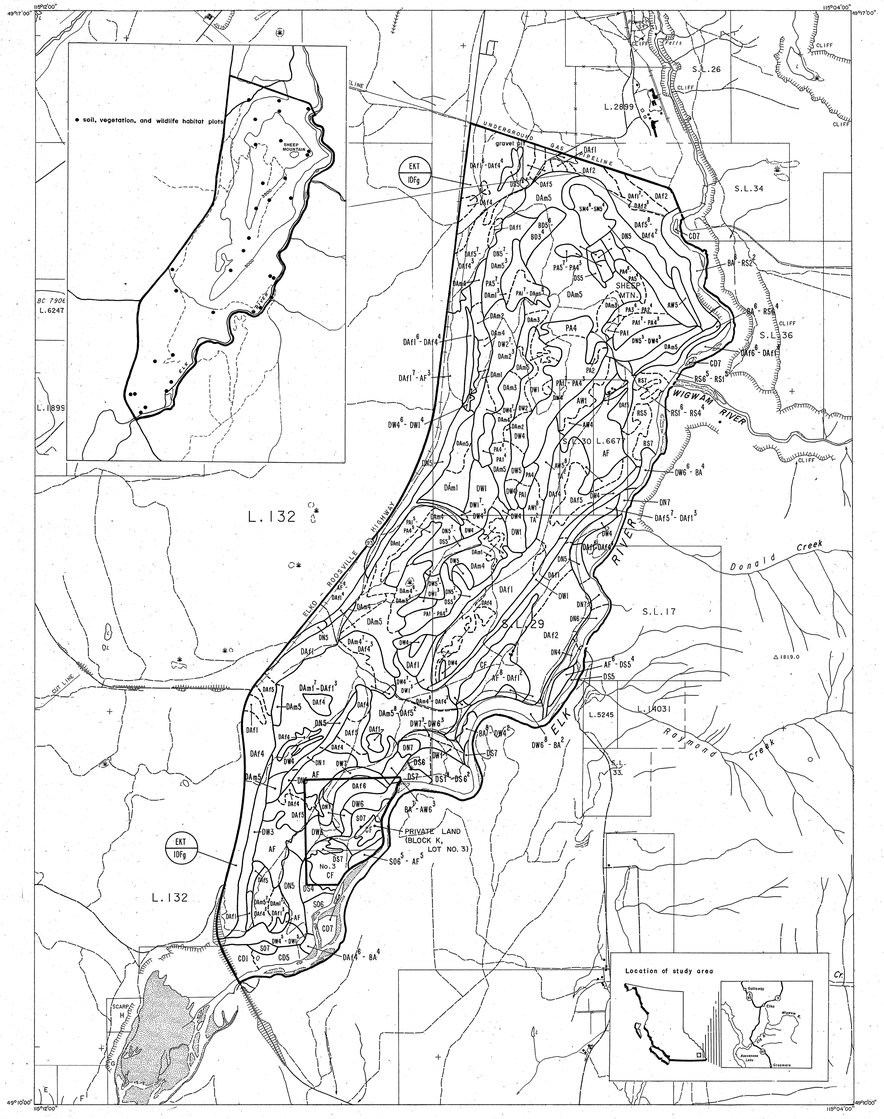
SHEEP MOUNTAIN
1986, 82G .015, .025

SHEEP MOUNTAIN WILDLIFE AREA



Base Map compiled from parts of B.C.G.S. Maps 82G/015, 82G/025

Scale 1:20 000

82G/015
82G/025

HABITAT UNITS FOR THE SHEEP MOUNTAIN WILDLIFE AREA

1. Explanatory Notes

The Sheep Mountain Wildlife Area is located in the Southern Rocky Mountain Trench of the East Kootenay region of British Columbia. The area is characterized by a mosaic of grassland, shrubland, and forest habitats. The Sheep Mountain area was intensively burned in 1921 and the resulting habitats have given way to a mosaic of successional stages. The Sheep Mountain area was intensively burned in 1921 and the resulting habitats have given to be dominated by ponderosa pine and Douglas-fir/pinegrass pine forests. Significant numbers of Rocky Mountain elk, white-tailed deer and mule deer winter in this area. Key private lands in the study area are the Elko Ranch and the Wigwam River valley.

