DRAFT

WELDWOOD OF CANADA

WEST FRASER MILLS

BC ENVIRONMENT
and
FOREST RENEWAL BC

Terrestrial Ecosystem Mapping with Wildlife Interpretations of portions of mapsheets 93A071, 072, 073, 081, 082, 083, 091, 092, 093, 094; 93B090, 099,100; 93G009, 010, 019, 020, 029, 030, 040; 93H001, 002, 003, 004, 005, 011, 012, 013, 014, 021, 022, 023, 024, 031, 032, 033, 034.
Scale 1:20,000
Portions of mapsheets 93G040, 050; 93H031, 041
Scale 1:50,000

INTRODUCTION

Independent terrestrial ecosystem mapping projects were conducted for both West Fraser Mills and Weldwood of Canada in the Columbia Highlands and Fraser Plateau Ecoregions. The mapping of West Fraser Mills Tree Farm Licence No. 52 and Weldwood of Canada's Willow River, Lightning, Little Swift, and Big Valley North areas extended to the respective company boundaries only. This project merges the two study areas into one larger one by edgematching the polygons along the two company boundaries.

The project area is in the Cariboo Forest region, and extends from Quesnel east to Barkerville, and north to Hixon. The areas licensed to West Fraser Mills and Weldwood of Canada are approximately 266,400 ha and 53,896 ha, respectively. The TRIM mapsheets involved are 93H001, 011; 93A092, 093; 93G040, 050; 93H031, 041 for Weldwood of Canada, and 93A071, 072, 073, 081, 082, 083, 091, 092, 093, 094; 93B090, 099, 100; 93G009, 010, 019, 020, 029, 030, 040; 93H001, 002, 003, 004, 005, 011, 012, 013, 014, 021, 022, 023, 024, 031, 032, 033, 034 for West Fraser Mills.

For both West Fraser Mills and Weldwood of Canada, the ecosystem maps were intended as a tool for assessing wildlife habitat, rare species and ecosystems, and making other interpretations related to current and future forest management planning. Terrestrial ecosystem mapping follows the standards of the Resources Inventory Committee (RIC 1995) and Cadrin *et. al.* (1996). Surveys were conducted at intensity level 4. Most of the area was mapped at a scale of 1:20,000. Portions of Weldwood of Canada mapsheets 93G040, 050, and 93H031, 041 from the Big Valley North project, were mapped at a scale of 1:50,000.

ECOSECTION UNITS

BOV	Bowron Valley	The Bowron Valley ecosection is a moist, cold area, consisting of a wide valley surrounded by low highlands to the west and rugged mountains to the east.
QUH	Quesnel Highland	The Quesnel Highlands ecosection is a broad area of transition which extends from the Fraser Plateau to the Cariboo Mountains.
QUL	Quesnel Lowland	The Quesnel Lowlands ecosection is a rolling, low elevation plateau which supports continuous coniferous and mixed forests. Some parts support agricultural development. Winter snow depths are moderate to deep.

BIOGEOCLIMATIC UNITS

AT	Alpine Tundra Zone

ESSFwk1	Engelmann Spruce-Subalpine Fir Wet Cool Cariboo Variant
ESSFwc3	Engelmann Spruce-Subalpine Fir Wet Cold Cariboo Variant
ESSFwcp3	Engelmann Spruce-Subalpine Fir Wet Cold Parkland Cariboo Variant
ICHmk3	Interior Cedar-Hemlock Moist Cool Horsefly Variant
ICHwk4	Interior Cedar-Hemlock Wet Cool Cariboo Variant
SBSdw1	Sub-boreal Spruce Dry Warm Horsefly Variant
SBSmh	Sub-boreal Spruce Moist Hot Subzone
SBSmw	Sub-boreal Spruce Moist Warm Subzone
SBSwk1	Sub-boreal Spruce Wet Cool Willow Variant

