# SPRINGBROOK BIO-PHYSICAL

## BIO-PHYSICAL CAPABILITIES FOR WILDLIFE

## — MOUNTAIN SHEEP —

### DESCRIPTIVE LEGEND

On this reconnaissance map, the land is divided into units on a biophysical basis which takes into account geology, landform, relief, soils and vegetation. The biophysical framework is the same as that used for capability inventories of forestry, agriculture, native forage and recreation in the map area. Base data maps of soils, landforms, vegetation and climate as well as biophysical capability maps for forestry, recreation and agriculture are available from the Resource Analysis Unit, E.L.U.C. Secretariat, Victoria.

### CAPABILITY CLASSIFICATIONS

Capability ratings are established on the ability of the land to meet the total needs of the wildlife species over the long term. In terms of food and cover needs, the ratings are based on the optimum vegetational stage (successional stage) that can be maintained assuming good management practices that do not degrade the environment of land base. The application of management prescriptions are limited to the following non-intensive practices:

1) Prescribed burning or grazing
2) Prescribed logging or occasional slashing
3) Protection from fire or any land-use practice that would reduce the productivity of the land for the wildlife species

When assigning capability ratings, map units are evaluated on the basis of their position in the ecosystem as a whole and not in isolation.

Capability ratings reflect only biological and physical parameters of the environment and do not take into account human elements such as social or economic parameters.
Capability ratings assigned do not reflect present land use, ownership, lack of access, distance from cities, or amount of hunting pressure.

Carrying capacity estimates based on the number of animals which can be supported annually on a sustained basis are assigned to each capability class as a measure of productivity.

CLASS 1 LANDS IN THIS CLASS HAVE THE LEAST LIMITATION TO THE PRODUCTION OF MOUNTAIN SHEEP

They can provide a wide variety and abundance of food plants and other necessary habitat elements. These very high capability lands can support an estimated 32 to 63 mountain sheep per square mile annually.

When required, this class may be subdivided on the basis of productivity into Class 1a (32 to 42 mountain sheep per square mile per year), Class 1b (42 to 53 mountain sheep per square mile per year) or Class 1c (53 to 63 mountain sheep per square mile per year) etc using an increment equivalent to 25% of the upper figure for Class 1a.

CLASS 2 LANDS IN THIS CLASS HAVE SLIGHT LIMITATIONS TO THE PRODUCTION OF MOUNTAIN SHEEP

Capability on these lands is high, but less than Class 1. These lands can support an estimated 21 to 32 mountain sheep per square mile annually.

CLASS 3 LANDS IN THIS CLASS HAVE MODERATE LIMITATIONS TO THE PRODUCTION OF MOUNTAIN SHEEP

Capability on these lands is moderate to moderately high and they can support an estimated 11 to 21 mountain sheep per square mile annually.

CLASS 4 LANDS IN THIS CLASS HAVE MODERATELY SEVERE LIMITATIONS TO THE PRODUCTION OF MOUNTAIN SHEEP

Capability on these lands is moderate to moderately low and they can support an estimated 2 to 11 mountain sheep per square mile annually.

CLASS 5 LANDS IN THIS CLASS HAVE SEVERE LIMITATIONS TO THE PRODUCTION OF MOUNTAIN SHEEP

Capability on these lands is very low and it is estimated they can support less than 2 mountain sheep per square mile annually.

CLASS 6 LANDS IN THIS CLASS HAVE LIMITATIONS SO SEVERE THAT THERE IS NO PRODUCTION OF MOUNTAIN SHEEP

L C low capability - this designation applies to extensive areas which are low or lacking in habitat potential for a species and are therefore excluded from classification. It is also applied to lands on which man's activities have more or less permanently obscured or eliminated the habitat potential for a species.

