

Eriogonum pauciflorum - Gutierrezia sarothrae Badlands Sparse Vegetation

COMMON NAME Small-flowered Wild Buckwheat - Snakeweed Badlands Sparse Vegetation
SYNONYM Wild Buckwheat- Snakeweed Badlands Sparse Vegetation
PHYSIOGNOMIC CLASS Sparse Vegetation (VII)
PHYSIOGNOMIC SUBCLASS Unconsolidated material sparse vegetation (VII.C)
PHYSIOGNOMIC GROUP Sparsely vegetated soil flats (VII.C.4)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (VII.C.4.N)
FORMATION Soil slumps or landslides (VII.C.4.N.a)
ALLIANCE ERIOGONUM PAUCIFLORUM SPARSE VEGETATION ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 3

USFWS WETLAND SYSTEM Terrestrial

RANGE

Badlands National Park

The Small-flowered Wild Buckwheat - Snakeweed Sparse Vegetation type occupies badland formations, which cover approximately 45% of the park. Badlands formations are exposed as spires, cliffs, ridges, slopes, narrow gorges, buttes, mounds, fans, and drainages.

Globally

In Badlands National Park, South Dakota, this community type occupies badland formations, which cover approximately 45% of the park (Von Loh *et al.* 1999). It is probably found in other badlands habitats in the Northern Great Plains.

ENVIRONMENTAL DESCRIPTION

Badlands National Park

This type is typically found on silty/sandy outwash fans newly deposited by eroding badlands formations. These formations include Cretaceous Pierre shale, Oligocene Brule siltstone and Chadron clayey mudstone and shale, and Miocene Arickaree sandstone. One stand, comprised of four-wing saltbush, occupies a large badlands flat and erosion fan.

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MOST ABUNDANT SPECIES

Badlands National Park

<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Opuntia polyacantha</i> , <i>Gutierrezia sarothrae</i> , <i>Eriogonum pauciflorum</i>
Herbaceous	<i>Cryptantha thyrsofolia</i> , <i>Atriplex argentea</i> , <i>Grindelia squarrosa</i>

Globally

<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Eriogonum pauciflorum</i> , <i>Gutierrezia sarothrae</i> , <i>Opuntia polyacantha</i>
Forb	<i>Atriplex argentea</i> , <i>Cryptantha thyrsoflora</i> , <i>Grindelia squarrosa</i>

CHARACTERISTIC SPECIES

Badlands National Park

Eriogonum pauciflorum, *Gutierrezia sarothrae*, *Opuntia polyacantha*, *Grindelia squarrosa*, *Atriplex argentea*, *Atriplex canescens*, *Cryptantha thyrsofolia*

Globally

Atriplex argentea, *Atriplex canescens*, *Cryptantha thyrsoflora*, *Eriogonum pauciflorum*, *Grindelia squarrosa*, *Gutierrezia sarothrae*, *Opuntia polyacantha*

OTHER NOTABLE SPECIES

Forb ***Eriogonum visheri***

VEGETATION DESCRIPTION

Badlands National Park

The small-flowered wild buckwheat - snakeweed type rarely exceeds 10% vegetative cover and is often less than 5%. On level terrain, the vegetation is relatively evenly distributed, but on steeper slopes and cliffs the vegetation may grow in patches and in rows or seams. Plant species that are nearly always present include small-flowered wild buckwheat (*Eriogonum pauciflorum*), snakeweed (*Gutierrezia sarothrae*), prickly pear cactus (*Opuntia polyacantha*), curlycup gumweed (*Grindelia squarrosa*), silver sparsescale (*Atriplex argentea*), and cat's eye (*Cryptantha thyrsofolia*). *Atriplex canescens* (four-wing saltbush) shrubs were

USGS-NPS Vegetation Mapping Program
Badlands National Park

observed throughout the type, but were typically short-statured and scattered in distribution. One stand, comprised of large four-wing saltbush (*Atriplex canescens*) shrubs, covered approximately two hectares, with shrub cover approximately 5%. Total vegetative cover is approximately 45% (mostly due to a heavy infestation of the exotics yellow sweetclover (*Melilotus officianalis*), white sweetclover (*Melilotus alba*), Japanese brome (*Bromus japonicus*), and cheatgrass (*Bromus tectorum*). Other associates in this stand include snakeweed (*Gutierrezia sarothrae*), western wheatgrass (*Pascopyrum smithii*), and blue grama (*Bouteloua gracilis*).

Globally

This badlands community type rarely exceeds 10% vegetative cover and is often less than 5%. On level terrain, the vegetation is relatively evenly distributed, but on steeper slopes and cliffs the vegetation may grow in patches and in rows or seams. Plant species that are nearly always present include the dwarf-shrubs *Eriogonum pauciflorum*, *Gutierrezia sarothrae*, *Opuntia polyacantha*, *Atriplex argentea*, *Cryptantha thyrsofolia*, and the forb *Grindelia squarrosa*. *Atriplex canescens* dwarf-shrubs were observed throughout the type, but were typically short-statured and scattered in distribution (Von Loh *et al.* 1999).

CONSERVATION RANK G?.

DATABASE CODE C EGL005270

MAP UNITS The small-flowered wild buckwheat - snakeweed type is the common association of the Badlands Sparse Vegetation Complex, Map Class 2, on the vegetation map. This association is not mapped separately from other, minor components of the complex. The four-wing saltbush stand is also placed in this type, and thus within the Badlands Sparse Vegetation Complex. No separate map class was created for this stand.

SIMILAR ASSOCIATIONS

Artemisia longifolia Badlands Sparse Vegetation (This badlands sparse vegetation type contains some of the same species.)
Badlands Sparse Vegetation Complex (This is a badlands complex of which this association is a part.)

COMMENTS

Badlands National Park

The Small-flowered Wild Buckwheat - Snakeweed Sparse Vegetation type occupies naturally eroded features of the Pierre shale, Brule siltstone, and Chadron clayey mudstone and shale formations. The vegetation is evenly distributed across relatively flat and rolling sites. Badlands formations shed water rapidly following precipitation events and reflect a tremendous amount of solar energy. Many sites were visited, and the type was well-surveyed during preparation of the vegetation map.

Large four-wing saltbush (*Atriplex canescens*) shrubs growing in a stand were only observed at one location within the park, at the southern boundary of the North Unit, approximately 400 meters west of the Conata Basin Road. The stand covers approximately two hectares. During aerial photointerpretation, these shrubs were mistakenly identified as greasewood (*Sarcobatus vermiculatus*) shrubs, but this identification was modified following a verification survey. For the purpose of classification, the stand is placed under the badlands sparse vegetation complex, per the request of park natural resource managers.

REFERENCES

Von Loh, J., D. Cogan, D. Faber-Langendoen, D. Crawford, and M. Pucherelli. 1999. USGS-NPS Vegetation Mapping Program, Badlands National Park, South Dakota (Final Report). Technical Memorandum No. 8260-00-02. U.S. Bureau of Reclamation Technical Service Center. Denver Colorado.