TERRESTRIAL ECOSYSTEM MAPPING
OF THE BELLA VISTA – GOOSE LAKE RANGE

For portions of map sheets
082L.023, 082L.024, 082L.034
Scale 1:20,000
2003

Okanagan Indian Band

THE REAL ESTATE
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Introduction

This project provides detailed ecosystem mapping of the Bella Vista – Goose Lake Range in the IDFxh1 subzone along the north end of Okanagan Lake and west of the city of Vernon.

This detailed ecosystem mapping will provide baseline information for land use planning products such as a Sensitive Ecosystem map. Soil sensitivity maps were produced, and wildlife habitat maps were produced for the following species: Great Basin Spadefoot, Western Rattlesnake, Long-billed Curlew, Swainson's Hawk, Western Screech-Owl, Grasshopper Sparrow, Badger, Brewer's sparrow, Yellow-breasted Chat, and Gopher Snake.

Mapping used the provincially recognised methodology in *Standard for Terrestrial Ecosystem Mapping in British Columbia* (RIC 1998). Fieldwork was completed in July and August 2002 to survey intensity level 4.

Map Unit Boundaries

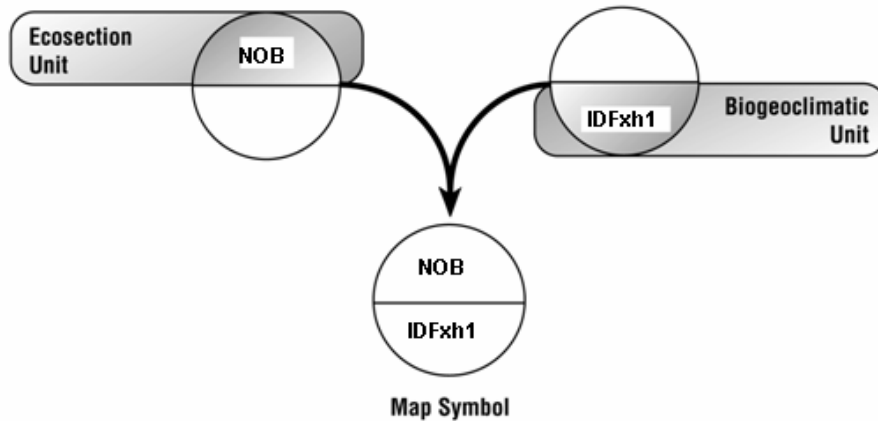|			
Ecosection Map Unit	———————	Study area boundary	———————
Biogeoclimatic Map Unit	———————	Plot location symbol	◆
Ecosystem Map Unit	———————		

Ecosection and Biogeoclimatic Unit Symbols

Ecosection:

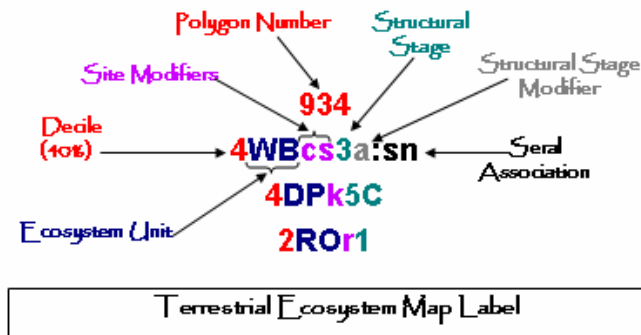**NOB**   **North Okanagan Basin**

Biogeoclimatic Units:

IDFxh1   **Very Dry Hot Interior Douglas-fir, Okanagan Variant**

Ecosystem Polygon Symbols

Terrestrial Ecosystem Map Label

Site Modifiers	
Code	**Criteria**
c	Coarse-textured soils
f	Fine-textured soil
g	Site occurs in a gully
j	Gentle to moderate slope (<25%)
k	Cool aspect (25% - 100% slope, 285° - 135°)
n	Fan (glaciofluvial, fluvial, or colluvial fans) or cone
p	Peaty material (15-60cm organic material over mineral soil)
q	Very steep cool aspect (>100% slope, 285° - 135°)
r	Ridged or ridge crest
s	Shallow soil (20 – 100cm to bedrock)
t	Terrace or fluvial benches
v	Very shallow soil (<20 cm. to bedrock)
w	Warm aspect (>25% slope, 135° - 285°)
z	Very steep warm aspect (>100% slope, 135° - 285°)

