DATABASE EXPLANATORY NOTES

ECOSECTION: NORTHERN OKANAGAN HIGHLAND

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 RPAT Ecosection Description Report: Bufo: *A Protected Areas Study of the Northern Okanagan Highland* for descriptions of each of the following entries. See Sources list for other references.**

DISTINCTIVE FEATURES:

LgWtld	Large wetlands and swamp complexes near Greystokes
HighElLk	High elevation lakes
RkOutcr	Rock outcrops, exposed bedrock, or with thin veneer of till
UpPlat	Upland plateau with extensive montane spruce forests
DpRivVall	Deep river valleys: glacially deepened valleys cut by Kettle, West Kettle and Shuswap rivers
RndSums	Rounded summits from glacial erosion

GEOLOGY:

MetaPlut	Metamorphic rocks of the Shuswap Complex and metamorphic and plutonic rocks of the Okanagan Complex both Proterozoic and Paleozoic in age
Bath	Batholith (intrusive) rocks of Jurassic-Cretaceous-aged biotite granodiorite and granite of the Okanagan Batholith and middle Jurassic hornblende-biotite granodiorite, quartz diorite and granite of the Nelson Plutonic Rocks
Volc	Volcanic: calderas of Eocene age and late Tertiary basalt and andesite flows

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: glacially deepened valleys cut by Kettle, West Kettle and Shuswap 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
RkOutcr	Rock outcrops: small rock bluffs
AllFldpl	Alluvial floodplain: recent floodplain of the Shuswap River
Glaciofluv	Glaciofluvial outwash terrace; kettled outwash
Talus	Talus slopes
RndSum	Rounded summits from glacial erosion
LgWtld	Large wetlands and swamp complexes

CLIMATE CHARACTERISTICS:

WmMDryS-CdMDryW	Cold, moderately dry winters - warm, moderately dry summers
Transtn	Transitional climate between the dry Okanagan and the much wetter Monashee Mtns

HYDROLOGICAL CHARACTERISTICS:

LgRiv	Large rivers: Kettle River cuts a wide valley along the eastern border of the ecosection, West Kettle River flows from Jubilee Mtn. south through the centre of the ecosection, Shuswap River occupies a wide valley to the northeast
LgWtld	Large wetlands and swamp complexes occur near Greystokes
SmLk	Many small and very small lakes occur across the upland. Includes Conkle Lake, Postill Lake, Hydraulic Lake, Idabel Lake, Haynes Lake, Oyama Lake, Grayback Lake, Aberdeen Lake, etc.
Wtld	Wetlands (small) associated with the lakes, creeks and ponds
SmRiv-Strms	Creeks of the western and northern portions of the ecosection drain into the Okanagan River system

SOILS:

GrLuv	Gray luvisol: Located over most of the western portion of the Highland.
EutBrun	Eutric brunisol: Located on the very southern portion of the Highland.
DysBrun	Dystric brunisol: Located along the Kettle River valley and across the southern portion of the Highland.

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:

(A)IDFdm1	Kettle Dry Mild Interior Douglas-fir Variant
(A)MSdm1	Okanagan Dry Mild Montane Spruce Variant
(A)ESSFdc1	Okanagan Dry Cold Engelmann Spruce - Subalpine Fir Variant
(C)IDF mw1	Shuswap Moist Warm Interior Douglas-fir Variant
(C)ICHmk1	Kootenay Moist Cool Interior Cedar - Hemlock Variant
(C)ESSFxc	Very Dry Cold Engelmann Spruce - Subalpine Fir Variant

OLD GROWTH SPECIES:

IDFdm1	Douglas-fir is the climax tree species.
MSdm1	Climax hybrid white spruce and subalpine fir
ESSFdc1	Engelmann spruce and subalpine fir
IDFmw1	Douglas-fir and western redcedar
ICHmk1	Hybrid white spruce, western redcedar and subalpine fir are the climax species
ESSFxc	Climax stands of Engelmann spruce and subalpine fir.

DIVERSITY OF PLANT ASSOCIATIONS:

