

## **DATABASE EXPLANATORY NOTES**

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### **ECOSECTION: OKANAGAN RANGES**

#### **DATA BASE RATING SYSTEM FOR ATTRIBUTES:**

- 1 Attribute well represented in quality, extent and viability
- 2 Attribute generally represented but lacking in some aspect(s) of quality, extent and viability
- 3 Attribute occurs but lacks significantly in one or more aspects of quality, extent and viability
- 4 Attribute not found
- ? Unknown; requires research and inventory
- ! Needs verification
- \* See Comments for more information or clarification

#### **GENERAL CHARACTERISTICS**

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**\*see sources list for references for the following entries.**

#### **DISTINCTIVE FEATURES:**

- DpRivVall Deep valley: ranges deeply dissected by Similkameen and Ashnola rivers
- AllFldpl River floodplain: Similkameen River with riparian forests
- LgGrslld Large grasslands: extensive low-elevation grasslands
- AlpMead Subalpine and alpine meadows - some of provincial significance
- WdlfDiv Diverse ungulate population; diverse habitats (grasslands, forests, alpine)
- HighEILk High elevation lakes
- SerPeak Serrated peaks with cirque basins carved by mountain glaciers
- RndSums Rounded summits from glacial erosion
- RockBlfs Rock bluffs: bare rock; some vegetation in seepage sites. Includes many interesting rock formations: columnar basalts, quartz monzonite formations
- Climate Dry mountain climate
- TransSett Transportation and Settlement: historic and present: associated with native exploration and settlement, cattle ranching, fruit industry, mining
- Recn Outstanding backcountry recreation

#### **GEOLOGY:**

- Bath Batholiths (intrusive) rocks of the following formations:
  - 1. Kruger Syenite (Mesozoic): biotite hornblende granodiorite with a marginal zone of megacrystic, mesocratic coarse grained hornblende syenite
  - 2. Oliver Pluton (Cretaceous and/or Jurassic): massive garnet-muscovite granite
  - 3. Verde Creek, Cathedral Lake and Summer Creek Plutons (Middle and Late Cretaceous): granite
- Meta Metamorphic rocks of the following
  - 1. Kobau Groups (Carboniferous): undivided amphibolite, greenschist, quartzite, mica schist, greenstone with minor marble.
- Volc Volcanics of the following formations

1. Independence Formation (Paleozoic to Mesozoic): massive greenstone; volcanic breccia with greenstone fragments; includes lens of undifferentiated limestone
2. Kitley Lake Formation (Eocene): trachyte to trachyandesite, plagioclase and biotite glomerophenocrysts
3. Marama Formation (Eocene): trachyandesite with minor intercalated pyroclastic deposits; dacite with subhedral plagioclase hornblende and biotite phenocrysts.
4. Shoemaker Formation (Ordovician to Upper Triassic): silicified volcanic rocks including cherty tuff and breccia
5. Old Tom formation (Ordovician to Upper Triassic): massive andesitic greenstone and greenstone breccia.
6. Princeton Group (Eocene): intermediate flows featuring characteristic hornblende needles, local mafic and felsic flows, volcanoclastics
7. Nicola Group (Late Triassic): mafic augite and hornblende porphyry pyroclastics and flows.

Sed Sedimentary rocks of the following groups and formations:

1. Nicola Group (Late Triassic): argillite sandstone, conglomerate.
2. Barslow Formation (Carboniferous): thin bedded, brown, silty slate and argillaceous siltstone

VolcSed 1. Spences Bridge Groups volcanics and sedimentaries (Middle and Late Cretaceous): locally felsic and mafic volcanics, sandstone, shale, conglomerate  
 2. Pasayten Groups (Early Late Cretaceous): arkose, conglomerate, argillite and minor red beds and tuff