The study area covers approximately 2,000 hectares and includes a variety of habitats and an ecological framework for maintaining or enhancing available habitat and wildlife for a variety of ungulate species. The information presented here also provides a framework for assessing habitat use by other wildlife species.

Management objectives and further information concerning the Sheep Mountain Area are described by Phillips (1987). Detailed descriptions of the Habitat Units and management interpretations and recommendations are described by Lea et al. (1990).

This map depicts Ecoregions, Biogeoclimatic Subzones and Biophysical Habitat Units.

Ecoregions are large, regional-sized areas influenced by a particular macroclimatic process or interacting processes over a large physiographic unit which result in the presence of certain plant communities and wildlife populations (Demarchi et al., 1990).

Biogeoclimatic Subzones are areas characterized by a distinct climatic climax or zonal ecosystem association. A subzone consists of unique sequences of geographically related ecosystems influenced by one type of regional climate. These are mapped and described for the area by Uhrig et al (1993).

Biophysical Habitat Units are ecological units that are relatively homogeneous with respect to soils, surficial materials, topography, climate, successional trends of vegetation and animal use.

The units are mapped at a scale of 1:20,000 for parts of National Topographic Series (NTS) mapsheets 82G/5 and 6/15. Terrains, Soils, Vegetation and Wildlife have previously been described for the East Kootenay area, respectively, by Ryder (1991), Lavalle (1993), Lea (1990), and Demarchi (1990).

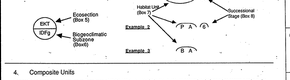
2. Map Boundaries

——— Biophysical Habitat Units

– – – – – – Successional Stages

3. Examples of Map Symbols

a) Ecoregion and Biogeoclimatic Subzone



b) Biophysical Habitat Units

4. Composite Units

Composite units are used where two or three types of Habitat Units are so distributed, that they cannot be designated as separate units at the scale of mapping. Superscript numbers show the relative percentages, in tens, of each habitat unit.

5. Ecoregion Classification

Map Symbol	Ecoregion	Ecosection	Description
EKT	Southern Rocky Mountain Trench	East Kootenay Trench (EKT)	This Ecoregion includes the southern portion of the Rocky Mountain Trench. The Ecosection is a narrow, low elevation, dry and warm valley oriented to the Columbia Mountains. Arctic outbreaks are common in the winter.
			This Ecosection is the southern most zone and is influenced to a lesser degree by maritime air than the rest of the Ecoregion. This Ecosection has three distinct elevational belts from low to high elevation including the Ponderosa Pine, Interior Douglas-fir and Montane Spruce Biogeoclimatic zones.

6. Biogeoclimatic Zones and Subzones

Map Symbol	Ecoregion	Ecosection	Description
EKT IDF	Interior Douglas-fir (IDF)	Dry Cordilleran Interior Douglas-fir (IDFdg)	This subzone is characterized by having climatic climax towers of Douglas-fir. Successional stages of Douglas-fir are dominant in most ecosystems. Within the study area seral forests are dominated by open stands of Douglas-fir and ponderosa pine, with one lodgepole pine stand. Shrubs are dominated by snowberry, saskatoon, Douglas maple, snowbrush, kinnikinnick and Oregon grape species. The Douglas-fir/pinegrass/snowberry site series is the most common site series. Biogeoclimatic number within the Study area is the Dry Cordilleran Interior Douglas-fir Subzone (Uhrig et al (1993)).
EKT IDFg			

