

Vern Harms Important Plant Areas Program of Saskatchewan

– Nomination Form

Nominated site name: Buffalograss Grasslands

General location: Along the Souris River Valley, west of Estevan

Legal land description: Includes 70 quarter Sections

Size of area (include units): 4416 hectares

Boundary rationale (attach map indicating boundaries and location): Quarter sections were chosen as the primary unit for boundary delineation as they are generally managed as a unit and survey effort and occurrence data are largely given at the quarter section level for the primary plant species of concern. Natural features (e.g., ecosite and soil type) were referenced as criteria for quarter section inclusion but were not particularly helpful in defining a boundary cut-off on their own. Quarters were included in the nominated area boundary based on Buffalograss (*Bouteloua dactyloides*) presence, and potential presence according to dispersal distance and habitat type. Therefore, quarter sections were included if they contained a Buffalograss occurrence; or were an adjacent quarter with native grass, the same soil type and ecosite as occupied habitat, and had not been previously census-searched with a non-result.

Property ownership: The majority of the land is owned and managed by the Government of Saskatchewan but a large portion is also privately owned. Some are also owned by a crown utility, a portion is on Fish and Wildlife Development Fund Land, and one quarter is leased crown land.

Table 1: Plant species of concern information

#	Plant Species (Scientific name)	SKCDC Rank		Date last observed	Population size	Trend (increasing, decreasing, stable, fluctuates, unknown)	Endemic to SK or Canada? (Yes-SK, Yes-Canada, No)	Information Source
		Global (G-rank)	Provincial (S-rank)					
1	<i>Bouteloua dactyloides</i>	G4G5	S1	2017	52 km ²	Stable	No	Saskatchewan Conservation Data Centre; COSEWIC 2011
2	<i>Asclepias verticillata</i>	G5	S1	2017	Unknown (>100 plants)	Unknown fluctuates	No	Saskatchewan Conservation Data Centre
3	<i>Draba reptans</i>	G5	S1	2017	Unknown (40 plants)	Unknown	No	Glen Lee pers. Comm.
4	<i>Lomatium orientale</i>	G5	S1	2014	Unknown	Unknown	No	Saskatchewan Conservation Data Centre
5	<i>Silene antirrhina</i>	G5	S1	1969	Unknown - occasional	Unknown	No	Saskatchewan Conservation Data Centre
6	<i>Helianthus tuberosus</i>	G5	S2	1952	Unknown	Unknown	No	Saskatchewan Conservation Data Centre
7	<i>Lotus unifoliolatus</i> var. <i>unifoliolatus</i>	G5T5	S2	1994	Unknown-occasional	Unknown	No	Saskatchewan Conservation Data Centre
8	<i>Onosmodium molle</i> var. <i>occidentale</i>	G4G5T4 ?	S2	2017	Unknown	Unknown	No	Saskatchewan Conservation Data Centre
9	<i>Panicum virgatum</i> var. <i>virgatum</i>	G5T5	S2	2017	Unknown	Unknown	No	Saskatchewan Conservation Data Centre
10	<i>Polygala verticillata</i>	G5	S2	2012	Unknown – occasional (50 plants)	Unknown	No	Saskatchewan Conservation Data Centre

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11	<i>Potentilla concinna</i> var. <i>concinna</i>	G5?T5?	S2	2017	Unknown - occasional	Unknown	No	Saskatchewan Conservation Data Centre
12	<i>Oenothera flava</i> ssp. <i>flava</i>	G5T3T5	S3	1993	Unknown	Unknown	No	Saskatchewan Conservation Data Centre

Table 2: Threat information

Threat # (from Appendix A)	Threat	Plant Species of Concern Affected (#s from Table 1 above or "all")	Level (High, moderate, low, very low, NA)	Comments
1.1	Housing & Urban Areas	All	Low	The nominated area borders the city of Estevan and Buffalograss occurs less than a kilometer from city limits. Urban growth and development could result in loss of habitat.
2.1	Annual & Perennial Non-Timber Crops	All	Low-Moderate	The topography (valleys/coulees) and shallow soils of this area lend better to ranching than crop farming; however, as agricultural technology improves cultivation could increase.
3.1	Oil & Gas Drilling	All	Moderate	Direct impact due to loss of habitat is a moderate threat. This activity also contributes to other threats of roads and invasive species.
3.2	Mining & Quarrying	All	Moderate	Coal mining is prevalent in the area. It was estimated that at least 27% of all quarter sections with Buffalograss occurrences are at risk to threats from coal mining activities (COSEWIC 2011).
4.1	Roads & Railroads	All	Low	Highways, roads, and an abandoned railbed already dissect Buffalograss occurrences in the area and this species can be found growing along existing trails. Upgrades to road infrastructure and new construction (which is likely, due to resource extraction in the area) can threaten plants and further fragment habitat.

