

DATABASE EXPLANATORY NOTES

ECOSECTION: NORTHERN OKANAGAN BASIN

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

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

DISTINCTIVE FEATURES:

- LgLk Large Lakes: Okanagan, Kalamalka, Wood, Ellison, Skaha
- WmDryCl Warm dry climate
- LgGrslld Large grasslands: extensive low-elevation grasslands of national significance
- WdlfDiv Wildlife diversity: many species and habitats of provincial significance
- Glaciolac Glaciolacustrine terrain including silt cliffs
- RockBlfs Rock bluffs: bare rock; some vegetation in seepage sites.
- TransSett Transportation and Settlement: historic and present: associated with native settlement, fur trade, gold rush, cattle ranching, fruit industry
- Recn Recreation: water play, boating

GEOLOGY:

- Bath Batholith (intrusive) rocks of the following formations:
 - Nelson Plutonic Rocks (middle Jurassic): hornblende-biotite granodiorite
 - Coryell Syenite (Eocene):alkalic to calc-alkalic syenite and quartz monozonite and trachytic pink feldspar porphyry dykes
 - Okanagan Batholith (Jurassic): fresh biotite granodiorite and granite
 - Valhalla-type (Mesozoic): granodiorite, granite
- MetaPlut Plutonic and metamorphic rocks in a complex
 - Okanagan Plutonic and Metamorphic Complex (Proterozoic?, Paleozoic?, Mesozoic?): dioritic gneiss; quartz-mica schist; granitic orthogneiss
- Meta Metamorphic rocks of the following formations:
 - Okanagan Gneiss (Eocene): hornblende-biotite, granodiorite orthogneiss
 - Silver Creek Formation (Pre-Cretaceous and Pre-Late Ordovician): siliceous, micaceous and garnetiferous schist
 - Tsalkom Formation (Mesozoic or Paleozoic) gray marble, diopsidic marble, greenstone, amphibolite and chloritic phyllite (also massive white limestone)

Volc	Volcanics of the following formations Kitley Lake Formation (Eocene): trachyte to trachyandesite, plagioclase and biotite glomerophenocrysts Marama Formation (Eocene): trachyandesite with minor intercalated pyroclastic deposits; dacite with subhedral plagioclase hornblende and biotite phenocrysts Yellow Lake Formation (Eocene): tabular flows of pyroxene-rich mafic phonolite White Lake Formation (Eocene): volcanic breccia and pyroclastic rocks Kamloops Group (Tertiary): andesite, basalt, dacite and trachyte flows and related breccia, tuff and agglomerate Mesozoic or Paleozoic andesitic and basaltic volcanic flows, tuff and agglomerate Trepanier Rhyolite (Eocene): flow banded rhyolite with subhedral quartz, hornblende and biotite phenocrysts in an aphanitic matrix
Sed	Sedimentary rocks Mesozoic or Paleozoic in age including: argillite, tuff and shale, massive siltstone, conglomerate phyllite Sicamous Formation (Mesozoic or Paleozoic): graphitic and phyllitic limestone

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.**

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
SedBed	Sedimentary bedrock
DpVall	DeepValley: glacial deepened valley with large lakes and the Okanagan River
AllFldpl	Alluvial floodplain: recent floodplain of the Okanagan River; Coldstream valley
Glaciofluv	Glaciofluvial outwash terrace; kettled outwash; glaciofluvial fans and deltas
AlluvDel	Alluvial fans, deltas and associated gullies and stream channels (recent)
Glaciolac	Glaciolacustrine terrain
TillMant	Till mantle: deep till over bedrock
TillVen	Till veneer: shallow till over bedrock
MeltwtrChan	Meltwater channel
Talus	Talus slopes
RockBlfs	Rock bluffs: bare rock; some vegetation in seepage sites
Sanddune	Sanddunes, beaches and spits

CLIMATE CHARACTERISTICS:

HtDryS-ClDryW	Hot, dry summers - cool, dry winters
RnShad	Rainshadow: in the lee of the Coast Mountains

HYDROLOGICAL CHARACTERISTICS:

LgLk	Large lakes: Okanagan, Kalamalka, Swan, Wood, Ellison lakes - large valley bottom lakes
SmRiv-Strms	Smaller rivers and streams drain the valley and flow into the lakes
SmLk	Smaller lakes and potholes occur in the valley bottom
Wtld	Wetlands associated with the lakes, creeks and ponds

SOILS:

DkBrChern	Dark brown chernozems: Located in the grassland or grassland-forest communities of the valley bottom between Winfield and Penticton.
EutBrun	Eutric brunisols: Located as the forested soils to the west of the valley.
GrLuv	Gray luvisol: Located in the valley bottom north of Winfield and as the forest soils to the north and east of Okanagan Lake.
BrChern	Brown chernozem: Located in grassland or grassland-forest communities. Located in the valley bottom south of Winfield.