7. Biophysical Habitat Units

Habitat Unit Symbol (Name)	Physical Description	Vegetation: Successional Trends: Dominants	Successional Trends: Associates	Climatic Forces: Moisture (≥20% cover)	Climatic Forces: Temperature (≥20% cover)	Comments
AF (Abandoned field)	cleared and abandoned farm, usually on rich, with land to 60 degrees slope; soils evolve toward brown wooded, overlying Kootenay Lake silts, level areas	grass-forb cover Canada bluegrass timothy Kentucky bluegrass	orange arrow hawk weed dogtooth violet wild rose	Canada bluegrass	pinegrass Douglas-fir bluegrass Woolly Mullein wheatgrass	drought time this unit will revert to xeric Douglas-fir or ponderosa pine forest; Rudimal Site
AW (Antelope brush - wheatgrass steep talus) AW01	steep, west or south facing slopes of shales, rarely sandstones, usually include sparsely vegetated areas of rock outcrop and talus	shrub-grass cover of antelope-brush bluebunch wheatgrass pinegrass	Rocky Mountain juniper Douglas-fir wheatgrass	bluebunch wheatgrass	antelope-brush blaby fescue Douglas maple pasture sage	slow rate of succession on these droughty sites; some areas of this unit will revert to pinegrass - species composition
AWD AW03		young open forests of Douglas-fir antelope-brush bluebunch wheatgrass	Douglas-fir Rocky Mountain juniper Douglas maple blaby fescue pasture sage	Douglas-fir	antelope-brush bluebunch wheat grass	
AWM AW05		mature open to closed forests of Douglas-fir bluebunch wheatgrass	ponderosa pine Rocky Mountain juniper saskatoon	Douglas-fir	bluebunch wheatgrass cliche cherry Douglas maple	
AWP AW07		old-growth, open to closed forests of Douglas-fir ponderosa pine bluebunch wheatgrass	ponderosa pine Rocky Mountain juniper saskatoon	Douglas-fir	bluebunch wheatgrass cliche cherry saskatoon rough fescue	
BA (Barren)	very steep lacustrine bluffs, often capped with rock, with upper bluffs and underlain by rock outcrops	sparsely vegetated	nil	nil	nil	
BC (Paper birch - red-osier dogwood - black hawthorn) BC01	gently sloping bench of lacustrine material; lacustrine mesic, strongly calcareous, moist soil	dense shrub cover of paper birch red-osier dogwood black hawthorn wild sarsaparilla	black cottonwood Douglas maple Douglas-fir snowberry aspen sedge	paper birch red-osier dogwood	black cottonwood yellow Douglas maple snowberry	rich site, good forage production in early successional stages; fire trigger to prevent and may require protection
BD1		strong, dense mature closed forest of paper birch red-osier dogwood hawthorn wild sarsaparilla	white spruce black cottonwood yellow Douglas-fir Douglas maple rose snowberry aspen sedge	red-osier dogwood	paper birch willow Douglas maple shrub snowberry	
BD4		mature closed forest of white spruce black cottonwood red-osier dogwood snowberry hawthorn wild sarsaparilla	paper birch Douglas-fir Douglas maple rose aspen sedge	red-osier dogwood	snowberry Douglas maple roses	
BD7		old growth closed forest of white spruce red-osier dogwood snowberry	Douglas-fir paper birch Douglas maple aspen sedge	red-osier dogwood	snowberry Douglas maple roses	
CC (Black cottonwood - red-osier dogwood - snowberry) CC01	floodplain areas subject to flooding and deposition of fluvial silts and sands	dense shrub cover of black cottonwood red-osier dogwood hawthorn Kentucky blue grass	willows Douglas maple Canada bluegrass Kentucky blue grass	black cottonwood red-osier dogwood	rose hawthorn chokecherry	good forage production in early successional stages; fire trigger to prevent and may require protection
CC5		strong, block - located forest of black cottonwood red-osier dogwood roses snowberry bluegrass	willow spirea snowberry hawthorn Canada bluegrass blue clematis American vetch	red-osier dogwood	rose hawthorn chokecherry	
CC6		mature forest of black cottonwood spirea red-osier dogwood roses snowberry Kentucky bluegrass	Southern Canada bluegrass blue clematis American vetch	red-osier dogwood	rose hawthorn chokecherry	
CC7		old growth forests of black cottonwood spirea red-osier dogwood roses snowberry Kentucky bluegrass	hawthorn Douglas maple bluegrass blue clematis American vetch	red-osier dogwood	rose hawthorn chokecherry	