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7.2	Dams & Water Management/Use	All	Low	Buffalograss tolerates seasonal flooding but due to the nearby dams and reservoirs its location within the Souris River Valley makes it susceptible to increased unnatural flooding. This also increases the threat of extreme flooding events, which are said to be increasing in severity due to climate change but the extent of impact is difficult to predict (also falls under 11.4 Storms & Flooding).
7.3	Other Ecosystem Modifications	All	Low - Moderate	Lack of proper management (e.g. lack of grazing and natural fire regimes) can lead to a decrease in Buffalograss populations, as has been observed in the Buffalograss Ecological Reserve area central to the nominated area (also falls under threat 7.1 Fire & Fire Suppression).
8.1	Invasive Non-Native/Alien Species/Diseases	All	Moderate	Invasive species (e.g. Crested Wheatgrass and sweet-clover) were documented at up to 30% or more of Buffalograss sites (COSEWIC 2011) and can outcompete Buffalograss and other plant species of concern.

Referencing the criteria, explain why the nominated site deserve recognition as an Important Plant Area (500 words or less):

The Buffalograss Grasslands meet several of the criteria listed to qualify as an Important Plant Area in Saskatchewan. The area contains one plant species of concern that satisfies criteria number 1) *Site contains at least one plant species of concern that is globally ranked as G1, G2, G3, or G#T1, G#T2, G#T3: Oenothera flava ssp. flava (G5T3T5)*; ten plant species satisfying criteria number 2) *Site contains an assemblage of at least three plant species of concern that are provincially ranked by the Saskatchewan Conservation Data Centre as S1 or S2: Asclepias verticillata (S1), Draba reptans (S1), Helianthus tuberosus (S2), Lomatium orientale (S1), Lotus unifoliolatus var. unifoliolatus (S2), Onosmodium molle var. occidentale (S2), Panicum virgatum var. virgatum (S2), Polygala verticillata (S2), Potentilla concinna var. concinna (S2), and Silene antirrhina (S1)*; and one species that satisfies criteria number 4) *site contains at least one species listed by the Committee on the Status of Endangered Species in Canada as Endangered, Threatened, or Special Concern: Bouteloua dactyloides (Special Concern, COSEWIC & SARA) (Table 1)*. As well, it is only place in Saskatchewan, and one of only two locations in Canada, where *Bouteloua dactyloides* occurs. Several other provincially rare plants and animal Species at Risk have also been reported within the boundary of the nominated area (Tables 3 & 4). The quantity and quality of habitat within the area is threatened by several factors (Table 2) including agricultural cultivation, urban development, and industrial modification (e.g. due to current and potential oil & gas, mining, and water

management activities in the area). Other major threats are due to ecosystem modifications (such as changes to historical grazing, fire, and flood regimes) and invasive species. Designating this area as an Important Plant Area in Saskatchewan could help to mitigate these threats and conserve the only area in the province where Buffalograss occurs, one of only two areas that it exists nationally, and preserve an important site for biodiversity in southeast Saskatchewan, as many other rare and at-risk species also rely on this habitat.

Additional unique features:

In addition to the plant species of concern listed above (Table 1), several other vulnerable/rare (provincial S3-ranked) plants have been reported amongst plant occurrences within the boundary (Table 3), and animal Species at Risk also use the nominated area for foraging and breeding habitat (Table 4). Although not found within the boundary, *Athene cunicularia* (Endangered, COSEWIC), *Lanius ludovicianus excubitorides* (Threatened, COSEWIC), *Calcarius ornatus* (Threatened, COSEWIC), and *Potentilla lasiodonta* (S2, Provincial) have all been observed approximately one mile from the nominated area boundary and could very likely be present within the nominated area, as well.

Table 3: All additional plant occurrences reported within the nominated area.