SITE SERIES

Subzone	Site Series Symbol	Site Series #	Site Series Name	Assumed Modifiers	Typical Situation
AT	AD	00	Mountain arnica-Subalpine daisy meadow		Gentle slope; mesic meadow; shallow soil
	MC	00	Moss campion-Coral lichen meadow		Gentle slope; submesic or drier meadow; shallow soil
	MM	00	Mountain heather meadow		Gentle slope; mesic to submesic meadow; deep soil
	SL	00	Sedge-Leafy liverwort wet meadow		Gentle slope; subhygric or wetter meadow; often associated with seepage / or streams; deep soil
ESSFwk1	AF	00	Alder-Fern avalanche tract		Frequently-disturbed avalanche tracts and run-out areas
	AH	00	Alder-Horsetail swamp		Uncommon swamp ecosystem
	AL	00	Alder-Lady fern		Mid to lower north-facing seepage slopes
	BS	00	Scrub birch-Sedge-Sphagnum	p	Depression or level; seepage; organic soil
	CS	00	Cottongrass-Sedge-Moss		Wetland dominated by shorter sedges
	FB	01	Subalpine fir-Oak fern-Brachythecium	d, j, m	Gentle to moderate slope; deep, moderately coarse-textured soil
	FD	05	Subalpine fir-Devil's club-Lady fern	d, j, m	Gentle to moderate lower slope; deep, medium-textured soil
	FF	02	Subalpine fir-Huckleberry-Feathermoss	d, j, m	Gentle to moderate slope; deep, medium-textured soil
	FH	06	Subalpine fir-Horsetail-Sphagnum	d, j, m	Level to depression; deep, medium-textured soil
	FL	07	Subalpine fir-Lady fern-Horsetail	d, j, m	Gentle draw to depression; deep, medium-textured soil; seepage
	FO	03	Subalpine fir-Oak fern-Knight's plume	d, j, m	Moderate mid-slope to crest; moderately coarse-textured soil
	FT	04	Subalpine fir-Twinberry-Lady fern	d, j, m	Mid to lower slope; seepage common below 60cm; deep, medium-textured soil
	PF	00	Cow parsnip-Fireweed avalanche tract		Gentle, lower and toe slope positions; subhygric; active avalanche run out zones; deep, medium-textured soil
	SE	00	Sedge fen		Hygric to hydric organic wetland
	SM	00	Sedge-Marsh marigold		Gentle slope; subhygric or wetter; deep, medium-textured soil; persistent seepage; late snow melt
	WC	00	Willow-Coltsfoot swamp		Large willow-dominated swamp along creeks; thin organic layer over mineral soil
	WF	00	Water sedge-Sphagnum poor fen		Organic depressions; sphagnum dominated; often with shrubs
	WS	00	Willow-Shore sedge fen		Organic depressions; subhydric to hydric; near surface water table
ESSFwc3	AF	00	Alder-Fern avalanche tract		Gentle slope; subhygric to hygric; active avalanche tracts
	AL	00	Alder-Lady fern		Mid to lower slope; north-facing seepage slopes
	BV	00	Barratt's willow-Valerian avalanche tract		Gentle, middle to toe slope positions; subhygric to hygric; active avalanche tracts
	CS	00	Cottongrass-Sedge-Moss fen		Wetland dominated by shorter sedges; surface water table