### **GENERAL PHYSIOGRAPHY AND LANDFORMS:**

**\* From Roemer, H. 1994. *Surficial Materials and associated Landforms: Comparative table and recommended terms to choose from.* See Sources list for other references.**

|           |   |
|-----------|---|
| DpRivVall | Deep river valleys: deepened valleys cut by Similkameen and Ashnola rivers            |
| IntrusBed | Intrusive bedrock: resistant bedrock responsible for the general shape of landforms   |
| VolcBed   | Volcanic bedrock: resistant bedrock responsible for the general shape of landforms    |
| MetaBed   | Metamorphic bedrock: resistant bedrock responsible for the general shape of landforms |
| TillMant  | Till mantle: deep till over bedrock   |
| TillVen   | Till veneer: shallow till over bedrock  |
| AllFldpl  | Alluvial floodplain: recent floodplain of the Similkameen River                       |
| Talus     | Talus slopes  |
| RockBlfs  | Rock bluffs: bare rock; some vegetation in seepage sites                              |
| SerPeak   | Serrated peaks with cirque basins carved by mountain glaciers                         |
| RndSum    | Rounded summits from glacial erosion  |

## **CLIMATE CHARACTERISTICS:**

|               |   |
|---------------|---|
| HtDryS-CIDryW | Hot, dry summers - cool, dry winters of grasslands along the Similkameen River                  |
| ClDryS-CdDryW | Cool, dry summers - cold, dry winters in the higher elevation forests, the subalpine and alpine |
| RnShad        | Rainshadow: in the lee of the Coast Mountains   |

## **HYDROLOGICAL CHARACTERISTICS:**

|             |  |
|-------------|--|
| LgRiv       | Large rivers: Similkameen River and floodplain; Ashnola River              |
| SmRiv-Strms | Smaller rivers and streams drain into the valleys and flow into the rivers |
| Wtld        | Wetlands (small) associated with the lakes, creeks and rivers              |
| SmLk        | Small lakes: small lakes occur across the upland                           |

## **SOILS:**

|         |   |
|---------|---|
| EutBrun | Eutric brunisol: Found in the grasslands and the ponderosa pine forests to the east.        |
| DysBrun | Dystric brunisol: Located in mid-elevation forests.   |
| HumPod  | Humo-Ferric Podzol: Located at higher elevations in the southern portion of the ecosection. |

## **VEGETATION CHARACTERISTICS**

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**\* Information derived from an application of *A Guide to Site Identification and Interpretation for the Kamloops Forest Region*. See Sources list for more references.**

- (A) - >5%; only found in ecosection
- (B) - <5%; only found in ecosection
- (C) - >5%; common in other ecosections
- (D) - <5%; common in other ecosections

## **B.G.C. SUBZONES AND VARIANTS:**

|            |  |
|------------|--|
| (A)AT-Excp | Alpine Tundra - ESSF parkland                          |
| (C)BGxh1   | Okanagan Very Dry Hot Bunchgrass Variant               |
| (C)PPxh1   | Okanagan Very Dry Hot Ponderosa Pine Variant           |
| (C)IDFxb1  | Okanagan Very Dry Hot Interior Douglas-fir Variant     |
| (C)IDFdk1  | Thompson Dry Cool Interior D-fir Variant               |
| (C)MSxk    | Very Dry Cool Montane Spruce Subzone                   |
| (C)MSdm2   | Thompson Dry Mild Montane Spruce Variant               |
| (C)ESSFxc  | Very Dry Cold Engelmann Spruce - Subalpine Fir Variant |

## **OLD GROWTH SPECIES:**

|        |   |
|--------|---|
| BGxh1  | big sagebrush and bluebunch wheatgrass.                                   |
| PPxh1  | open stands of ponderosa pine with minor amounts of interior Douglas-fir. |
| IDFxb1 | open forests of interior Douglas-fir and ponderosa pine.                  |
| IDFdk1 | climax stands of Douglas-fir  |
| MSxk   | subalpine fir and hybrid spruce are the climax trees                      |
| MSdm2  | subalpine fir and hybrid white spruce are the climax tree                 |
| ESSFxc | climax stands of Engelmann spruce and subalpine fir                       |