7. Biophysical Habitat Units

Habitat Unit Symbol (Name)	Physical Description	Vegetation: Successional Trends: Dominants	Successional Trends: Associates	Climatic Forces: Moisture (≥20% cover)	Climatic Forces: Temperature (≥20% cover)	Comments
CF (Cultivated fields)	level areas with sand to silt soils; usually seeded (wild brome) - alfalfa; cultivated crops such as potatoes, ploughed and with a turbus rich topsoil	cultivated crop	nil	nil	nil	
CW (Douglas-fir - antelope-brush - Kentucky bluegrass) CW1	gently to gently inclined areas of terraces or benches; soils are fluvial seasonally cropping of fluvial or lacustrine material; materials mixed - glaciofluvial	shrub-grassland of antelope-brush bluebunch wheatgrass Kentucky bluegrass lodgepole pine	saskatoon rose snowberry snowberries rough fescue Kentucky bluegrass pinegrass	Douglas-fir antelope-brush blaby fescue	saskatoon rose bluebunch snowberries rough fescue Kentucky bluegrass Hood's phlox	
CW2 CW2		closed forests of Douglas-fir pinegrass	ponderosa pine black cottonwood birch-leaved spirea aspen	Douglas-fir	snowberry saskatoon rose rough fescue bluebunch wheatgrass	
CW3 CW7		shrub-grassland of antelope-brush bluebunch wheatgrass - pinegrass	saskatoon rose snowberry rough fescue bluebunch wheatgrass	antelope-brush blaby fescue bluebunch wheatgrass	saskatoon rose snowberry rough fescue bluebunch wheatgrass	
Ebm (Douglas-fir - snowberry - rose) EBM1	steep, warmer or northern facing slopes of glaciofluvial or fluvial or eolian material	shrub-dominated cover of bluebunch snowberry Douglas maple rose wheatgrass pinegrass	saskatoon rose snowberry snowberries rough fescue blaby fescue cliche cherry	mallow cinquefoil	snowberry Douglas maple saskatoon rose stem-orange bluebunch wheatgrass cliche cherry Oregon-grape	
EBM2 EBM2		young closed forests of Douglas-fir mallow cinquefoil bluebunch wheatgrass pinegrass	Douglas-fir lodgepole pine birch-leaved spirea aspen	Douglas-fir bluebunch	snowberry Douglas maple rose stem-orange cliche cherry Oregon-grape	
EBM EBM3		mature closed forests of Douglas-fir mallow cinquefoil bluebunch wheatgrass pinegrass	Douglas-fir lodgepole pine birch-leaved spirea aspen	Douglas-fir mallow cinquefoil	snowberry Douglas maple rose stem-orange cliche cherry Oregon-grape	
EBM7 EBM7		old growth closed forests of Douglas-fir mallow cinquefoil bluebunch wheatgrass pinegrass	Douglas-fir birch-leaved spirea aspen	Douglas-fir mallow cinquefoil	snowberry Douglas maple rose Oregon-grape	
EBS (Douglas-fir - snowberry - saskatoon - aspen) EBS1	steep, gently sloping, lower slope areas of various materials;	shrub-grass forb cover of snowberry saskatoon Douglas maple sheep sorrel heart-leaved arnica	saskatoon rose snowberry creeping juniper creeping bluegrass	snowberry	trembling aspen saskatoon mallow cinquefoil snowberry amethyst bluegrass antelope-brush Douglas-fir	rapid rate of succession.
EBS3 EBS3		young, closed forests of Douglas-fir snowberry saskatoon sheep sorrel heart-leaved arnica	trembling aspen lodgepole pine birch-leaved spirea aspen creeping juniper	Douglas-fir snowberry	saskatoon mallow cinquefoil snowberry Oregon-grape rose cliche cherry stem-orange Douglas maple	