	FA	00	Subalpine fir-Mountain arnica mesic meadow		Gentle slope; mesic, deep, medium-textured soil
	FD	00	Subalpine fir-Pale-stalked broom moss	w	High-elevation dry sites with generally shallow soils
	FG	03	Subalpine fir-Globeflower-Horsetail	d, j, m	Gentle slopes; deep, medium-textured soil
	FH	00	Subalpine fir-Heather		Moderate to steep slopes; cool aspects (late-lying snow)
	FJ	00	Subalpine fir-Juniper		Significant slope; warm aspect; submesic or drier; shallow soil; parkland-like forest islands
	FL	00	Subalpine fir-Heather-Lichen		High-elevation; forested dry sites with thin soil and bedrock outcrops
	FQ	02	Subalpine fir-Rhododendron-Queen's cup	j, r, s	Gentle slope; shallow soil; crest position
	FR	01	Subalpine fir-Rhododendron-Oak fern	d, j, m	Gentle to moderate slope; deep, medium-textured soil
	FW	00	Subalpine fir-Small-flowered woodrush		High-elevation forested dry sites with late-lying snow
	HB	00	Mountain hairgrass-Sitka burnet meadow		Gentle slope; subhygric; deep soil
	HP	00	Heather-Partridgefoot dry meadow		Significant slope; cool aspect; dry heather meadow with shallow soil and bedrock outcrops
	JK	00	Juniper-Kinnikinnick		Significant slope; middle and upper slope positions; warm aspect; subxeric to submesic; shallow soil
	SM	00	Sedge-Marsh-marigold wet meadow		Gentle slopes; subhygric or wetter; deep, medium-textured soil; lush, herbaceous meadow
	SS	00	Water sedge-Sphagnum poor fen		Organic depressions; subhydric; near surface water table; tall sedge poor fen
	VM	00	Sitka valerian-Western meadowrue avalanche tract		Gentle, middle to toe slope positions; mesic site; active avalanche tracts
	WS	00	Willow-Shore sedge fen		Organic soil over fluvial deposits; subhydric to hydric; surface water table
	WV	00	Willow-Sedge-Sitka valerian wet meadow		Gentle slope; subhygric; deep, medium-textured soil; associated with seepage and / or streams
ESSFwcp 3	FA	00	Subalpine fir-Mountain arnica mesic meadow		Gentle slope; mesic; deep, medium-textured soil
	FB	00	Subalpine fir-Black huckleberry		Subxeric to submesic; shallow soil
	FD	00	Subalpine fir-Pale-stalked broom moss		High elevation; dry forests; warm aspects; shallow soil
	FH	00	Subalpine fir-Heather-mesic Krummholz forest		Gentle slope; mesic to submesic; deep, medium-textured soil; Krummholz forest islands
	FJ	00	Subalpine fir-Juniper		Significant slope; warm aspect; submesic or drier; shallow soil; Krummholz forest islands
	FL	00	Subalpine fir-Heather-Lichen dry Krummholz forest		Gentle slope; submesic or drier; deep soil
	FV	00	Subalpine fir-Valerian		Gentle slope; mesic; deep, medium-textured soil; Krummholz forest islands
	FW	00	Subalpine fir-Small-flowered wood rush		High elevation forests with a lush herb layer; drier than average sites; late-lying snow
	HL	00	Heather-Lichen dry meadow		Gentle, middle and upper slope positions; subxeric to submesic soil
	HV	00	Heather-Valerian mesic meadow		Gentle, middle and upper slope positions; mesic to submesic; deep, medium-textured soil

	JK	00	Juniper-Kinnikinnick		Significant slope; middle and upper slope position; warm aspect; submesic or drier; shallow soil
	MC	00	Moss campion-Coral lichen meadow		Gentle slope; subxeric or drier; shallow soil
	SD	00	Sedge-Dicranum moss dry meadow		Gentle slope; subxeric to submesic; shallow soil
	SG	00	Sedge-Arrow-leaved groundsel wet meadow		Gentle slope; subhydric; deep, medium-textured soil
	VD	00	Valerian-Subalpine daisy meadow (Low forb meadow)		Tundra-like; steep, warm aspects
ICHmk3	BS	00	Scrub birch-Sedge-Sphagnum		Organic depressions; subhydric to hydric
	RD	06	Western redcedar-Western hemlock-Devil's club-Lady fern	d, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
	RF	01	Western redcedar-Hybrid white spruce-Falsebox-Knight's plume	d, j, m	Gentle slope; mesic; deep, medium-textured soil
	RH	07	Western redcedar-Hybrid white spruce-Devil's club-Horsetail	d, j, m	Gentle slopes and depressional areas; hygric; deep, medium-textured soil; near surface water table
	SF	05	Hybrid white spruce-Western redcedar-Oak fern	d, j, m	Gentle, lower slope position; receiving sites; subhygric; deep, medium-textured soil
	SO	04	Western redcedar-Hybrid white spruce-Oak fern-Cat's tail moss	d, j, m	Gentle, lower slope position; receiving sites; subhygric; deep, medium-textured soil
ICHwk4	HO	01	Western redcedar-Western hemlock-Oak fern	d, j, m	Gentle slope; mesic; deep, medium-textured soil
	RD	07	Western redcedar-Western hemlock-Devil's club-Lady fern	d, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
	RV	04	Western redcedar-Hybrid white spruce-Velvet-leaved blueberry	c, j	Level to gentle slope; submesic to subxeric; coarse-textured glaciofluvial soil
	ST	06	Hybrid white spruce-Twinberry-Oak fern	d, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
SBSdw1	AT	00	Mountain alder-Black twinberry swamp	g	Level to gentle slope; subhygric to hygric; persistent seepage
	BS	00	Scrub-birch-Sedge poor fen		Organic depressions; subydric; near surface water table
	BW	00	Willow-Pink spirea-Scrub-birch		Gentle slope; subhygric to hygric; deep, medium-textured soil; persistent seepage
	CT	00	Cattail marsh		Level slope and depressions; hydric; deep, fine-textured soil; surface water table
	DS	03	Douglas-fir-Saskatoon-Pinegrass	d, m, w	Significant slope; warm aspect; subxeric to submesic; deep, medium-textured soil
	LP	04	Lodgepole-pine-Pinegrass-Feathermoss	c, d, j	Gentle slope; submesic; deep, coarse-textured soil
	SC	07	Hybrid white spruce-Twinberry-Coltsfoot	d, j, m	Gentle, lower slope position; subygric; deep, medium-textured soil
	SH	09	Hybrid white spruce-Horsetail-Glow moss	d, j, m	Gentle to level slopes and depressions; hygric; deep, medium-textured soil
	SO	08	Hybrid white spurce-Twinberry-Oak fern		Gentle, lower slope position; subhygric; deep, medium-textured soil
	SP	01	Hybrid white spruce-Douglas-fir-Pinegrass	d, j, m	Gentle slope; mesic; deep, medium-textured soil
	SR	05	Hybrid white spruce-Douglas-fir-	d, k, m	Significant slope; cool aspect; submesic; deep,