## **DIVERSITY OF PLANT ASSOCIATIONS:**

- BGxh1** zonal sites characterized by big sagebrush and bluebunch wheatgrass with minor Sandberg's bluegrass. Dry sites characterized by an open shrub layer of antelopebrush, rabbit brush and sometimes big sagebrush. Wet sites characterized by ponderosa pine, black cottonwood and trembling aspen with an understory of Nootka rose and red-osier dogwood. Blue-elderberry and mock orange are found on seepage sites.
- PPxh1** zonal sites have open stands of ponderosa pine with minor interior Douglas-fir. Bluebunch wheatgrass is the dominant herb with lesser amounts of arrow-leaved balsamroot, Idaho fescue and timber milk-vetch. Dry sites characterized by an open ponderosa pine forest and a herb layer dominated by red three-awn grass. Exposed mineral soil is common. Found on steep rocky south-facing slopes. Wet sites characterized by young climax stands of interior Douglas-fir with lesser amounts of ponderosa pine or aspen. Snowberry, Nootka rose, tall Oregon-grape and pinegrass in understory.
- IDFxh1** zonal sites with open forests of interior Douglas-fir and ponderosa pine. Sparse shrub layer of birch-leaved spirea. Pinegrass dominates the understory and sparse cover of lawn moss. Dry sites characterized by very open stands of interior Douglas-fir and ponderosa pine with a sparse understory of shrubby penstemon, saskatoon, birch-leaved spirea, snowbrush and bluebunch wheatgrass. Wet sites characterized by interior Douglas-fir and an understory of Douglas maple, common snowberry, red-osier dogwood and black gooseberry. On wetter sites, willows and a dense herb cover of sedges, buttercups, bluejoint and tufted clubbrush are present.
- IDFdk1** zonal sites of mature climax Douglas-fir with lodgepole pine as the seral species. The understory consists of a high cover of pine grass with birch-leaved spirea, soopalallie, twinflower and kinnikinnick. On dry sites Douglas-fir forms open stands with an understory of common snowberry and bunchgrass. Wet sites are characterized by open stands of hybrid white spruce and an understory of black gooseberry, red-osier dogwood and common horsetail. No ponderosa pine, western larch or redcedar are found in this variant and no false box or prince's pine occur in the understory.
- MSxk** open stands of lodgepole pine are found on zonal sites with hybrid white spruce and subalpine fir regenerating. There is a well-developed herb layer dominated by pinegrass and grouseberry. On dry sites, open, mature stands of lodgepole pine and Douglas-fir occur with an understory dominated by common juniper, pinegrass and kinnickinnick. On wet sites a dense cover of hybrid white spruce, subalpine fir and lodgepole pine is found with grouseberry, twinflower, heart-leaved arnica and black gooseberry. No white-flowered rhododendron or Sitka valerian occurs in this subzone.
- MSdm2** zonal sites are composed of mixed stands of lodgepole pine, subalpine fir and hybrid white spruce. Moss dominated the understory with falsebox, black huckleberry and grouseberry. On dry sites lodgepole pine dominates with regenerating subalpine fir and Douglas-fir. Pinegrass and falsebox make up the understory. Wet sites are composed of subalpine fir and hybrid white spruce with scattered Douglas-fir and lodgepole pine and an understory dominated by black

gooseberry. On even wetter sites, grouseberry, common horsetail and glow moss are prevalent. No trappers tea, white-flowered rhododendron, Sitka valerian or western larch are found in this variant

ESSFxc Zonal sites consist of open stands of subalpine fir and Engelmann spruce with lodgepole pine. Black huckleberry, grouseberry, five-leaved bramble, Sitka valerian and mountain arnica are in the understory. Dry sites are dominated by lodgepole pine with a sparse understory of common juniper, grouseberry and pinegrass. Bluebunch wheatgrass, western pasqueflower and lichens may occur on exposed southern ridges. On wet site Engelmann spruce and subalpine fir occur with Sitka valerian, globeflower and black gooseberry. On even wetter sites common horsetail, glow moss and *Mnium nudum* can be found. White-flowered rhododendron occurs on steep, north slopes and depressions.