EBS4 EBS4		mature closed forests of Douglas-fir snowberry saskatoon sheep sorrel heart-leaved arnica	birch-leaved spirea aspen creeping juniper	Douglas-fir snowberry	Douglas-fir snowberry Oregon-grape rose Douglas maple	
EBS7 EBS7		old growth closed forests of Douglas-fir snowberry saskatoon sheep sorrel heart-leaved arnica	trembling aspen lodgepole pine birch-leaved spirea aspen creeping juniper	Douglas-fir snowberry	saskatoon mallow cinquefoil snowberry Oregon-grape rose cliche cherry stem-orange Douglas maple	
CW (Douglas-fir - bluebunch wheatgrass - Kentucky bluegrass - southern aspen) CW1	steep, southeast to west facing slopes; soils are shallow residual, fluvial or eolium materials; droughty sites	shrub-grassland of antelope-brush saskatoon snowberry creeping juniper pinegrass	rose snowberries lodgepole pine trembling aspen	bluebunch wheatgrass Douglas-fir	saskatoon snowberry antelope-brush Douglas maple pasture sage	high solar radiation, rapid snowmelt, low soil moisture; dense forests may occur in early stages; fire trigger to prevent succession; Douglas maple may occur on cooler sites; slow rate of succession
CW2 CW2		young, open forests of Douglas-fir bluebunch wheatgrass	ponderosa pine Rocky Mountain juniper saskatoon snowberry pasture sage	bluebunch wheatgrass Douglas-fir	antelope-brush cliche cherry snowberry Douglas maple pasture sage	
CW6 CW6		closed forests of Douglas-fir bluebunch wheatgrass	ponderosa pine Rocky Mountain juniper black-leaved spirea snowberry pasture sage	bluebunch wheatgrass Douglas-fir	cliche cherry saskatoon snowberry rose	
CW7 CW7		old growth open to closed forests of Douglas-fir bluebunch wheatgrass	ponderosa pine Rocky Mountain juniper black-leaved spirea snowberry pasture sage	bluebunch wheatgrass Douglas-fir	cliche cherry saskatoon snowberry rose	
FA (Douglas-fir - ponderosa pine - shallow-soil) FA1	gently sloping areas with soils shallower than 1m developed from residual or colluvial materials; usually organic areas; droughty sites	shrub-grassland of antelope-brush bluebunch wheatgrass blaby fescue pinegrass Kentucky bluegrass	saskatoon snowberry bluebunch parsnipsnow strawberry	antelope-brush bluebunch wheatgrass	saskatoon snowberry cliche cherry rose cinquefoil	slow rate of succession; antelope-brush may remained for long time; fire may be required to succession occurs after fires; Douglas-fir/antelope-brush more resilient to canopy cover than age of stand
FA2 FA4 FA6		open forests of ponderosa pine Douglas-fir antelope-brush bluebunch wheatgrass pinegrass	saskatoon snowberries lodgepole pine blaby fescue rough fescue Kentucky bluegrass arrow-leaved balsamroot	antelope-brush bluebunch wheatgrass Douglas-fir	saskatoon snowberries lodgepole pine cinquefoil balsam	
FA3 FA5 FA7		closed forests of Douglas-fir ponderosa pine pinegrass	ponderosa pine black-leaved spirea saskatoon snowberries rough fescue bluebunch wheatgrass	Douglas-fir	snowberries saskatoon rose cinquefoil rough fescue bluebunch wheatgrass	

