
GLOSSARY

Alkalinity/Alkaline: refers to a condition of soil or water in which there is a sufficient concentration of soluble salts to affect the type or condition of vegetation.

Aestivation: is a state of dormancy similar to hibernation that takes place when conditions are hot and dry.

Animal Unit Month: is the quantity of forage required by a mature cow for one month.

Best Management Practices: is a set of recommended techniques, methods, or processes that minimize or mitigate impacts to the environment.⁷²

Biogeoclimatic Ecosystem Classification: is British Columbia's hierarchical classification system of ecosystems that integrates regional, local and successional conditions, and combines climatic, vegetation and site factors.

Biogeoclimatic Zone: is a large geographic area having similar patterns of vegetation, and soil as a result of a broad, regional climate.

Blue-listed: includes any ecological community, indigenous species or subspecies considered to be of Special Concern (formerly Vulnerable) in British Columbia. Elements are of special concern because of characteristics that make them particularly sensitive to human activities or natural events. Blue-listed elements are at risk, but are not Extirpated, Endangered or Threatened.⁷³

Connectivity: is a state or measure of spatial linkage, continuity, or association between two or more distinct locations.

Copse: is a small thicket of small trees and shrubs.

Corridor: is a band of vegetation or strip of land that provides connectivity between distinct patches of habitat on the landscape, and permits the movement of plant and animal species between what would otherwise be isolated patches.

Conservation: is a broad term that applies to all activities and strategies that maintain the long-term sustainability and ecological integrity of grasslands and grassland diversity in B.C. Conservation of grasslands includes uses or activities that maintain ecosystem health, protect biological diversity, maintain representative grassland communities, and protect the wide diversity of habitats and wildlife that depend on grasslands for current and future generations.

Ecosection: an area with minor physiographic and macroclimatic or oceanographic variation, defined at the sub-regional level⁷⁴.

Ecological Assessment: a process for selecting the location and configuration of conservation and development areas so as to best retain the interactions of wildlife and ecosystems in the larger landscape. It differs from a traditional environmental assessment in that it is used to guide land use planning rather than mitigate plans that are already in place.

Endangered: refers to a species that is facing imminent extirpation or extinction.⁷⁵

Fluvial: Processes by which sediment is transported across the landscape by the force of flowing water.

Hibernacula: is the place (e.g. den) where an animal hibernates or overwinters.

Lacustrine: Sedimentary deposits formed in lakes. They vary in texture from silt and fine sand to coarser sand and gravel.

Lek: a communal breeding ground where male sharp-tailed grouse perform courtship displays to attract female grouse.

Minimum Convex Polygon: a common measure of the typical range or area of use utilized by an single individual of an animal species, based on a series of observed point locations.

Morainal: Unsorted materials deposited directly from glacier ice. They lie below rock and colluvial slopes and above valley floor areas affected by recent fluvial activity.

Priority Grasslands: grassland areas that are of highest priority for conservation and stewardship.

Outcrop: is an exposure of bedrock.

Radiotelemetry: is a method of tracking the movements of wildlife using mobile transmitters that emit radio signals.

Red-listed: includes any ecological community, indigenous species or subspecies that is extirpated, **endangered**, or **threatened** in British Columbia. Extirpated elements no longer exist in the wild in B.C., but do occur elsewhere. Endangered elements are facing imminent extirpation or extinction. Threatened elements are likely to become endangered if limiting factors are not reversed. Red-listed species and subspecies have or are candidates for official Extirpated, Endangered or Threatened Status in B.C. under the *Wildlife Act*. Not all red-listed species will necessarily become formally designated. Placing species on these lists flags them as being at risk and requiring investigation.⁷⁶

Riparian: Land adjacent to a stream, river, lake, or wetland containing vegetation that is distinctly different from the vegetation of adjacent upland areas because of the presence of water.

Riparian Priority Grasslands: are grassland areas that include standing water (ponds, marshes, and lakes) and/or major stream features. These areas are smaller than the terrestrial priority grasslands but are of equal importance because they have high habitat/ecosystem value and act as corridors for wildlife movement. In addition to being ecologically important, many riparian priority grasslands are used by the cattle ranching industry.

Due to differing objectives, different methods were used to identify riparian priority grasslands and terrestrial priority grasslands. Riparian Priority Grasslands are identified on the atlas maps, but only those that occur within the larger terrestrial priority grasslands are described in the area summaries. Together, the terrestrial and riparian priority areas make up less than 40% of the existing grassland landscape in the Thompson Basin Ecosection.

Shrub steppe: Grassland in which scattered shrubs form an open overstory above the grass layer and often co-dominate with the main grass species.

Special Concern: refers to a species that may become threatened or an endangered due to a combination of biological characteristics and identified threats.⁷⁷

Stewardship: is the practice of carefully managing land use and applying land use practices that will ensure natural grasslands and their associated ecological goods and services are maintained or enhanced for future generations.

Talus: are the rocks and loose material lying at the bottom of the cliff or steep slope.

Terrestrial Priority Grasslands: are large contiguous grassland areas that were identified as being of high value because they encompass a range of important, mainly terrestrial ecological features, such as rare ecosystems, habitat for species at risk, and terrain types that influence plant and animal community composition. In some cases, riparian areas occur within these terrestrial priority grasslands. In addition to being ecologically important, many of these grasslands are used by the cattle ranching industry.