Scientific Name	Common Name	Provincial Rank	Global Rank	COSEWIC Rank
<i>Alisma gramineum</i>	Narrow-leaved Water Plantain	S3	G5	-
<i>Bouteloua curtipendula</i> var. <i>curtipendula</i>	Side-oats Grama	S3	G5T5	-
<i>Carex vulpinoidea</i> var. <i>vulpinoidea</i>	Fox Sedge	S3	G5T5	-
<i>Castilleja sessiliflora</i>	Downy Paintbrush	S3	G5	-
<i>Echinacea angustifolia</i> var. <i>angustifolia</i>	Narrow-leaved Purple Coneflower	S3	G4T4	-
<i>Elodea canadensis</i>	Canada Waterweed	S3	G4G5	-
<i>Erigeron strigosus</i>	White-top	S3	G4G5	-
<i>Erigeron strigosus</i> var. <i>strigosus</i>	Daisy Fleabane	S3	G4G5	-
<i>Festuca hallii</i>	Plains Rough Fescue	S3	G4	-
<i>Marsilea vestita</i>	Pepperwort	S3	G5	-
<i>Mentzelia decapetala</i>	Eveningstar	S3	G5	-
<i>Mertensia lanceolata</i> var. <i>lanceolata</i>	Prairie Bluebells	S3	G5T5	-
<i>Nothocalais cuspidata</i>	Prairie False-dandelion	S3	G5	-
<i>Oenothera caespitosa</i> ssp. <i>caespitosa</i>	Gumbo Evening Primrose	S3	G5T5	-
<i>Oenothera flava</i> ssp. <i>Flava</i>	Low Yellow Evening-primrose	S3	G5T3T5	-
<i>Orobanche ludoviciana</i>	Louisiana Broom-rape	S3	G5	-
<i>Oxytropis lambertii</i> var. <i>lambertii</i>	Stemless Point-vetch	S3	G5TNR	-
<i>Polygala alba</i>	White Milkwort	S3	G5	-
<i>Polygala paucifolia</i>	Pink Fringed Milkwort	S3	G5	-
<i>Schedonnardus paniculatus</i>	Tumble Grass	S3	G5	-
<i>Sporobolus heterolepis</i>	Northern Dropseed	S3	G5	-
<i>Andropogon gerardii</i>	Big Bluestem	S4	G5	-
<i>Lilium philadelphicum</i> var. <i>andinum</i>	Western Red Lily	S4	G5TUQ	-

Table 4: Animal Species at Risk that have been observed within the boundary of the nominated area.

Scientific Name	Common Name	Provincial Rank	Global Rank	COSEWIC Rank
<i>Danaus plexippus</i>	Monarch	S2B	G4	Endangered
<i>Buteo regalis</i>	Ferruginous Hawk	S3	G4	Threatened
<i>Lithobates pipiens</i>	Northern Leopard Frog	S3	G5	Special Concern
<i>Asio flammeus</i>	Short-eared Owl	S3B,S2N,S3M	G5	Special Concern
<i>Aechmophorus occidentalis</i>	Western Grebe	S3B,S3M	G5	Special Concern
<i>Anthus spragueii</i>	Sprague's Pipit	S3B,S3M	G3G4	Threatened
<i>Taxidea taxus taxus</i>	American Badger	S3S4	G5T5	Special Concern
<i>Ammodramus bairdii</i>	Baird's Sparrow	S4B	G4	Special Concern
<i>Chordeiles minor</i>	Common Nighthawk	S4B,S4M	G5	Special Concern
<i>Dolichonyx oryzivorus</i>	Bobolink	S4B,S4M	G5	Threatened
<i>Riparia riparia</i>	Bank Swallow	S4B,S5M	G5	Threatened
<i>Hirundo rustica</i>	Barn Swallow	S5B,S5M	G5	Threatened

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Date submitted: January 15th, 2019

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Acknowledgements and Citations:

Species occurrence data was provided by Sarah Vinge-Mazer, Botanist, Saskatchewan Conservation Data Centre, on January 9th, 2019 with the exception of *Draba reptans* data provided by Glen Lee February 22nd, 2019.
 COSEWIC. 2011. COSEWIC assessment and status report on the Buffalograss *Bouteloua dactyloides* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

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Male Buffalograss flowers (photo: Sarah Vinge-Mazer)



Buffalograss grasslands with occurrences flagged (photo: Jennifer Rumancik)



Buffalograss Patch (photo: Sarah Vinge-Mazer)



Souris River Valley (photo: Rebecca Magnus)

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Buffalograss habitat (photo: Melissa Ranalli)



Power line running through Buffalograss habitat
(photo: Melissa Ranalli)