7. Biophysical Habitat Units

Habitat Unit Symbol (Name)	Physical Description	Vegetation: Successional Trends: Dominants	Successional Trends: Associates	Climatic Forces: Moisture (≥20% cover)	Climatic Forces: Temperature (≥20% cover)	Comments
FD (Fescue - Kentucky bluegrass - pasture sage) FD1	usually steep, western facing slopes; soils are residual lacustrine material	shrub-grassland of bluebunch wheatgrass Douglas-fir juniper Kentucky bluegrass pasture sage	saskatoon snowberry rose rough fescue bluebunch	creeping juniper Douglas-fir	antelope-brush Douglas maple Hood's phlox	droughty sites in early stages while forested stages exhibit high moisture; soils are subject to erosion and may be prone to mass wasting (slow down); may be lack of bare soil in early successional stages have been observed in later stages
FD2 FD2		young open to closed forests of Douglas-fir bluebunch wheatgrass rabbit-brush	Rocky Mountain juniper Douglas-fir rabbit-brush	Douglas-fir	mallow cinquefoil saskatoon rose bluebunch wheatgrass Oregon-grape Hood's phlox	
FD4 FD4		mature closed forests of Douglas-fir bluebunch wheatgrass pinegrass	Rocky Mountain juniper Douglas-fir Kentucky bluegrass spirea bluebunch wheatgrass	Douglas-fir	mallow cinquefoil Douglas maple	
FD6 FD7		old growth, closed forests of Douglas-fir mallow cinquefoil pinegrass	Rocky Mountain juniper Douglas-fir spirea bluebunch wheatgrass	Douglas-fir	mallow cinquefoil saskatoon Oregon-grape Douglas maple stem bluebunch wheatgrass Hood's phlox	
FM (Douglas-fir - Douglas maple - mid aspect) DM1	moderate to steep, northern and eastern facing slopes of various materials developed from residual or morainal material	shrub-dominated cover of bluebunch Douglas maple snowberry saskatoon pinegrass	choke cherry rose antelope-brush Douglas-fir Oregon-grape bluebunch spirea pentstemon kinnikinnik wheatgrass	Douglas maple snowberry saskatoon rose stem-orange bluebunch wheatgrass Hood's phlox		abundant shrub cover in early stages
DM2 DM2		young, open to closed forests of Douglas-fir bluebunch wheatgrass mallow cinquefoil pinegrass	snowberry saskatoon Douglas maple Oregon-grape birch-leaved spirea	Douglas-fir	Douglas maple snowberry saskatoon rose choke cherry Oregon-grape kinnikinnik	
DM5 DM5		mature closed forests of Douglas-fir bluebunch wheatgrass mallow cinquefoil pinegrass	snowberry saskatoon Douglas maple birch-leaved spirea	Douglas-fir	Douglas maple snowberry saskatoon rose Oregon-grape kinnikinnik	
SO (Spiraea - Douglas maple - Oregon grape fern - lanceolat) SO1	line terraces along the Wigwam River; soils are alluvial material, subject to until an drainage	shrub-herb cover of spirea Oregon-grape creeping spiraea creeping juniper	willow black cottonwood rose western hawksbeard cascade aster	Oregon-grape	willow snowberry rose trembling aspen	species understory in later stages; may have dense spirea cover
SO2 SO2		young closed forests of spirea Douglas maple Oregon-grape choke cherry wild sarsaparilla	trembling aspen Douglas-fir snowberry bluebunch wheatgrass snowberry creeping juniper blue stream bluegrass pearly everlasting meadowrue	Oregon-grape	Douglas-fir snowberry rose choke cherry	
SO4 SO5		mature closed forests of spirea Douglas maple Oregon-grape wild sarsaparilla	Douglas-fir snowberry rose choke cherry blue stream western hawksbeard snowberry pearly everlasting	nil	Douglas-fir snowberry Oregon-grape rose choke cherry	
SO6 SO7		old growth closed forests of spirea Douglas maple Oregon-grape choke cherry wild sarsaparilla	Douglas-fir snowberry rose choke cherry blue stream western hawksbeard snowberry pearly everlasting	nil	Douglas-fir Oregon-grape snowberry rose choke cherry	
TA (Talus)	talus slopes; rubbly substrate	sparsely vegetated	nil	nil	nil	