#### **DIVERSITY OF SUCCESSIONAL STAGES:**

**\* Information about successional stages is not available in any detail.**

BGxh1 succession stages with a low vigor and cover of bluebunch wheatgrass due primarily to overgrazing; climax grassland community  
PPxh1 succession stages of open grasslands with young pine; climax ponderosa pine forest  
IDFhx1 succession stages of open grasslands with young trees; mature ponderosa pine forest; climax Douglas-fir forest  
IDFdk1 lodgepole pine is the seral species; climax stands of Douglas-fir  
MSxk lodgepole pine and Douglas-fir are the seral species; subalpine fir and hybrid spruce are the climax trees  
MSdm2 seral stands of lodgepole pine; subalpine fir and hybrid white spruce are the climax tree  
ESSFxc lodgepole pine is the seral species; climax stands of Engelmann spruce and subalpine fir

#### **WETLANDS:**

RivRip River riparian: Forests along Similkameen, Ashnola rivers  
MarPthls Marshes and Potholes: small marshes along lake edges, small ponds and creeks, upland riparian

#### **ALPINE/SUBALPINE:**

Krummholz Krummholz formations at treeline  
Alp Heath Alpine heath of pink and white heathers  
HerbMead Herb meadows dominated by Arctic lupine, Indian paintbrush and Arnicas

#### **GRASSLANDS:**

BGxh1 big sagebrush and bluebunch wheatgrass.  
PPxh1 dry sites on less extreme slopes contain open grasslands dominated by bluebunch wheatgrass and big sagebrush.

#### **RARE OR ENDANGERED PLANTS:**

**\* From Conservation Data Centre Tracking Lists and Ecoregion lists (G1, G2, G3, S1, S2)**

Mt. Hood pussypaws/ Dark lamb's quarters/ Nuttall's draba/ Alpine buckwheat/  
Wyeth's lupine/ Cusick's locoweed/ Little fescue/ Hairy umbrellawort/ Dalles milk-  
vetch/ Narrow-leaved brickellia/ Obscure cryptantha/ Whited's halimolobos/  
W. stickseed/ Flat-topped broomrape/ Columbia goldenweed/ Blue vervain/  
Hairgrass dropseed/ Two-spiked moonwort/ Alpine buckwheat/ Edible valerian/

Nettle-leaved giant-hyssop/ Freckled milk-vetch/ Watson's cryptantha/ Strict buckwheat/  
N. linanthus/ Showy phlox/ Edible Valerian/ Fleabane (*Erigeron leibergii*)

**PLANTS OF SPECIAL INTEREST:**

**\* From Conservation Data Centre Tracking Lists (S3) and Ecoregion lists, Ecological Reserves Reports, staff knowledge**

Alpine larch/ Alpine specialists such as Moss Champion/

**The following S3 plants:**

Lance-fruited draba/ Brandegees lomatium/ Birdfoot buttercup/ Great basin  
nemophila/ Short-fruited smalowski/ Dry-land sedge/ Cusick's speedwell/  
Diverse-leaved cinquefoil/ Thick-leaved thelypody/ Smooth goldenrod/ Richardson's  
penstemon/ Pennsylvania pellitory/ Regal's rush/ Pink fairies/

Brandegees lomatium/ Alpine anemone/

**SPECIAL PLANT HABITATS:**

Big sage-bluebunch wheatgrass/ Ponderosa pine-sumac/ Ponderosa pine-Nootka rose-  
poison ivy/ Big sage-bluebunch wheatgrass-balsamroot/ Alpine/ Sub-alpine  
flower meadows/

**WILDLIFE CHARACTERISTICS**

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**\* Entries in this series were derived from staff knowledge and the latest information be ecoregion and tracking list from the Conservation Data Centre. See Sources list for other references.**

**LARGE CARNIVORES:**

Black bear/ Grizzly/ Cougar/ Badger/

**FURBEARERS:**

Muskrat/ Beaver/ Marten/ Mink/ Bobcat/ Long-tailed weasel/

**UNGULATES:**

Calif bh sheep/ Mtn. goats/ Mule deer/

**SMALL MAMMALS:**

Hoary marmots/ Yellow-bellied marmot/ American Pika/ Cascade mantled  
groundsq/ Porcupine/ N. pocket gopher/ Snowshoe hare/

**RAPTORS AND OWLS:**

Bald eagle/ Cooper's hawk/ Golden eagle/ Great horned owl/ N. saw-whet owl/  
N. Harrier/

