

WILDLIFE (UNGULATE) BIOPHYSICAL CAPABILITY CLASSIFICATION

For the Purcell Wilderness Conservancy and Adjacent Area (82F/15 and 16, 82K/1, 2, 7 and 8)

1. Explanatory Notes

Introduction

This project was initiated in 1985 as a reconnaissance-level inventory of the big game and their habitats for the map sheets that include the Purcell Wilderness Conservancy. This project was part of a continuing biophysical inventory of the East Kootenay (see Demarsh 1988a, Lea 1984). In 1985 portions of three most streams to the northeast of the wilderness conservancy that had been mapped in 1984 were re-surveyed. This project includes identification and mapping of surficial materials, biogeostatic zones, biophysical habitat units and grizzly bear and wild ungulate capability ratings. Each theme has been coded, digitized and stored using a main-frame, intergraph system (CAPAMP).

Fieldwork

This project incorporates fieldwork from three wildlife biophysical projects. In June and July, 1981 fieldwork was conducted by Dennis Demarsh (Wildlife Biologist) and Ted Lea (Plant Ecologist), from a four-wheel drive truck, in Toby Brewer, Lower Findlay and Doctor Crowl's. In August 1985, fieldwork was conducted by Dennis Demarsh, Bob Maxwell (Pedologist) and Chris Clement (Plant Ecologist), from a helicopter. In the major valleys in map areas 82F/15 and 16 and 82K/1, 2, 7 and 8, in November, 1985 fieldwork was conducted by Dennis Demarsh and Brian Fuhr (Wildlife Biologist), from a two-wheel drive truck in the Sluery River watershed. In August 1985, fieldwork was conducted by Dennis Demarsh and Bob Maxwell from a four-wheel drive truck, in Glacier, Toby Brewer, Doctor and Lower Findlay and Doctor Crowl's.

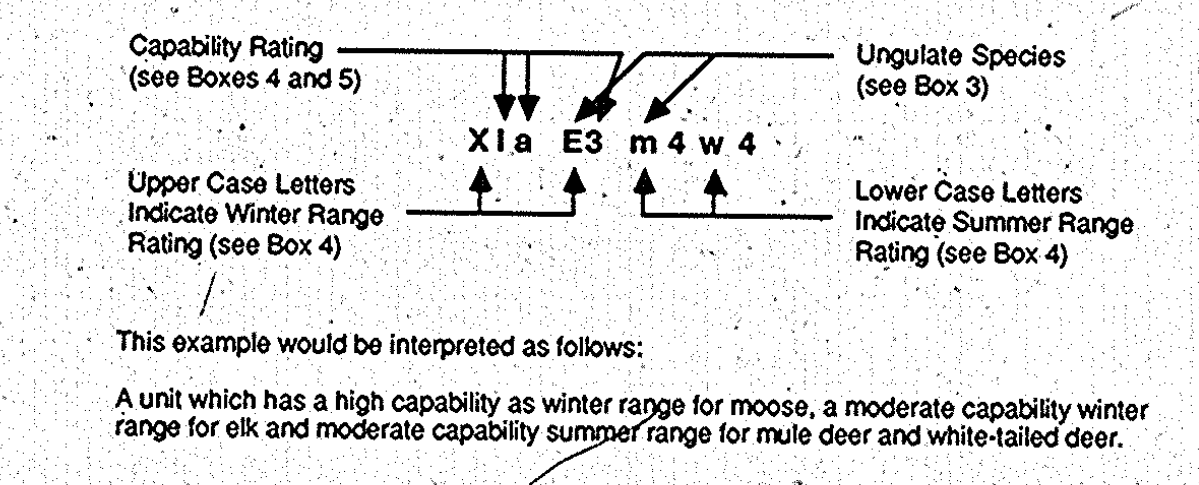
Seasonal Ranges and Their Use

In the Kootenays, winter ranges are used by most ungulates during the late fall and winter months when deep snow restricts their movements. For most ungulates, forage availability is usually limited to wind-eroded or solar radiated (southerly) slopes. Moose however, can tolerate moderately deep snow and are able to forage in the floodplains and can be able to walk on the top of deep snow and are thus able to forage on arboreal lichens and herbs. Because of the restricted foraging areas and the length of the winter-use period, the density of most ungulate populations is greater in the winter than at any other time of the year. This is reflected by the assignment of higher density values to areas used as winter range over summer range.

During the late fall and winter months deep snow limits most ungulate usage of the project area. As a consequence, moose, mule deer and white-tailed deer migrate to the east in early to late fall seeking ranges with low snowfall that occur in the Rocky Mountain Trench (Demarsh 1986a and b). There is some overwintering above Kootenay Lake by these species, however, substantial snow and forage production limits the quality of this area to sustain large populations. Mountain goats overwinter primarily on rugged south-facing slopes in the outer foothills of the eastern Purcell Mountains, within this project area and in adjacent areas to the east; as well there is extensive winter range habitat on the rugged, south-facing slopes in the Purcell Trench. Woodland caribou winter in the old-growth spruce and subalpine fir forests that occur on level or slightly sloping floodplains, much of their winter range habitat has been logged or burned. Moose winter in the floodplains and lower southerly facing slopes of the major valleys in the eastern Purcell areas and St. Mary River valley.