Threatened: refers to a species that is likely to become **endangered** if nothing is done to reverse the factors leading to its extirpation or extinction.⁷⁸

Ungulates: are hooved animals such as bighorn sheep, moose, and deer.

Working Landscape Grasslands: include nearly all of the grassland areas that were not labelled as terrestrial or riparian priority grasslands. They may not encompass the range of important ecological features or geographic extent that priority grasslands do, although they may include important habitat (i.e., dens and nests) for species at risk. These areas are referred to as working landscape grasslands because they are actively used by the cattle ranching industry. These grasslands need to be included in management plans to

ensure connectivity between priority grasslands is maintained and the cattle ranching industry remains viable.

Ensuring working ranches remain viable, in turn, is the key to maintaining large contiguous landscapes that support wildlife, native grassland vegetation, and forage needed by the ranching community. Working landscape grasslands comprise the 60% of the grassland landscape in the Thompson Basin Ecosection that was not identified as terrestrial and riparian priority areas.

Yellow-listed: ecological communities and indigenous species that are not at risk in British Columbia

APPENDICES

APPENDIX 1. IDENTIFYING AND MAPPING PRIORITY GRASSLAND AREAS

OBJECTIVES

The objectives of the analysis used to identify and map priority grassland areas were:

- ◆ identify and delineate large cohesive areas that can sustain the life activities of a variety of plants and wildlife while not unduly restricting the capability for urban development, intensive agriculture, and other land use in a given subregion;
- ◆ achieve a spatial configuration of priority areas that extends across the entire Thompson Basin Ecosection;
- ◆ represent the full breadth and variety of grasslands within the set of priority areas, including the full diversity of plant and wildlife communities;
- ◆ include a variety of different grasslands and landscapes within a priority area, wherever possible (e.g., a gradient from river shoreline to lower grasslands to upper grasslands); and
- ◆ include known important habitat for species at risk (e.g., Lewis’s woodpecker nests and badger burrows) within a priority area, wherever possible.

METHODS: ANALYSIS AND MAPPING

A target-based reserve selection method was used for the priority analysis and was implemented using Marxan software. In a target-based reserve selection method, the users set how much of each input layer they want to be included in the final solution, and the software’s algorithms search for the optimal spatial configuration of reserves to achieve those targets.

A target-based reserve selection method addresses the design problem known as “the minimum set problem” where the goal is to achieve some minimum representation of features for the smallest cost. Some features used in the priority analysis were:

- ◆ important rare ecosystems
- ◆ important habitat for species at risk (e.g., nests, burrows, ponds)
- ◆ modelled potential habitat for species at risk
- ◆ terrain types that influence plant and animal community composition

More detail on features used in the analysis is provided in the “Results” section below.

Cost is the total area needed to meet feature targets, and penalties are given for the level of fragmentation: the more fragmented the solution, the higher the penalty or cost. The target set for the final portfolio was that it would contain roughly 40% of the land base of current existing grasslands. This percentage is based on research conducted in the South Okanagan that suggests this amount of land is needed to maintain plant and animal species abundance and diversity at their current levels. Several other studies support 40% as a valid target for conservation.^{79, 80, 81, 82, 83, 84, 85}

A few grasslands areas were excluded from the analysis because of their high susceptibility to degradation and destruction. They were located within a 100-m buffer around main roads, and in future development zones as identified in KAMPLAN 2004.⁸⁶

Further details on the analysis are recorded in separate documentation available upon request from the GCC.

RESULTS: GRASSLAND AREAS

The analysis generated a set of three grassland areas:

- ◆ terrestrial priority grasslands
- ◆ riparian priority grasslands
- ◆ working landscape grasslands

Terrestrial Priority Grasslands

Most of the analysis and reporting focuses on the terrestrial priority grasslands because most of the ecological features used in the analysis are terrestrial, and the wide range of values found within these grasslands warrant further description. (Note: many of the terrestrial priority areas also contain riparian priority grasslands).

Riparian Priority Grasslands

The riparian priority grasslands include areas with standing water (ponds, marshes, and lakes) and major stream features. In the semi-arid environment of grasslands, all water sources are highly valuable to wildlife and plants. For this reason, all water features should be included as high priority; however, doing so would be unwieldy for both conservation management and urban and agricultural planning. Instead, only major streams were selected as priority riparian areas. They were identified by selecting higher order streams (using stream order classification methods), buffering them by 100 m, and then selecting only those streams with buffers that contained riparian vegetation (as mapped in the Vegetation Resource Inventory).

The riparian priority areas are of equal importance to grassland conservation as the terrestrial priority grasslands. Together, the terrestrial and riparian priority areas make up less than 40% of the existing grassland landscape in the Thompson Basin Ecosection.

Working Landscape Grasslands

Working landscape grasslands include the remaining 60% of grassland areas outside of the terrestrial and riparian priority areas. As more than 95% of private and Crown grasslands in B.C. are used and managed for ranching, nearly all of the grasslands not labelled as terrestrial or riparian priority grasslands are actively used by the cattle ranching industry. Maintaining large contiguous landscapes that support wildlife, native grassland vegetation, and forage needed by the ranching community can be achieved only by ensuring the persistence of viable working ranches

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