Structural Stages	
Code	**Structural stage**
1	Non-vegetated / sparsely vegetated
2	Herb
2a	Graminoid dominated
2b	Forb dominated
3	Shrub/Herb
3a	Low Shrub (less than 2m tall)
3b	Tall Shrub (between 2m and 10m tall)
4	Pole/Sapling; dense, single layered forests
5	Young Forest; more open than stage 4; may have a few mature trees
6	Mature Forest; dominated by mature trees with some scattered old trees
7	Old Forest (generally >250 years old); dominated by old trees; generally open forests

Ecosystem Units

IDFxh1 Interior Douglas-fir very dry hot subzone Okanagan variant

Map Code	Site Series	Ecosystem Unit Name	Assumed Modifiers	Typical Conditions
AB	00	Nuttall's alkaligrass – Foxtail barley graminoid meadow	d, f, j	This wet meadow ecosystem commonly occurs at the fringes of alkaline lakes and ponds with rich, deep, fine-textured soils.
AS	98	Trembling aspen – Snowberry – Kentucky bluegrass	d, j, m	This ecosystem commonly occurs in large, broad depressions with deep, medium-textured soils in grassland areas.
BM	00	Bulrush Marsh	d, f, j	This ecosystem commonly occurs as a fringe along the shoreline of small ponds, adjacent to shallow open water.
BN	96	Kentucky bluegrass – Stiff needlegrass	d, j, m	This grassland ecosystem is typically found on deep, medium-textured soils, in small swales and depressions where moisture collects.
BR	00	Baltic Rush Marsh-Meadow	d, f, j	This marsh-meadow occurs along the edges of ponds and shallow open water.
CD	00	Black cottonwood-Douglas-fir – Common Snowberry – Red-osier Dogwood Riparian	d, j, m	This forest ecosystem sometimes forms a fringe around ponds and lakes. Deep, medium-textured soils are typical.
CF	NA	Cultivated field		An open area that is subject to human agricultural practices.
CL	NA	Cliff		A steep, vertical or overhanging rock face.
CO	NA	Cultivated orchard		An agricultural area composed of fruit bearing tree species.
CS	00	Common Spikerush Marsh	d, f, j	A rare marsh that occurs at the edge of some ponds and shallow open water.
CT	00	Cattail Marsh	d, j, m	These marshes commonly occur as a fringe on ponds or in small depressions, often adjacent to shallow open water.
CW	00	Choke cherry – Bluebunch wheatgrass rocky bluff	j, v	This ecosystem commonly occurs on gently sloping, fractured bedrock bluffs with very shallow soils.
DP	01	FdPy – Pinegrass	d, j, m	This forest ecosystem is commonly associated with gently sloping sites, on deep, medium-textured soils.
DS	07	Douglas-fir-Ponderosa pine – Snowberry – Spirea	d, j, m	This forest ecosystem is commonly associated with moist, gently sloping sites on deep, medium-textured soils.
DW	03	Douglas-fir – Ponderosa pine – Bluebunch wheatgrass – Pinegrass	d, m, w	This forest ecosystem is common on moderate to steep warm aspects with deep, medium-textured soils.
ES	NA	Exposed soil		An area of exposed soil that is not included in any of the other definitions.
FW	91	Idaho fescue – Bluebunch wheatgrass	d, j, m	This grassland ecosystem commonly occurs on gentle slopes and level sites (some cool aspects) with deep, medium-textured soils.
LA	NA	Lake		A body of fresh water > 2m deep > 5ha.
OW	NA	Open water		Permanent shallow open water < 2m deep.
PB	02	Douglas-fir – Ponderosa pine – Bluebunch wheatgrass – Balsamroot	m, s, w	This forest ecosystem is typically associated with very shallow (v), soils on steep warm aspects.
PD	NA	Pond		Small body of water > 2m deep < 5ha.
RF	97	Prairie Rose – Idaho fescue	d, j, m	This shrubby ecosystem commonly occurs in moisture collecting depressions in grassland areas with deep, medium-textured soils.
RO	NA	Rock outcrop		A sparsely vegetated, bedrock escarpment or outcropping.
RW	NA	Rural		An area where the residences and other human developments are intermixed with forested and/or agricultural lands.
RZ	NA	Road surface		Gravel or paved roads.
SA	00	Antelope brush – Selaginella	j, m, s	This ecosystem commonly occurs on very shallow soil pockets (v) on steep, warm (w) aspects of rock outcrops.
SB	00	Selaginella – Bluebunch wheatgrass rock outcrop	j, v	This grassland ecosystem commonly occurs on gently sloping, unfractured bedrock outcrops with low relief and very shallow soils.
SD	08	Hybrid white Spruce – Douglas-fir – Douglas maple – Dogwood	d, j, m	This forest ecosystem is commonly associated with gullies that have intermittent or subsurface water flow. Deep, medium-textured soils are typical.
SM	00	Sedge Marsh	d, f, j	This wetland ecosystem occurs on the edges of open water.
SO	00	Saskatoon – Mock orange Talus	c, d	This ecosystem is associated with steep, blocky talus slopes.
SP	04	Douglas-fir – Ponderosa pine – Snowbrush – Pinegrass	d, j, m	This forest ecosystem is associated with gently sloping sites on shallow (s), medium-textured soils.
TA	NA	Talus		Angular rock fragments at the foot of steep rock slopes.
UR	NA	Urban/Suburban		An area with residences and other human developments.
WB	93	Bluebunch wheatgrass – Balsamroot	d, m, w	This grassland ecosystem commonly occurs on moderately steep to steep warm aspects with deep, medium-textured soils.