**CAVITY NESTERS:**

3-toed woodpecker/ Hairy woodpecker/ Pileated woodpecker/ W. Bluebird/  
Mtn. chickadee/ Red-breasted nuthatch/

**WATERFOWL:**

Common loon/ Barrow's goldeneye/ Mallard/ Harlequin duck/

**SHORE BIRDS:**

Sandhill crane (staging)/ Spotted sandpiper/

**GROUND NESTING BIRDS:**

White-tailed ptarmigan/ Blue grouse/ Spruce grouse/

**PASSERINE BIRDS:**

The great elevation range has lead to a wide variety of species: Clark's nutcracker/  
Sagebrush Brewer's sparrow/ Winter wren/ Ruby-crowned kinglet/ Stellar's Jay/  
Hammond's flycatcher/ Dusky Flycatcher/ Gray jay/ Pine grosbeak/  
Horned lark/  
Sage thrasher/ White-crowned sparrow/ White-winged crossbill/ Red Crossbill/  
Fox sparrow/ Water pipit/

**REPTILES AND AMPHIBIANS:**

Painted turtle/ W. rattlesnake/ Racer/ Great basin gopher snake/

**FISH:**

Rainbow trout/ cutthroat trout/

**INSECTS AND ARACHNIDS:**

No information.

**RARE OR ENDANGERED WILDLIFE:**

**\* From Conservation Data Centre Tracking Lists and Ecoregion lists (G1, G2, G3, S1, S2)**

Prairie falcon/ Tiger salamander/ Yellow-breasted chat/ Sage thrasher/  
Sagebrush Brewer's sparrow/ Night snake/ Umatilla dace/

**WILDLIFE OF SPECIAL INTEREST:**

**\* From Conservation Data Centre Tracking Lists (S3) and Ecoregion lists, Ecological Reserves Reports, staff knowledge**

Mtn beaver/ Mtn. goat/ White-tailed ptarmigan/

**The following S3 animals:**

W. harvest mouse/ Flammulated owl/ Mountain sucker/ W. rattlesnake/  
Spotted bat/

**SPECIALIZED HABITATS:**

Staging areas/ Fish spawning(spp?)/ Alpine/ Rock bluffs with escape terrain/  
River riparian/ Grassland/

**RECREATION CHARACTERISTICS**

**\* see RPAT Ecoregion Description Report: Doug Levers: ??Title for descriptions of each of the following entries. See Sources list for other references.**

**RECREATION SETTINGS:**

**\*Derived from RPAT reports and forms**

- (A) highly valued setting, dominant in ecoregion
- (B) highly valued setting, not dominant in ecoregion
- (C) moderately valued setting
- (D) low valued setting

- (A)G Grasslands
- (A)SSA Steep Alpine/Subalpine
- (A)RSA Rolling Alpine/Subalpine
- (B)UL Upland Lakes
- (B)UMR Upland Meadow Riparian
- (B)RFP River and Floodplain
- (C)SVS Steep Valley Sides
- (C)FS Forested Slopes

## **RECREATION OPPORTUNITIES SPECTRUM:**

### **\* As applied by the Ministry of Forests**

|                      |  |
|----------------------|--|
| Primitive            | at least 8 km from a 4 wheel drive road and greater than 5000 hectares in size. Very high probability of experiencing solitude, closeness to nature, self-reliance and challenge; unmodified natural environment; little on-the ground evidence of people.   |
| Semi prim no motors  | Semi-primitive Non-motorized: at least 1 km from a 4 wheel drive road and greater than 1000 hectares in size. High probability of experiencing solitude, closeness to nature, self-reliance and challenge; natural or natural-appearing environment; some on-the ground evidence of other people, some on-site controls. Non-motorized access and travel on trails, cross-country and waterways.       |
| Semi prim motorized  | Semi-primitive Motorized: at least 1 km from a 2 wheel drive road and greater than 1000 hectares in size. Moderate opportunity for solitude, closeness to nature; a high degree of self-reliance and challenge; natural or natural-appearing environment; some on-the ground evidence of other people, some on-site controls. Motorized access on trails, primitive roads and cross-country may occur. |
| Roaded resource land | Often within 1 km of a 2 wheel drive road with a gravel or dirt surface. Opportunities for both private and social interaction; feelings of independence and freedom. Natural environment may be substantially modified. On-the-ground evidence of other people, some on-site controls; access and travel is by motorized vehicle.   |
| Rural                | No remoteness criteria, no size criteria. Opportunities for social interaction and convenient facilities. Natural environment is culturally modified e.g. pastoral farmlands and utility corridors   |