Range use during the non-winter or summer period consists of spring, summer and early fall ranges as well as habitats used for migrations between ranges. For most ungulate populations in this area, forage availability and quality during this period does not limit their numbers. As well, during this period most animals have moved off the winter ranges and are well distributed within the valleys and mountains. Because of the general abundance, quality and availability of forage, the wildlife populations of this area are not restricted by summer range habitat. Population densities for each species are generally lower on summer range habitats than on winter ranges, because each habitat is used for shorter periods, a wider variety of habitats are used and movement between habitats is not restricted by snow depths. This is reflected by the assignment of lower values on most summer ranges than on winter ranges. Some summer range habitats are better than others, however, and these are indicated with the highest densities for summer range capability (Class 5). Typical high value summer range habitats within this study area are often moisture-rich sites, such as floodplains, wetlands, avalanche tracts (especially the crest zone), and alpine meadows.

2. Example of a Map Symbol



3. Ungulate Species Symbols

- C or c = Caribou
- E or e = Elk
- G or g = Mountain Goat
- M or m = Mule Deer
- W or w = White-tailed Deer
- X or x = Moose

4. Capability Classes

- | Class | Winter Range (Late fall to early spring) | Summer Range (Spring to late fall) |
|-------|--|--|
| 1. | Lands in this class have very high capability to support the assigned ungulate species during the winter months. When required this class may be subdivided on the basis of productivity into classes 1a, to 1d. | Not applicable |
| 2. | Lands in this class have high capability to support the assigned ungulate species during the winter months. | Not applicable |
| 3. | Lands in this class have moderate capability to support the assigned ungulate species during the winter months. | Lands in this class have very high capability to support the assigned ungulate species during spring, summer or early fall months. |
| 4. | Lands in this class have low capability to support the assigned ungulate species during the winter months. | Lands in this class have high-moderate capability to support the assigned ungulate species during spring, summer or early fall months. |
| 5. | Not applicable | Lands in this class have low capability to support the assigned ungulate species during spring, summer or early fall months. |
| 6. | Not applicable | Lands in this class have no capability to support the assigned ungulate species. |

5. Biophysical Ungulate Capability Class Carrying Capacity Estimates

The value of habitat (given as a range) is expressed as amount of land that is required to support one animal of a specified wildlife species for one month (hectares/animal/month).

Class	Caribou	Elk	Moose	Mountain Goat	Mule Deer	White-tailed Deer
1c	0.5 - 0.6	0.4 - 0.5	0.9 - 1.1	0.8 - 1.0	0.7 - 0.8	0.7 - 0.8
1d	0.6 - 0.8	0.5 - 0.6	1.1 - 1.4	1.0 - 1.2	0.9 - 0.9	0.9 - 0.9
1a	0.8 - 1.1	0.6 - 0.8	1.4 - 1.8	1.2 - 1.6	1.1 - 1.4	1.1 - 1.4
2	1.1 - 1.6	0.9 - 1.2	1.8 - 2.8	1.6 - 2.4	1.5 - 1.6	1.5 - 1.6
3	1.6 - 2.2	1.2 - 2.4	2.4 - 4.8	2.4 - 4.8	2.8 - 3.6	2.8 - 3.6
4	3.2 - 16.0	2.4 - 12.0	5.6 - 28.0	4.8 - 24.0	1.6 - 8.0	1.6 - 8.0
5	16.0	12.0	28.0	24.0	8.0	8.0
6	unsuitable	unsuitable	unsuitable	unsuitable	unsuitable	unsuitable

6. References

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7. Credits

Map by: D.A. Demarsh
 Date Mapped: 1986 and 1989
 Field Work: 1981, 1985, 1988
 Date and Scale of Photography: 1979, 1980 and 1981: 1:50,000
 Date of Base Mapping: Surficial Geology - 1985 and 1988
 Vegetation - 1981, 1985 and 1988
 Habitat - 1981, 1985 and 1988
 Drafted by: Surveys & Resource Mapping Branch (CAPAMP)
 Date Draft: 1988
 Date Revised:
 Base Map provided by: Surveys & Resource Mapping Branch
 B.C. Ministry of Environment, Victoria, B.C.
 1988 Edition

DEWAR CREEK
 KOOTENAY LAND DISTRICT
 BRITISH COLUMBIA

Scale 1:500,000 Échelle

CONVERSION SCALE FOR ELEVATIONS
 Feet to Metres: 1000 Feet = 304.8 Metres
 Metres to Feet: 1 Metre = 3.28 Feet

ÉCHELLE DE CONVERSION DES ALTITUDES
 Mètres à Pieds: 1000 Mètres = 3280 Pieds
 Pieds à Mètres: 1 Pied = 0.3048 Mètre

VERTICAL DATUM: CANADIAN MEAN SEA LEVEL
 HORIZONTAL DATUM: CANADIAN DATUM 1983

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