			Ricegrass		medium-textured soil
	ST	06	Hybrid white spruce-Douglas-fir-Thimbleberry	d, m, w	Significant slope; warm aspect; subhygric; deep, medium-textured soil
	WB	00	Water sedge-Beaked sedge fen		Organic depressions, subhydric to hydric; surface water table
	WW	00	Willow-Tall sedge fen		Organic depressions; subhydric to hydric; surface water table
SBSmh	DC	02	Douglas-fir-Lodgepole pine -Cladonia		Gentle slope; crest position; xeric; shallow soil
	DD	04	Douglas-fir-Douglas maple-Step moss	d, m, w	Significant slope; warm aspect; subxeric-submesic; deep, medium-textured soil
	SC	06	Hybrid white spruce-Douglas-fir-Coltsfoot	d, j, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
	SF	05	Hybrid white spruce-Douglas-fir-Feathermoss	d, j, m	Gentle slope; submesic to mesic; deep, medium-textured soil
	SH	09	Hybrid white spruce-Horsetail-Glow moss		Gentle to level slopes and depressions; hygric to subhydric; deep, medium-textured soil
	SN	01	Hybrid white spruce-Douglas-fir-Hazelnut	d, j, m	Gentle slope; mesic; deep, medium-textured soil
SBSmw	AD	00	Mountain alder-Red-osier dogwood floodplain		Gentle slope; subhygric to hygric; gravelly soil; fluvial communities receiving persistent seepage
	AL	00	Alder-Lady fern		Gentle slope; subhygric to hygric; persistent seepage; deep soil
	AT	00	Mountain alder-Black twinberry swamp		Level to moderate slope; subhygric to hygric; persistent seepage
	BS	10	Hybrid white spruce-Scrub birch-Sedge	p	Organic depressions and level sites; subhydric; near-surface water table
	BW	00	Willow-Pink spirea-Scrub birch		Gentle slope; subhygric to hygric; deep, medium-textured soil; persistent seepage
	CH	00	Cottonwood-Hawkweed		Anthropogenic mine spoil sites; coarse-textured soil
	DH	02	Douglas-fir-Subalpine fir-Huckleberry	j, r, s	Gentle slope; crest slope position; xeric; shallow soil
	HC	00	Hardhack-Wild calla marsh		Level slope; hydric; deep, fine-textured soil
	LV	03	Lodgepole pine-Huckleberry-Velvet-leaved blueberry	c, d, j	Gentle to level slopes; xeric to submesic; deep, coarse-textured soil
	SB	00	Slender sedge-Buckbean fen		Organic depressions; subhydric to hydric soil
	SD	08	Hybrid white spruce-Devil's club	d, j, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
	SF	01	Hybrid white spruce-Douglas-fir-Falsebox	d, j, m	Gentle slope; mesic; deep, medium-textured soil
	SH	00	Hybrid white spruce-Horsetail	d, j, m	Level slopes and depressions; hygric; deep, medium-textured soil
	SK	04	Hybrid white spruce-Douglas-fir-Knight's plume	s, w	Significant slope; warm aspect; xeric to subxeric; shallow soil
	SM	00	Grey sedge marsh		Level slope; subhydric to hydric; deep , fine-textured soil; high water table; altered hydrology
	SO	06	Hybrid white spruce-Oak fern	d, j, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
	SP	05	Hybrid white spruce-Pink spirea	d, j, m	Gentle, lower slope position; subhygric; deep, medium-textured soil
	ST	07	Hybrid white spruce-Twinberry-Oak fern	d, j, m	Gentle, lower slope position; subhygric; deep,