IDFdm1	On zonal sites Douglas-fir is the climax tree species with seral stages dominated by lodgepole pine and western larch. The understory consists of herbs, birch-leaved spirea, soopalallie and pinegrass with a poorly developed moss layer. Dry sites feature open stands of ponderosa pine and Douglas-fir. Bluebunch wheatgrass dominates the understory. Wet sites have hybrid white spruce with an understory of red-osier dogwood, thimbleberry, black gooseberry, bunchberry and on wetter sites common horsetail and oak fern. No western redcedar is found in this variant.
MSdm1	Zonal sites dominated by seral lodgepole pine, climax hybrid white spruce and subalpine fir. The understory is dominated by red-stemmed feathermoss with falsebox, black huckleberry, bunchberry twinflower and grouseberry. Dry sites consist of lodgepole pine and a dense herb layer of pinegrass, grouseberry and kinnikinnick. On even drier south-facing slopes Douglas-fir is the climax species. Wet sites consist of mixed mature seral stands of lodgepole pine, hybrid white spruce and subalpine fir and a sparse understory of black gooseberry and bunchberry. Common horsetails and sedges occur on even wetter sites. No white-flowered rhododendron or Sitka valerian occurs in this subzone and western larch and trapper's tea can be found on azonal sites.
ESSFdc1	Zonal sites consist of lodgepole pine, Engelmann spruce and subalpine fir with white-flowered rhododendron and grouseberry in the understory. Dry sites consist of seral stands of lodgepole pine with varying amounts of Engelmann spruce and subalpine fir. Black huckleberry, pinegrass and grouseberry dominate the understory. Wet sites include mixed stands of lodgepole pine, Engelmann spruce and subalpine fir with grouseberry, Sitka valerian, five-leaved bramble and trappers tea.
IDFmw1	mature seral stands of lodgepole pine, western larch and paper birch occur with climax stands of Douglas-fir and western redcedar on zonal sites. A diverse understory includes birch-leaved spirea, falsebox and Douglas maple, twinflower, prince's pine and feathermoss. Open stands of Douglas-fir dominate dry sites and ponderosa pine may be found on south-facing slopes. Saskatoon, falsebox, birch-leaved spirea, common snowberry, bluebunch wheatgrass and pinegrass are found in the understory. Wet sites consist of dense stands of Douglas-fir, lodgepole pine, western larch and western redcedar. The open shrub layer includes red-osier dogwood, common snowberry, thimbleberry and black gooseberry. Devil's club occurs on the wettest sites.
ICHmk1	Mixed stands of lodgepole pine, Douglas-fir, western larch, hybrid white spruce and subalpine fir. The understory consists of falsebox, black huckleberry, Utah honeysuckle, Sitka alder, pinegrass, twinflower, queen's cup and bunchberry. On

dry site, Douglas-fir, lodgepole pine and western larch form open forests with and understory of pinegrass, kinnikinnick and falsebox. On Wet sites hybrid white spruce, subalpine fir and western redcedar dominate with an understory of common horsetail, lady fern and oak fern. No western hemlock occurs 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.**

IDFdm1 western larch and lodgepole pine are the seral species; Douglas-fir is the climax tree species

MSdm1 lodgepole pine is the dominant seral species with occasional western larch; climax hybrid white spruce and subalpine fir

ESSFdc1 seral stands of lodgepole pine; Engelmann spruce and subalpine fir are the climax species

IDFmw1 seral stands of lodgepole pine, western larch and paper birch; climax stands of Douglas-fir and western redcedar

ICHmk1 seral stands of lodgepole pine, Douglas-fir and western larch; hybrid white spruce, western redcedar and subalpine fir are the climax species

ESSFxc seral lodgepole pine; subalpine fir and Engelmann spruce are the climax species

WETLANDS:

SwpComp Swamp complex: Large wetlands between ESSF forest communities near Greystokes

RivRip River riparian: riparian zones along the Kettle, W. Kettle and Shuswap rivers

MarPthls Marshes and Potholes: small marshes along lake edges, small ponds and creeks

ALPINE/SUBALPINE:

ESSFxcp Very dry, cold subalpine parkland found on the higher peaks such as Mt. Moore, Jubilee Mtn

ESSFdcp Okanagan dry, cold subalpine parkland found on the higher peaks such as Mt. Baldy, Greyback Mtn

AT The only true alpine in the ecosection occurs on Big White Mtn.

GRASSLANDS:

Absent from Ecosection

RARE OR ENDANGERED PLANTS:

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

Flat-topped broomrape/ Porcupine grass/ Cup clover/ Bigleaf sedge/

PLANTS OF SPECIAL INTEREST:

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

Mountain lady's-slipper/

CDC S3:

Regel's rush/ Richardson's penstemon/ Pink fairies/ Great basin nemophila/ Fox sedge/

SPECIAL PLANT HABITATS:

Alpine/ Swpcomp/ River riparian/4

WILDLIFE CHARACTERISTICS

*** Entries in this series were derived from draft 1992 RPAT reports for each ecosection; supplemented with staff knowledge and the latest information by ecosection and tracking list from the Conservation Data Centre. See Sources list for other references.**

LARGE CARNIVORES:

Black bear/ Grizzly/ Cougar/ Coyote/ Lynx/

FURBEARERS:

Muskrat/ Beaver/ Fisher/ Marten/ River otter/ Wolverine/

UNGULATES:

Elk/ Calif bh sheep/ Mule deer/ White-tailed deer/ Mtn. goat/ Moose/

SMALL MAMMALS:

Hoary marmot/ Red squirrel/ N. flying squirrel/ Porcupine/ Heather vole/ American Pika/ Snowshoe hare/

RAPTORS AND OWLS:

Great horned owl/ N. pygmy owl/ N. saw-whet owl/ N. goshawk/

CAVITY NESTERS:

Red-naped sapsucker/ Red-breasted nuthatch/ Mtn. bluebird/ 3-toed woodpecker/

WATERFOWL:

Mallard/ Barrow's goldeneye/ Common loon/ Horned grebe/

SHORE BIRDS:

Spotted sandpiper/

GROUND NESTING BIRDS:

Blue grouse/ Spruce grouse/White-tailed Ptarmigan/ Townsend's solitaire/

PASSERINE BIRDS:

Clark's nutcracker/ Steller's jay/ Mtn chickadee/ Boreal chickadee/ Water pipit/ Gray jay/ Olive-sided flycatcher/ Pine grosbeak/ American dipper/ Golden-crowned kinglet/ Townsend's warbler/ Yellow-rumped warbler/

REPTILES AND AMPHIBIANS:

Western toad/ Western spotted frog/ N. alligator lizard/ Common gartersnake/

FISH:

Rainbow trout/ Mountain sucker/ Chiselmouth/

INSECTS AND ARACHNIDS:

No information

RARE OR ENDANGERED WILDLIFE:

*** From Conservation Data Centre Tracking Lists (G1, G2, G3, S1, S2) and Ecosection lists**
Speckled dace/
WILDLIFE OF SPECIAL INTEREST:
*** From Conservation Data Centre Tracking Lists (S3) and Ecosection lists, Ecological Reserves Reports, staff knowledge**
Grizzly bear/ Calif bh sheep/ Wolverine/ Woodland caribou (southern popn)/
CDC S3:
Williamson's sapsucker/ Bobolink/
SPECIALIZED HABITATS:
Alpine/ SwpComp/ Escape Terrain/

RECREATION CHARACTERISTICS

*** see RPAT Ecosection 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 ecosection
(B) highly valued setting, not dominant in ecosection
(C) moderately valued setting
(D) low valued setting

(A)RFP River and Floodplain
(A)UL Upland Lakes
(B)RSA Rolling Alpine/Subalpine
(B)UMR Upland Meadow Riparian
(C)FP Forested Plateau
(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)Backcountry/ (A)Local Recreation/ (C)Destination/ (B)Trav. Corridor/

POTENTIAL RECREATION OPPORTUNITIES:

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

(A)Backcountry/ (A)Local Recreation/ (C)Destination/ (B)Trav. Corridor/

RECREATION, USE AND APPRECIATION:

*** Derived from staff knowledge of ecosection**

(A) a major attraction in ecosection
(B) a secondary attraction in ecosection

(A)canoeing/ (A)fishing/ (B)camping/ (A)viewing/ (A)hiking/
(B)nature study/ (A)downhill skiing/ (A)hunting/ (B)ski touring/ (B)kayaking/
(B)horseback riding/ (B)mountain biking/ (A)snowmobiling/

CULTURAL THEMES:

*** Derived from RPAT reports and forms**

(H)EcActMiningEar	Economic Activity: Mining: Early Post Contact: use of surface minerals e.g. copper, ochre, gold; Fraser Cariboo gold rush: placer gold discoveries at Cherryville and Mission Creek areas in the 1860's
(H)EcActMiningBoom	Economic Activity: Mining: Boom: Silver-lead-zinc deposits were found in the West Kettle Valley in the 1890's
(H)EcActManufIrr	Economic Activity: Manufacturing: Irrigation: the western portion of the ecosection is a vital source of water for the irrigation of orchards on the lower benchlands.
(M)ExplorNat	Exploration: Native population entry
(M)SettNat	Settlement: Native: winter settlements, cemeteries, gravesites: sites along Kettle River especially near Bridesville
(M)EcActForNat	Economic Activity: Forestry: Native
(M)EcActMiningRec	Economic Activity: Mining: Recent
(L)SettPostCont	Settlement: Post Contact: townsites, ranching
(L)EcActPreCont	Economic Activity: Pre Contact: minerals
(L)EcActFishPreConf	Economic Activity: Fishing: Pre Confederation

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

LANDSCAPES:

VEGETATION:

WILDLIFE:

RECREATION:

CULTURAL:

OTHER:

RESEARCH VALUES:

EDUCATION & INTERPRETATION VALUES:

COMMENTS

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