## BIOPHYSICAL CLASSIFICATION FOR WILDLIFE CAPABILITY

1. Explanatory Notes This map represents a himphysical classification for wildlife (ungulate) capability. It is general in nature and is presented at a scale of 1:250 000. Like capability maps for forestry and agriculture, ungulate capability maps are hard on landforms, surficial materials, soils, climate and vegetation that are considered to form "ecologically significant" units of land. For wildlife, biopsical base maps may be supplemented by animal censuses to gain an insight into ungulate distribution and abundance. The biophysical mapping approach used here is a step wise process beginning with the two most fundamental needs of weldlife - food and cover. These attributes are assessed using terrain and soils as napped by other services in the Terrestrial Studies Branch. Areas of land judged to have differences significant to unusulate management are designated as map units. Subsequent steps in the assigning of capability values are the assessment of a masher of environmental conditions influencing the expression of ungulate capability. The capability of the land to support a given ungulate species is based on the long ten ability of that land to need the total needs of the species. In terms of food and cover requirements, the ratings are based on the optimum vegetational (successional) stage that can be maintained. Hanagement prescriptions are timited for prescribed burning or grazing; prescribed logging or slashing; or, protection from any land use practice that is detrimental to the wildlife species. Carrying capacity estimates are expressed as animals/square kilometer/year which can be supported on a sustained basis and are represented on the map by a capability class rating from 1 (highest) to 6 (lowest). Lach unit is assessed for its ability to sustain the assigned ungulate species during winter or summer (non-winter) periods. this capability classification reflects only the biological and physical parameters of the environment and form on take into account social and economic factors. Also, the classification does not reflect present land use (except where the inherent capability has been permanently altered), ownership, degree of access, current wildlife management practices, nor hunting pressure. or the purposes of this map, wildlife are considered to be wild, cloven-hooved, herbivores or wild ngulates of the Cervidae and Bovidae families.

2. Example of Map Symbol CAPABILTY RATING ----(see Boxes 4 & 5) Note : An asterisk (\*) following a capability rating indicates a rutting area.

This example would be interpreted as follows: A floodplain unit of moderate winter snow accumulation which is a very high capability winter range for moose (also a rutting area), a moderate capability winter range for elk and a low capability summer range for mule deer and white-tailed deer.

3. Ungulate Species Symbols

 $\hspace{-0.1cm} \text{CLASS 1} \hspace{0.1cm} \hspace{0.1cm} \text{Lands in this class have very high capability to support the assigned ungulate species.} \hspace{0.1cm} \hspace{0.1c$ required, this class may be subdivided on the basis of productivity into classes la, lb and lc. CLASS  $2^{\circ}$  . Lands in this class have high capability to support the assigned ungulate species. CLASS 3 Lands in this class have moderate capability to support the assigned ungulate species. CLASS 4 Lands in this class have low capability to support the assigned ungulate species.

CLASS 5 Lands in this class have very low capability to support the assigned ungulate species.

CLASS 6 Lands in this class have no or virtually no capability to support ungulates.

5. Biophysical Ungulate Capability Class Carrying Capacity Estimates

6. Environmental Conditions The most significant environmental conditions influencing the production of the species and thus determining the capability class, are indicated on the map by symbols. The environmental conditions affect the ability of the land to meet the needs of the species in terms of food, cover and other requirements. For onvenience, the environmental condition symbols are placed in three main categories: those relating to climate (such as snowfall or temperature), those relating to the inherent characteristics of the land (such as landforms, soils or vegetation potential), and those relating to permanent anthropogenic (man made) changes to the land base.

a - RAIN SHADOW - unit in which more xeric tolerant plants become established due to climatic factors than occurs in adjacent areas h - HIGH SHOW - unit in which snow accumulation is greater than approximately one meter SI - LOW SHOW - unit in which snow accumulation is less than approximately one half meter in depth m - MODERATE SMOW - unit in which snow accumulation is approximately one half to one meter in depth Sp - SMOWFIELDS AND GLACIERS - unit of permanent ice or snow

s - INTERSIFIED SCLAR RADIATION - unit in which snow accumulation is significantly reduced through expos to solar radiation on southerly as: Sw - MINOSWEPT SNOW - unit in which snow accumulation is considerably reduced by wind erosion Ta - ALPINE ARIDITY - unit at high elevations that is subject to aridity in summer from extreme evapotranspiration and wind action To - COLD AIR LAYER - extreme and persistent freezing temperatures below temperature inversions

If - FROST POCKETS - unit that is subject to increased occurance of freezing temperatures relative to the

surrounding terrain
Th - HIGH MEAT - unit that is subject to high heat causing extreme evapotranspiration No - WARM AIR LAYER - relatively warm air, occuring over temperature inversions We - EXPOSURE - unit that is greatly exposed to local winds throughout the year

IN THE PROPERTY OF THE PROPERT u - URBAN DEVELOPMENT - unit that has permanent urban development

SOILS AND LANDFORMS a - ALPINE TUNDRA SOILS - unit of virtually treeless high elevation mountains or plateaus - ALKALINE SOILS - unit of strongly alkaline soil d - OPEN FOREST SOILS - unit where an open forest or a transition forest/grassland becomes established

f - UPLAND FOREST SOILS - unit where dense conifer forests become established - GRASSLAND SOILS - unit where a grassland becomes established h - MOIST SOIL - area of moist mineral soil

k - KRUMHOLZ FOREST SOILS - unit that has an interrupted forest cover of stunted subalpine tree species

- DEEP LACUSTRIME DEPOSITS - unit that is dominated by soils developed from deep, inactive lacustrine - SUBALPINE MEADOW - unit where a subalpine meadow becomes established - CREANIC SOILS - unit with poor drainage that is dominanted by organic soils r - DEDROCK - unit that is dominated by bedrock s - SALINE SOILS - unit of strongly saline soil

- AVALANCIE TRACTS - unit that has avalanche chutes

- STHIP SLOPES - unit with slopes greater than 25°

t - TIPML INCOMPLET - unit that is flooded frequently by tidal activity w - UNILES SLOPES - unit of extensive slope wavesent

- TALUS - unit that is dominated by talus - DEEP FLUVIAL CLPOSITS - unit that is dominated by well to rapidly drained soils developed from deep. - DRY SORL - unit that is dominated by well to rapidly drained soils of coarse textured oprainal or

- SOIL FROSION - unit that has crosion or potential crosion ranging from sheet crosion through to minor

- ACTIVE FLORDPLANE - unit of flat land bordering a river and subject to periodic flooding - FRESH MATER INCOMPATION - unit that is subject to long periods of natural flooding resulting in mar I - UTVEL LAND - unit that is flat with slopes less than 2° r - ROLLING OR HILLY LAND - unit with couplex slopes of between 5 and 30° in a generally low relief area

7. On-Site Symbols : Identifies the location of known mineral licks Identifies important known or suspected seasonal movement corridors.

8. References For a more detailed description of the classification system the reader should refer to the guidelines which outline the Biophysical capability classification for ungulates in British Columbia. These guidelines are available from the Terrestrial Studies Branch, Ministry of Environment, Marliament Buildings, Victoria, British Columbia.

9. Credits Mapped by: A. Stewart Date and scale of photography: 1974 - 1:70000 and 1966 - 1:50000

Date of base mapping by: Surficial Geology 1981/82 Soils 1981/82, Vegetation 1981/82 Date drafted: 1983 Revision dates: Drafted by Cartography Unit, Terrestrial Studies Branch, Ministry of Environment, Victoria, B.C. Base map provided by : Surveys and Mapping Branch, Ministry of Environment, Victoria, B.C.