VEGETATION CHARACTERISTICS

*** 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:

- (C)BGxh1 Okanagan Very Dry Hot Bunchgrass Variant
- (C)PPxh1 Okanagan Very Dry Hot Ponderosa Pine Variant
- (C)IDFxh1 Okanagan Very Dry Hot Interior Douglas-fir Variant

OLD GROWTH SPECIES:

- BGxh1 big sagebrush and bluebunch wheatgrass.
- PPxh1 open stands of ponderosa pine with minor amounts of interior Douglas-fir.
- IDFxh1 open forests of interior Douglas-fir and ponderosa pine.

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 antelope-brush, 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 or 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.

IDFxb1 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 clubrush are present.

DIVERSITY OF SUCCESSIONAL STAGES:

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

BGxb1 succession stages with a low vigor and cover of bluebunch wheatgrass due primarily to overgrazing; climax grassland community
 PPxb1 succession stages of open grasslands with young pine; climax ponderosa pine forest
 IDFxb1 succession stages of open grasslands with young trees; mature ponderosa pine forest; climax Douglas-fir forest

WETLANDS:

SalPds Saline ponds: highly alkaline ponds that dry out in summer
 LshMead Lush meadows
 MstGull Moist Gully
 MarPthls Marshes and potholes: small marshes along lake edges/small potholes (presence of bulrushes and cattails)
 LkRip Lake riparian: riparian zones associated with the valley bottom lakes (alder, cottonwood, aspen, water birch, paper birch, willows)

ALPINE/SUBALPINE:

Absent from Ecosection

GRASSLANDS:

BGxb1 big sagebrush and bluebunch wheatgrass.
 PPxb1 dry sites on less extreme slopes contain open grasslands dominated by bluebunch wheatgrass and big sagebrush.
 IDFxb1a Okanagan Very Dry Hot Interior D-fir Variant, Grassland Phase: located between Vernon and Lumby in the Coldstream valley and on the east side of Okanagan lake from north of Kelowna to Wood Lake. Idaho fescue and bluebunch wheatgrass.

RARE OR ENDANGERED PLANTS:

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

Peach-leaf willow/	Orange touch-me-not/	Engelmann's knotweed/	Blue vervain/
Giant helleborine/	Chamomile moonwort/	Crested wood fern/	Ellisia/
Awne cyperus/	Hairy water-clover/	Long-leaved mugwort/	N. blue violet/
Dalles milk-vetch/	Obscure cryptantha/	Prairie gentian/	Dotted smartweed/
Flat-topped broomrape/	Tall Jacob's ladder/	Columbia goldenweed/	False
pimpernel/	Red-rooted cyperus/	Slender hawksbeard/	Hairstem groundsmoke/

PLANTS OF SPECIAL INTEREST:

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

Okanogan fameflower/ Brittle prickly pear cactus/ Bitterroot/ Mock orange/
Mariposa lily/

The following S3 plants: Threadstalk milk-vetch/ Spotted touch-me-not/W. burnet/
Pale evening-primrose/ Richardson's penstemon/
Common twinpod/ Rice cutgrass/ Three-flowered waterwort/ Pennsylvania pellitory/
Many-headed sedge/ Tufted feabane/

SPECIAL PLANT HABITATS:

D-fir/ponderosa pine/idaho fescue/ Big sage/bluebunch wheatgrass/balsamroot/
D-fir-ponderosa pine-pinegrass-Idaho fescue/ Saline ponds/

WILDLIFE CHARACTERISTICS

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

LARGE CARNIVORES:

Black bear/ Coyote/ Badger/

FURBEARERS:

Muskrat/ Beaver/ Western long-tailed weasel/

UNGULATES:

Mule deer/ White-tailed deer/ California bh sheep/

SMALL MAMMALS:

N. pocket gopher/ Yellow-bellied marmot/ Columbian g.squirrel/ Porcupine/
W. harvest mouse/ Heather vole/ Long-tailed vole/ Fringed myotis/
Yuma myotis/

RAPTORS AND OWLS:

Long-eared owl/ Golden eagle/ American kestrel/ Osprey/

CAVITY NESTERS:

Lewis' woodpecker/ Pygmy nuthatch/ White-headed woodpecker/ W. bluebird/
Mtn. bluebird/

WATERFOWL:

High diversity of ducks, geese, swans/

SHORE BIRDS:

Long billed curlew/ Killdeer/ Wilson's phalarope/

GROUND NESTING BIRDS:

Common poorwill/ Common nighthawk/ Blue grouse/ W. meadowlark/
Vesper sparrow/ Lark sparrow/

PASSERINE BIRDS:

High diversity of species/ Species not represented elsewhere in B.C.: Western kingbird/
Yellow-breasted chat/ Brewer's sparrow/ Canyon wren/ Say's phoebe/

REPTILES AND AMPHIBIANS:

Painted turtle/ Rattlesnake/ W. yellow-bellied racer/ Tiger salamander/
Great basin spadefoot toad/ Great basin gopher snake/

FISH:

Kokanee/ Rainbow trout/ Chiselmouth/ Yellow perch/ sunfish/
Crappies/ Lg mouth bass/ Sm mouth bass/ Lake char/

INSECTS AND ARACHNIDS:

No information.