### SUBCLASSES

The most significant environmental factors limiting the production of the species and thus determining the capability class, are indicated on the map by subclasses. In most cases, the limitations do not affect the animals themselves, but rather the ability of the land to meet the needs of the species in terms of food, cover, and other requirements. For convenience, the subclasses are placed in three main categories: those relating to climate, those relating to the inherent characteristics of the land and those relating to the vegetative cover which, although reflecting characteristics of the land and/or climate, are not adequately covered or explained by limiting subclasses in these categories.

### LIMITATIONS OF CLIMATE

SUBCLASS A aridity - Drought or aridity that adversely affects the habitat

SUBCLASS C climate - A combination of climatic factors acting to reduce favourable habitat and the production and survival of the ungulate species

SUBCLASS Q snow depth - Excessive snow depth that reduces the mobility of the ungulate species or the availability of food plants

SUBCLASS U exposure - Exposure to extreme climatic factors such as extreme or drying winds that adversely affect the species or its habitat

### LIMITATIONS OF THE LAND

SUBCLASS E erodability - Maintenance of optimum vegetation for food and cover restricted at assumed management level due to susceptability to soil erosion ranging from sheet erosion through minor gullying

SUBCLASS F fertility - lack of available nutrients in the soil for optimum plant growth

SUBCLASS G landform - Poor distribution of interspersion of landforms necessary for optimum habitat

SUBCLASS I inundation - Excessive water level fluctuation or tidal action that adversely affects the habitat or survival of the species

SUBCLASS M soil moisture - Poor soil moisture, either excessive of deficient

SUBCLASS N soil chemistry - Excessive salinity, lack of essential trace elements or abundance of toxic elements in the soil

SUBCLASS R soil depth - Restriction of the rooting zone by bedrock or other impervious layers

SUBCLASS S soil sensitivity - Maintenance of optimum vegetation restricted at assumed management level due to susceptibility to loss of soil nutrients through leaching

SUBCLASS T adverse topography - Either steepness or flatness of the land

SUBCLASS W mass wasting - Extensive erosion processes, active or potential, as in talus slope or slope failure situations

### LIMITATIONS OF VEGETATION

SUBCLASS D dense regeneration - Maintenance of optimum vegetation for food and cover restricted at assumed management level by susceptibility to dense regeneration of vegetation

SUBCLASS V rapid seral succession - Maintenance of optimum vegetation for food and cover restricted at assumed management level by rapid seral succession. Maintenance of a more favourable condition is either beyond assumed management levels or would result in impairment of the land base over time at assumed management levels.

### SPECIAL CLASS INDICATORS

The following are used to denote known habitat elements considered critical to the distribution or abundance of the species

Seasonal concentration areas are shown by the following symbols

W areas of winter concentrations
Sp areas of spring concentration
S areas of summer concentration
F areas of fall concentration
L denotes mineral licks used by the species

denotes an important movement corridor for the species

### CONVENTIONS

Large arabic numerals denote capability class

Small lower case letters placed after capability class 1 denote a subdivision of that class

Large upper case letters placed after the capability class indicate the special class indicator

Small arabic numerals placed after class numeral, class subdivision letter or special class symbol indicate the approximate proportion (in tenths) of the complex that is represented by that class. The dominant class appears first in the symbol

Small upper case letters placed after class numeral, class subdivision letter or special class indicator denotes the subclass

For a more detailed description of the classification system the reader should refer to the manual of Biopysical Capability Classification for Wildlife (Ungulates) in British Columbia. This manual presently at print will be available from the Resource Analysis Unit, E.L.U.C. Secretariat, Victoria, B.C.

### EXAMPLES

An area of class 5 land with snow depth, dense regeneration and landform limitations is shown thus $5^{g}_{gs}$

A class 1a fall concentration area with limitations due to snow depth is shown thus $1a^{Fq}$

An area of which 70% is class 5 with limitations due to exposed bedrock and snow depth and 30% is class 3 wintering area with limitations due to snow depths and exposure to extreme winds is shown thus $5^{7}_{gs}\text{-}3W^{3}_{gu}$

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