia nuttalliana* - *Suaeda calceoliformis* Herbaceous Vegetation (CEGL002273)

Pascopyrum smithii - *Hordeum jubatum* Herbaceous Vegetation (CEGL001582)

Distichlis spicata - *Hordeum jubatum* - (*Poa arida*, *Iva annua*) Herbaceous Vegetation (CEGL002031)

Distichlis spicata - (*Hordeum jubatum*, *Poa arida*, *Sporobolus airoides*) Herbaceous Vegetation (CEGL002042)

Distichlis spicata - *Hordeum jubatum* - *Puccinellia nuttalliana* - *Plantago maritima* Herbaceous Vegetation (CEGL002551)

Schoenoplectus robustus - *Juncus gerardii* - *Hordeum jubatum* - *Atriplex patula* Herbaceous Vegetation (CEGL006234)

SYNONYMY:

Hordeum Type (Redmann 1972) . uncertain if equivalent

Foxtail Barley Community (Barnes and Tieszen 1978) . uncertain if equivalent

Hordeum jubatum Plains Grassland (Baker 1984a) . uncertain if equivalent

Hordeum jubatum Community Type (Hansen et al. 1995) . uncertain if equivalent

Hordeum jubatum Association (Vestal 1914) . uncertain if equivalent

CLASSIFICATION COMMENTS

Ouray National Wildlife Refuge: N/A

Ouray National Wildlife Refuge Vegetation Mapping Project

Global Comments: This type is poorly defined. This abstract is based on two descriptions of *Hordeum jubatum*-dominated stands which are assumed to be examples of this community. These stands may be variants of *Distichlis spicata* - *Hordeum jubatum* - *Puccinellia nuttalliana* - *Suaeda calceoliformis* Herbaceous Vegetation (CEGL002273) and *Pascopyrum smithii* - *Hordeum jubatum* Herbaceous Vegetation (CEGL001582). The relationship between *Hordeum jubatum* Herbaceous Vegetation (CEGL001798) and these types is unclear. Both communities usually contain *Hordeum jubatum* and *Distichlis spicata* or *Pascopyrum smithii* in varying amounts. The presence of *Puccinellia nuttalliana* or *Suaeda calceoliformis* may be distinguishing factors. They appear to be more characteristic of strongly saline areas while *Hordeum jubatum* can dominate on less saline sites (Redmann 1972). Classification problems may arise on intermediate sites when *Hordeum jubatum* is the dominant species and *Distichlis spicata*, *Pascopyrum smithii*, *Puccinellia nuttalliana*, and *Suaeda calceoliformis* are present in more than minor amounts.

ELEMENT DISTRIBUTION

Ouray National Wildlife Refuge Range: Small stands of *Hordeum jubatum* annual grasslands were observed in the natural basin of Wyasket Bottom and a drained basin in Sheppard Bottom. *Hordeum jubatum* is a common associate of most emergent wetland vegetation types within the Refuge.

Global Range: This foxtail barley community type is found in the northern and central Great Plains of the United States and Canada, ranging from Colorado to Saskatchewan. It is also described from Utah and may occur elsewhere in the interior West.

Nations: CA US

States/Provinces: CO MT ND SD? SK UT

TNC Ecoregions: 10:C, 26:C, 35:C

USFS Ecoregions: 251Aa:CCC, 331D:CC, 331E:CC, 331F:CC, 331G:CC, 332:?, 341C:CC, M332C:CC, M332D:CC, M332E:CC

Federal Lands: USFWS (Ouray)

ELEMENT SOURCES

Identifier: CEGL001798 **Confidence:** 3 **Conservation Rank:**G4

REFERENCES: Barnes and Tieszen 1978, Bunin 1985, Hansen et al. 1991, Jones and Walford 1995, Redmann 1972, Reid 1974, Ungar 1967, Vestal 1914, Von Loh 2000.