## **PRESENT RECREATION OPPORTUNITIES:**

### **\* Using the broad recreation goals of BC Parks**

- (A) a primary goal within the ecosection
  - (B) a secondary goal within the ecosection
  - (C) a minor goal within the ecosection
  - (D) not a goal within the ecosection
- (A)Back country/ (B)Travel Corridor/ (B)Destination/ (A)Local Recreation/

## **POTENTIAL RECREATION OPPORTUNITIES:**

### **\* Using the broad recreation goals of BC Parks**

- (A)Back country/ (B)Travel Corridor/ (A)Destination/ (A)Local Recreation/

## **RECREATION, USE AND APPRECIATION:**

### **\* Derived from staff knowledge of ecosection**

- (A) a major attraction in ecosection
  - (B) a secondary attraction in ecosection
- (A)hiking/ (A)viewing/ (A)backcountry camping/ (B)mtn climbing/  
(A)hunting/ (A)wildlife viewing/ (A)nature study/ (B)horseback riding/  
(B)mountaineering/ (A)photography/ (B)ski touring/(A)fishing/ (A)canoeing/  
(A)cult her apprec/

## **CULTURAL THEMES:**

### **\* Derived from RPAT reports and forms**

|                            |   |
|----------------------------|---|
| <b>(H)ExplorNat</b>        | Exploration: Native population entry: Similkameen River Valley has been a travel corridor since last ice age  |
| <b>(H)SettNat</b>          | Settlement: Native: winter settlements, cemeteries, gravesites: Similkameen River corridor rich with village and sacred sites; upland sites in Cathedral Mtns were important for hunting. |
| <b>(H)SettPostCont</b>     | Settlement: Post Contact: townsites, ranching, fruit growing  |
| <b>(H)EcActMinPreConf</b>  | Economic Activity: Mining: Preconfederation   |
| <b>(H)EcActMinRec</b>      | Economic Activity: Mining: Recent   |
| <b>(H)EcActAgrEarPr</b>    | Agriculture: Early Provincial:  |
| <b>(H)EcActAgrWWI</b>      | Agriculture: World War I  |
| <b>(H)EcActAgrMod</b>      | Agriculture: Modern   |
| <b>(H)TransOverNat</b>     | Transportation and Communications: Overland: Native   |
| <b>(H)TransOverFT</b>      | Transportation and Communications: Overland: Fur Trade: Similkameen River Valley was traversed by fur-traders in 1817.  |
| <b>(H)TransOverCol</b>     | Transportation and Communications: Overland: Colonial: Similkameen River Valley was traversed by prospectors, cattle-drovers and settlers in the mid to late 1800's.                      |
| <b>(H)TransOver&gt;WWI</b> | Transportation and Communications: Overland: Post World War I   |
| <b>(M)ExplorFT</b>         | Exploration: Fur Trade: Fur-trade based explorations, discoveries, mapping; Pacific Fur Trade Co., Hudson Bay Co.   |
| <b>(M)EcActPreCont</b>     | Economic Activity-Pre Contact: minerals   |
| <b>(M)EcActFT</b>          | Economic Activity-Fur Trade   |
| <b>(M)TransOverEarPr</b>   | Transportation and Communications: Overland: Early Prov.  |
| <b>(M)TransRRBoom</b>      | Transportation and Communications: Railroad: Boom: the Great Northern Railway was extended through the area to Princeton in 1909.   |

## **P.A.'s SPECIAL FEATURES (Rare, Unique, Nationally or Provincially significant)**

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**LANDSCAPES:**

**VEGETATION:**

**WILDLIFE:**

**RECREATION:**

**CULTURAL:**

**OTHER:**

**RESEARCH VALUES:**

## EDUCATION & INTERPRETATION VALUES:

## COMMENTS

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## SOURCES

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