Astragalus barrii

Barr's Milkvetch

G3
Vulnerable

View on Explorer Pro



Classification

Scientific Name: *Astragalus barrii* Barneby

Other Common Names: Barr's milkvetch (EN), Barr's Orophaca (EN)

Kingdom: Plantae
Phylum: Anthophyta
Class: Dicotyledoneae
Order: Fabales
Family: Fabaceae
Genus: Astragalus

Scientific Name Reference: Flora of North America Editorial Committee (FNA). 2023. Flora of North America north of Mexico. Vol. 11. Magnoliophyta: Fabaceae, parts 1+2. Oxford Univ. Press, New York. xxvii + 1108 pp.
Concept Reference: Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. 2nd edition. 2 vols. Timber Press, Portland, OR.
Name Used in Concept Reference: *Astragalus barrii*
NatureServe Unique Identifier: ELEMENT_GLOBAL.2.130006
NatureServe Element Code: PDFAB0F150
Related ITIS Names: *Astragalus barrii* Barneby (TSN 25432)

Conservation Status

NatureServe Status

Global Status: G3G4
Global Status (Rounded): G3
Global Status Last Reviewed: 12/11/2017
Rank Method Used: Ranked by calculator
Reasons:

Regional endemic of Montana, Wyoming, South Dakota, and just into Nebraska. The primary threat is natural resource development, particularly of coal bed methane gas at some populations. Invasive plants are also a potential threat. More information is needed on overall level of threat.

National & State/Provincial Statuses

United States: N3N4

Montana: S3, **Nebraska:** S1, **South Dakota:** S3, **Wyoming:** S3

Other Statuses

U.S. Endangered Species Act: None
Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

NatureServe Global Conservation Status Factors

Range Extent: 20,000-200,000 square km (about 8000-80,000 square miles)
Range Extent Comments:

Astragalus barrii is a regional endemic of southeastern Montana, northeastern Wyoming, southwestern South Dakota, and adjacent Nebraska (Ladyman 2006).

Area of Occupancy: 126-500 4-km2 grid cells
Estimated Number of Element Occurrences: 81 - 300
Estimated Number of Element Occurrences Comments:

Numbers of extant occurrences are approximately 54 in Wyoming, 35 in Montana, 27 in South Dakota, and 1 in Nebraska (Ladyman 2006; NatureServe Network Database as of November 2017).

Global Protection Comments:

Many occurrences are on federal lands with sensitive species policies in place.

Degree of Threat: High - low
Threat Comments:

Specific populations may be threatened by expansion of coal mining, and future oil and gas development, including coal bed methane. Other threats include invasive plants (such as Melilotus officinalis), with lesser threats from off-road vehicles, and grazing/trampling by native and non-native ungulates (Heidel 2004; Ladyman 2006; Montana Natural Heritage Program 2017).

Short-term Trend: Unknown
Short-term Trend Comments:

Most populations appear to be stable. Loss of habitat to coal strip mining, and death of plants due to drought has been reported but magnitude and long-term trend of the latter have not been assessed. Oil development has been intense in part of its habitat but there is little evidence of direct impact to the species.

Global Abundance Comments:

Wyoming populations surveyed by Marriott (1992) ranged in size from several hundred to over 10,000 individuals for a total of over 100,000.

Fragility: Moderately vulnerable
Environmental Specificity Comments:

It is restricted to barren outcrops on ridges and hills derived from fine parent materials; representing harsh, localized habitats on the landscape.

Other NatureServe Conservation Status Information

Inventory Needs:

Consider impacts of coalbed methane development. Not all populations have been adequately or recently inventoried.

Protection Needs:

Representative pinelands and plains populations throughout range.

Distribution

National and State/Provincial Distribution:

United States : MT , NE , SD , WY

Endemism: endemic to a single nation

Ecology and Life History

Duration: PERENNIAL

Habitat

Terrestrial Habitats: Woodland - Conifer, Shrubland/chaparral, Grassland/herbaceous, Barrens

Habitat Comments:

In southeastern Montana, this species is restricted to heavy clay knobs, buttes, and barren hilltops. Often only a sparse shrub cover of *Artemisia tridentata* and/or *Atriplex confertifolia* is present. Also occurs in silty to sandy, calcareous soils. When an upper overstory is present, usually consists of a sparse cover of *Pinus ponderosa* and *Juniperus scopulorum*. Populations of this plant are associated with the harsh edaphic and environmental conditions of badlands areas (Schassberger 1990). Buttes, bluffs, clay hills or sandstone, open barren ground; 900-1450 m (Isely 1998).

Economic Attributes

Economically Important Genus: Yes

Management Summary

Stewardship Overview:

Protect the habitat where *Astragalus barrii* occurs, prevent negative impacts from activities in areas that adjoin *A. barrii* populations, and search for additional populations of *A. barrii* (Taylor and Caners 2002). Revisit known sites to document status and threats. Management in "semi-natural matrix" lands may be critical for the long-term survival of the species.

Population / Occurrence Delineation

The default minimum separation distance is 1 km; see the Habitat-based Plant Element Occurrence Delimitation Guidance for details.

Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 12/11/2017

NatureServe Conservation Status Factors Edition Authors: Ode, D.; rev. W. Fertig, B. Heidel (1999), rev. A. Tomaino (2017)

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