Seral Associations

Ecosystem Unit	Code	Name	Description
FW	kb	*Kentucky bluegrass*	Early seral sites dominated by Kentucky bluegrass.
	kc	*Knapweed - Cheatgrass*	Early and very early seral sites. There are few or no native bunchgrasses remaining on these sites.
	sb	*Big sagebrush – Kentucky bluegrass*	Early seral sites with a big sagebrush shrub layer and Kentucky bluegrass with Columbia needlegrass.
	sk	*Big sagebrush - Knapweed*	Early and very early seral sites with few or no native bunchgrasses remaining on these sites.
	sn	*Big sagebrush – Columbia needlegrass*	Mid-seral sites with a big sagebrush shrub layer and a grass cover of Columbia needlegrass and bluebunch wheatgrass.
	sw	*Big sagebrush – Bluebunch wheatgrass*	Mid- to late-seral sites dominated by big sagebrush, bluebunch wheatgrass and Idaho fescue.
	wf	*Bluebunch wheatgrass – Idaho fescue*	Mid- to late-seral sites dominated by bluebunch wheatgrass and Idaho fescue.
	wk	*Bluebunch wheatgrass – Knapweed*	Mid- to late-seral sites dominated by bluebunch wheatgrass but also with some knapweed or cheatgrass.
SB	cg	*Cheatgrass*	Mid- to early-seral sites with cheatgrass, sulphur cinquefoil, selaginella, and rusty steppe moss.
WB	kb	*Kentucky bluegrass*	Early seral sites dominated by Kentucky bluegrass.
	kc	*Knapweed - Cheatgrass*	Early and very early seral sites. There are few or no native bunchgrasses remaining on these sites.
	sb	*Big sagebrush – Kentucky bluegrass*	Early seral sites with a big sagebrush shrub layer and Kentucky bluegrass with Columbia needlegrass.
	sn	*Big sagebrush – Columbia needlegrass*	Mid-seral sites with a big sagebrush shrub layer and a grass cover of Columbia needlegrass and bluebunch wheatgrass.
	sw	*Big sagebrush – Bluebunch wheatgrass*	Mid- to late-seral sites dominated by big sagebrush, bluebunch wheatgrass and Idaho fescue.
	wk	*Bluebunch wheatgrass – Knapweed*	Mid- to late-seral sites dominated by bluebunch wheatgrass but also with some knapweed or cheatgrass.

Data Sources

This mapping project is based on 1:15,000 colour stereo aerial photography from Geographic Data BC taken in 1994 and updated based on field work in 2002. Base map is from Terrain Resource Inventory Mapping (TRIM) from Geographic Data BC. Survey Intensity 4 was used. A total of 18% polygon inspection was achieved. Twelve full plots, 60 ground inspections, and 168 visual inspections were completed in the field.

Credits

Ecosystem mapping by Kristi Iverson, R.P.Bio. (Iverson & MacKenzie Biological Consulting Ltd., Lac la Hache, B.C.).

Bioterrain mapping by Jen Shypika, P.Geo. (Nelson, B.C.).

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Digitizing and Cartography: Bon Lee (Baseline Geomatics Inc., Victoria, B.C.).

Correlation of bioterrain mapping: Deepa Spaeth Filatow, P.Geo. (Ministry of Sustainable Resource Management).

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