BIOPHYSICAL CLASSIFICATION FOR WILDLIFE CAPABILITY

This map represents a biophysical 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 based on landforms, surficial materials, soils, climate and vegetation that are considered to form "ecologically significant" units of land. For wildlife, biophysical 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 meeds of wildlife - food and cover. These attributes are assessed using terrain and soils as mapped by other services in the Terrestrial Studies Branch. Areas of land judged to have differences significant to ungulate management are designated as map units. Subsequent steps in the assign of capability values are the assessment of a number 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 term ability of that Land to meet 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. Management prescriptions are limited to: 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.

Inis capability classification reflects only the biological and physical parameters of the environment and does not take into account social and economic factors. Also, the classification does no

2. Example of Map Symbol

CAPABILTY RATING (see Boxes 4 & 5)

UNGULATE SPECIES (see Box 3)

ENVIRONMENTAL CONDITIONS (see Box 6)

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

3. Ungulate Species Symbols

B...Black-tailed Deer E...Elk M...Mule Deer W...White-taile

4. Capability Classes

CLASS 1 Lands in this class have very high capability to support the assigned ungulate species. When required, this class may be subdivided on the basis of productivity into classes la, lb and lc.

CLASS 2 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.

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 convenience, 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

convenience, the environmental contention symbols are placed in the call main categories. This content of the land (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.

CLIMATE

Pa - RAIN SHADOW - unit in which more xeric tolerant plants become established due to climatic factors than occurs in adjacent areas

Sh - HIGH SHOW - unit in which snow accumulation is greater than approximately one meter

SI - LOW SIOW - unit in which snow accumulation is less than approximately one half meter in depth
Sm - HODERATE SHOW - unit in which snow accumulation is approximately one half to one meter in depth
Sp - SHOWFIELDS AND GLACIERS - unit of permanent ice or snow
Ss - INTERSIFIED SOLAR RADIATION - unit in which snow accumulation is significantly reduced through exposure
to solar radiation on southerly aspects
Sw - WHIDSWEPT SHOW - 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
Tc - COLD AIR LAYER - extreme and persistent freezing temperatures below temperature inversions
Tf - FROST POCKETS - unit that is subject to increased occurance of freezing temperatures relative to the
surrounding terrain
Th - HIGH HEAT - unit that is subject to high heat causing extreme evapotranspiration

TW - MARM AIR LAYER - relatively warm air, occuring over temperature inversions

We - EXPOSURE - unit that is greatly exposed to local winds throughout the year

ANTHROPOGENIC

IIh - RESERVOIR DRÂW-DOWN ZONE - the area between full pool and low pool in reservoirs

Hi - INDUSTRIAL ECVELOPMENT - unit of industrial development such as mills, mines, tailings or spoil areas

Hr - TRANSPORTATION CORRIDORS - unit that has a significant proportion of transportation development such as

roads or railroads

IN - URBAN DEVELOPMENT - unit that has permanent urban development

SOILS AND LANDFORMS

Ea - ALPINE TUNDRA SOILS - unit of virtually treeless high elevation mountains or plateaus

Eb - ALKALINE SOILS - unit of strongly alkaline soil

I'd - OPEN FOREST SOILS - unit where an open forest or a transition forest/grassland becomes established

Ef - UPLAND FOREST SOILS - unit where dense conifer forests become established

Eg - GRASSLAND SOILS - unit where a grassland becomes established

Eh - MOIST SOIL - area of moist mineral soil

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

El - DEEP LACUSTRINE DEPOSITS - unit that is dominated by soils developed from deep, inactive lacustrine deposits

Em - SUBALPHIE NEADOW - unit where a subalpine meadow becomes established

Eo - ORGANIC SOILS - unit with poor drainage that is dominanted by organic soils

Er - ECENOCK - unit that is dominated by bedrock

Es - SALINE SOILS - unit of strongly saline soil

- TALUS - unit that is dominated by talus

Eu - DEEP FLUVIAL DEPOSITS - unit that is dominated by well to rapidly drained soils developed from deep, inactive fluvial deposits

Ex - DRY SOIL - unit that is dominated by well to rapidly drained soils of coarse textured morainal or colluvial materials

La - AVALMICIE TRACTS - unit that has avalanche chutes

Le - SOIL EROSION - unit that has erosion or potential erosion ranging from sheet erosion through to minor guileying

Lf - ACTIVE TRACTIONALII - unit of flat land bordering a river and subject to periodic flooding

Li - FRESH MATER INDUDATION - unit that is subject to long periods of natural flooding resulting in marshy vegetation

LI - LEVEL LAND - unit that is flat with slopes less than 2°

tr - ROLLING OR BILLY LAND - unit with complex slopes of between 5 and 30° in a generally low relief area Ls - STEEP SLOPES - unit with slopes greater than 25° LL - TIDAL EMERICATION - unit that is flooded frequently by tidal activity by - FAILING SLOPES - unit of extensive slope movement

: Identifies the location of known mineral licks

B. 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, Parliament Buildings, Victoria British Columbia.

9. Credits

Mapped by: A.Stewort
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