RARE OR ENDANGERED WILDLIFE:

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

Yellow-breasted chat/ Sagebrush Brewer's sparrow/ Tiger salamander/

White-headed woodpecker/ Nightsnake/

WILDLIFE OF SPECIAL INTEREST:

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

Great basin spadefoot toad/ Spotted bat/ White-throated swift/ Canyon wren/

Western grebe/ Black-chinned hummingbird/ W. harvest mouse/ Western rattlesnake/

Flammulated owl/ Rubber boa/ W. yellow-bellied racer/ Great basin gopher snake/

SPECIALIZED HABITATS:

Fish Spawning (K)/ Saline ponds/ Grassland/ River riparian/ Lake
riparian/ Waterfowl staging areas/ Winter range (U)/ Rock bluffs/

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)VBL Valley Bottom Lakes
- (B)G Grasslands
- (C)SVS Steep Valley Sides
- (C)RFP River and Floodplain
- (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
- (C)Back country/ (A)Travel Corridor/ (A)Destination/ (A)Local Recreation/

POTENTIAL RECREATION OPPORTUNITIES:

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

- (C)Back country/ (A)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)swimming/ (A)power boating/ (A)water skiing/ (A)sailing/ wind surfing/
 (A)fishing/ (A)camping/ (A)viewing/ (A)hiking/ (A)cycling/
 (A)nature study/ (A)cultural appreciation/ (A)auto touring/ (B)horseback riding/
 (A)canoeing/ (B)cross-country skiing/

CULTURAL HERITAGE CHARACTERISTICS

*** See RPAT Ecosection Description Report: Commonwealth: *title* for descriptions of each of the following entries. See Sources list for other references.**

CULTURAL THEMES:

*** Derived from RPAT reports and forms**

- (H)ExplorNat** Exploration: Native population entry
- (H)ExplorFT** Exploration: Fur Trade: Fur-trade based explorations, discoveries, mapping; Pacific Fur Trade Co., Hudson Bay Co.
- (H)SettNat** Settlement: Native: winter settlements, cemeteries, gravesites. The basin was an important ungulate-hunting and root-gathering area
- (H)SettPostCont** Settlement: Post Contact: townsites, ranching, fruit growing

(H)EcActAgrPreConf	Agriculture: Pre-confederation: Father Pandosy and colleagues established potential for agriculture.
(H)EcActAgrEarPr	Agriculture: Early Provincial: large-scale settlement began as fruit-growing potential of the valley became known. Irrigation systems developed.
(H)EcActAgrWWI	Agriculture: World War I
(H)EcActAgrMod	Agriculture: Modern
(H)TransIWNat	Transportation and Communications: Inland Waterway: Native
(H)TransIWC	Transportation and Communications: Inland Waterway: Colonial
(H)TransIWPostRR	Transportation and Communications: Inland Waterway: Post Railroad
(H)TransOverFT	Transportation and Communications: Overland: Fur Trade. Portions of the Okanagan Brigade Trail are extant along the west shore of Okanagan Lake
(M)EcActPreCont	Economic Activity-Pre Contact: minerals
(M)EcActFT	Economic Activity-Fur Trade
(M)EcActMining	Economic Activity-Mining: Early Post Contact: use of surface minerals e.g. copper, ochre, gold; Fraser Cariboo gold rush
(M)TransIWFT	Transportation and Communications: Inland Waterway: Fur Trade
(M)TransOverNat	Transportation and Communications: Overland: Native
(M)TransOverCol	Transportation and Communications: Overland: Colonial. Includes gold seekers, cattle drives, missionary work of Father Pandosy
(M)TransOverEarPr	Transportation and Communications: Overland: Early Prov.
(M)TransOverWW1	Transportation and Communications: Overland: Post World War I
(M)TransRRBoom	Transportation and Communications: Railroad: Boom. Rail links constructed in 1892 between Sicamous and Okanagan Landing and 1920's between Kamloops and Kelowna.

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

LANDSCAPES:

VEGETATION:

WILDLIFE:

RECREATION:

CULTURAL:

OTHER:

RESEARCH VALUES:

EDUCATION & INTERPRETATION VALUES:

COMMENTS

SOURCES

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