

IMPORTANT PLANT AREA NOMINATION FORM – MONTANA

Nominated Site Name: Centennial Sandhills

General Location: East end of Centennial Valley approximately 50 miles southeast of Dillon.

Site Coordinates: T13S R2W Sections 13, 14, 22, 23, 24

Maps: One map of the Centennial Sandhills IPA boundary is attached. The IPA boundary encompasses the greatest known concentration of rare plants. Other areas of sand deposits in the Centennial Valley have far less early-successional habitat that supports rare plants.

Photographs: An aerial photograph of a portion of the IPA is included. Also included are three habitat photographs and pictures of four rare plants: *Astragalus ceramicus* var. *apus*, *Cryptantha fendleri*, *Elymus flavescens*, and *Oenothera pallida*.

Counties: Beaverhead County.

Elevation: 6,660 ft to 6,760 ft.

Size of Area: ca. 2,604 acres

Property Ownership: Bureau of Land Management, U.S. Fish and Wildlife Service, State of Montana, The Nature Conservancy, Private.

Other designations for the site: BLM Area of Critical Environmental Concern.

Table 1. Vascular plant species of concern at the Centennial Sandhills IPA

Species	MNHP global	MNHP state	Last Obs.	Population Size	Trend
<i>Astragalus ceramicus</i> var. <i>apus</i>	G4T3	S1	July 2009	Unknown	Stable?
<i>Cryptantha fendleri</i>	G4	S2	July 2009	Unknown	Stable?
<i>Elymus flavescens</i>	G4	S1	July 2009	Unknown	Unknown
<i>Oenothera pallida</i> ssp. <i>pallida</i>	G5T4Q	S1	July 2009	Unknown	Stable?

Trend Information: Surveys by TNC and BLM of the burn area suggest populations may be expanding slightly in that area. In 2009, the number rare plants observed were counted within each burn patch, so future trend estimates may be based on data. Lack of fire and bison grazing have likely resulted in declining rare plant populations fide:

Lesica, P. and S. V. Cooper. 1999. Succession and disturbance in sandhills vegetation: constructing models for managing biological diversity. *Conservation Biology* 13: 293-302.

Lesica, P., and S. V. Cooper. 1997. Presettlement vegetation of southern Beaverhead County, Montana. Montana Natural Heritage Program, Helena.

Threats: The threats are real but are not immediate. BLM and TNC are working to minimize the long-term impacts by reintroducing fire and high-intensity short-duration grazing.

Table 2. All four rare species occurring in the Centennial Sandhills IPA occur throughout the IPA in the same early-seral habitat and have the same threats.

Species	Threats	Level	Comments
All	Fire Exclusion	Low	Though low, the gradual process is likely to reduce populations
All	Lack of grazing	Moderate	Though low, the gradual process is likely to reduce populations
All	Invasive species	Moderate	Cheatgrass and knapweed occur in area and may increase with fire

Justification: The Centennial Sandhills IPA encompasses habitat for four plant species of concern in Montana. Three of these occur nowhere else in the state. The Centennial Sandhills are one of the few large sandhills areas of the state and one of the highest in North America. The Centennial Sandhills Complex supports several plant associations including:

Artemisia tridentata ssp. *tridentata* / *Festuca idahoensis*

Artemisia tridentata (ssp. *tridentata*) / *Stipa comata*

Elymus lanceolatus / *Phacelia hastata*

Stipa comata / *Psoralea tenuiflora*

Artemisia tripartita / *Festuca idahoensis*

A. tripartita / *Stipa comata*

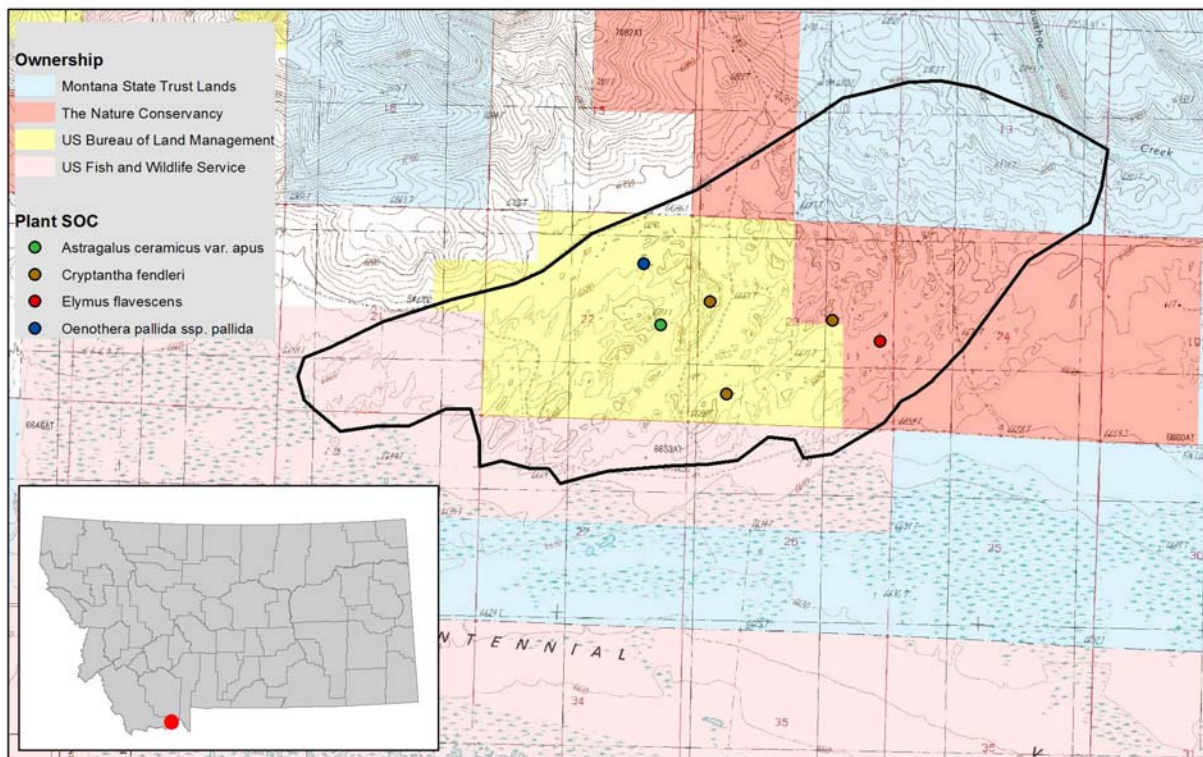
Chrysothamnus viscidiflorus / *Stipa comata*

Stipa comata - *Psoralidium tenuiflorum*

None of these plant communities are currently ranked by the Montana Natural Heritage Program, but the first three may have state and global significance (Cooper, S. V., C. Jean, and B. L. Heidel. 1999. Plant Associations and Related Botanical Inventory of the Beaverhead Mountains Section, Montana. Montana Natural Heritage Program, Helena). In a changing climate where plant communities will change with individual species responses to environmental drivers, these unique communities may provide insight, especially at the northern range of Great Basin vegetation. The Centennial Sandhills also provide habitat for a number of animal species of concern in Montana including, two tiger beetles *Cicendela formosa* ssp. *gibsoni* and *C. arenicola*, Great Basin Pocket Mouse, Preble's Shrew, Pygmy Rabbit, Brewer's Sparrow, Sage Thrasher, Grasshopper Sparrow, Ferruginous Hawk, Long-billed Curlew, and Greater Sage-Grouse

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Western Centennial Sandhills IPA, Beaverhead County, Montana



* Map depicts generalized locations of plant Species of Concern. Some species are more widespread within the IPA boundary than is indicated by the individual point locations.

Produced: March 2011

Scale: 1:35,000

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Photograph 1. 2009 aerial photo of the Centennial Sandhills.



Photograph 2. Well-vegetated sandhills. Three-tip sagebrush (*Artemisia tripartita*) on lee slopes. Grasslands occur on windward slopes.



Photograph 3. Blowout on the windward side of a sandhill. Sparse vegetation dominated by *Stipa comata*, *A. dasystachyum*.



Photograph 4. Active wind erosion of a blowout on the windward slope of a sandhill.



Photograph 5. Sand wildrye (*Elymus flavescens*) growing on the summit of a sandhill at the edge of a blowout.



Photograph 6. Idaho evening primrose (*Oenothera pallida* ssp. *pallida*) growing in a sandhills blowout.



Photograph 7. Fendler's cat's-eye (*Cryptantha fendleri*) growing in open sand of a blowout.



Photograph 7. Idaho painted milkvetch (*Astragalus ceramicus* var. *apus*) spreading by rhizomes in open sand.