8. Successional Stages

1. Recent disturbance.
2. Young (less than 40 years), moderate forest canopy (25 to 60% cover).
3. Young (less than 40 years), dense forest canopy (greater than 60% cover).
4. Mature (40 - 100 years), moderate forest canopy (25 to 60% cover).
5. Mature (40 - 100 years), dense forest canopy (greater than 60% cover).
6. Old growth (greater than 120 years), moderate forest canopy (25 to 60% cover).
7. Old growth (greater than 120 years), dense forest canopy (greater than 60% cover).

9. Sources of Information

a) British Columbia Ministry of Forests
1. Forest cover maps - S.C.D.S.: 82G.015, 025

b) British Columbia Ministry of Environment, Wildlife Branch
1. Habitat Survey - soil, vegetation, ungulate habitat (1989) - 32 plots

c) British Columbia Ministry of Environment, Surveys and Resource Mapping Branch
1. 1:15,000 aerial photographs (1979)

10. Correlation to Ministry of Forests Ecosystem Units

Present Study Map Symbol	Present Study Name	BC Ministry of Forests (Uhrig et al. 1993) Symbol	BC Ministry of Forests (Uhrig et al. 1993) Name
AF	Abandoned field		none
AW	Antelope-brush - bluebunch wheatgrass steep talus	IDFdg/02	Antelope-brush - kinnikinnick
BA	Barren		none
BD	Paper birch - red-osier dogwood floodplain	IDFdg/05	Red-osier dogwood - horsetail
CC	Black cottonwood - red-osier dogwood floodplain	IDFdg/05	Red-osier dogwood - horsetail
CF	Cultivated fields		none
CW	Douglas-fir - antelope-brush bluebunch	IDFdg/01	Birch-leaved spirea - pinegrass
Ebm	Douglas-fir - antelope-brush moderate	IDFdg/01	Birch-leaved spirea - pinegrass
EBS	Douglas-fir - antelope-brush steep, warm aspect	IDFdg/03	Douglas maple - Oregon grape
CW	Douglas-fir - bluebunch wheatgrass steep southern aspect	IDFdg/03	Snowberry - kentucky bluegrass
FA	Douglas-fir - ponderosa pine - antelope-brush shallow-soil	IDFdg/02	Antelope-brush - kinnikinnick
FD	Fescue - Kentucky bluegrass - pasture sage	IDFdg/02	Birch-leaved spirea - pinegrass
SO	Spiraea - Douglas maple - Oregon grape fern lanceolate	IDFdg/04	Snowberry - kentucky bluegrass
TA	Talus slopes		none

11. References

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Ryder, J.M. 1991. Biophysical Resources of the East Kootenay area: Terrain. APD Bulletin 7. British Columbia Ministry of Environment, Terrestrial Studies Branch, Victoria, B.C. 152pp.

Uhrig, G., D. MacDonald, G. Gill, M. Ketcheson, T. Braumandl and A. Warner. 1993. Ecological classification for the Nelson Forest Region. Third Approximation. B.C. Ministry of Forests, Research Section, Nelson, B.C. 81pp.

12. Credits

Mapped by: L.E.H. Lavalle (TerraWorSalp) and E.C. Lea (Vegetation). Wildlife Branch, B.C. Ministry of Environment.
Drafted by: Cartography Unit, Surveys and Resource Mapping Branch, British Columbia Ministry of Environment, Victoria, B.C.
Date drafted: 1993
Word processing by: Dauna Walker and Carla Cooper, Wildlife Branch, Ministry of Environment, Victoria, B.C.
Base map provided by: Surveys and Resource Mapping Branch, B.C. Ministry of Environment, Victoria, B.C.
S. Thomson assisted in collection of vegetation data.