					medium-textured soil
	WD	00	Drummond's willow swamp		Level to gentle slopes; subhygric to subhydric; deep, medium-textured soil
	WS	00	Water sedge fen		Organic depressions; subhydric to hydric; surface water table
	WW	00	Willow-Water sedge fen		Organic depressions; subhydric to hydric; surface water table
SBSwk1	AD	00	Mountain alder-Red-osier dogwood		Gentle slope; gravelly soil; subhygric to hygric; fluvial communities receiving persistent seepage
	AF	00	Alder-Fern avalanche tract		Gentle slope; subhygric to hygric; deep, active avalanche tracts
	AL	00	Alder-Lady fern		Gentle slope; persistent seepage; subhygric to hygric; deep soil
	BB	11	Black spruce-Hybrid white spruce-Scrub birch-Sedge	p	Level to depression; organic or fine mineral soil; near surface water table
	BS	00	Scrub birch-Sedge Sphagnum poor fen		Poor fen; sphagnum dominated; shrubs
	DK	04	Hybrid white spruce-Douglas-fir-Knight's plume	d, m, w	Moderate slope; warm aspect; deep, medium-textured soil
	DS	00	Drummond's willow-Sedge	a	Shrub swamp; hygric to hydric; coarse-textured soil
	LH	02	Lodgepole pine-Huckleberry-Velvet-leaved blueberry	j, s	Gentle to moderate slope; crest and upper slope position; medium to coarse-textured shallow soil
	LV	03	Lodgepole pine-Velvet-leaved blueberry	c, j	Common on glaciofluvial terraces and shallow soil; poor nutrient regime
	MA	00	Sedge marsh	p	Marsh with medium-textured soil
	PS	00	Lodgepole pine-Sedge		Subhydric treed organic wetland
	SC	05	Hybrid white spruce-Huckleberry-Highbush cranberry	d, j, m	Gentle to moderate slope; deep, medium-textured soil
	SD	08	Hybrid white spruce-Devil's club	d, j, m	Gentle to moderate mid to lower slope; deep, medium-textured soil; seepage
	SE	00	Sedge fen		Hygric to hydric organic wetland
	SG	00	Sedge-Glow moss		Rich fen; sedge dominated; may have willows
	SH	09	Hybrid white spruce-Horsetail	d, j, m	Level to gentle slope; receiving position; deep, medium-textured soil
	SO	01	Hybrid white spruce-Oak fern	j, m	Gentle to moderate slope; receiving position; deep, medium- textured soil
	SS	06	Hybrid white spruce-Pink spirea-Oak fern	d, j, m	Lacustrine pockets in cold air drainage; gentle, lower slope position; medium to fine-textured soil
	ST	07	Hybrid white spruce-Twinberry-Oak fern	d, j, m	Gentle to moderate slope; lower to toe slope; deep, medium-textured soil
	WS	00	Willow-Sedge		Subhydric; non-treed organic wetland
	WT	00	Willow-Black twinberry-Sedge		Level to gentle slopes; hygric; fluvial community; shrubby fluvial fen fringes; willow and sedges

SITE MODIFIERS

Topography

a Active floodplain
g Gullying occurring, or in a gully bottom
h Hummocky terrain
j Gentle slope (<25%)

k Cool aspect (285-135 degrees), >25% slope
n Fan (fluvial or colluvial) or colluvial cone
r Ridge crest or with ridged terrain
t Terrace (fluvial, glaciofluvial, lacustrine or rock cut terrace)
w Warm aspect slope (135 to 285 degrees; slope 25-100%)
z Very steep warm aspect slope (>100%, aspect of 135 to 285 degrees)

Soil
c Coarse-textured soil (includes sandy loam, loamy sand, sand textures, fine matrix with >70% coarse fragments)
d Deep soil (>100 cm to bedrock)
f Fine-textured soil (heavy clay, silty clay, clay and sandy clay textures)
m Medium-textured soil (includes silty clay loam, clay loam, silt, silt loam, loam, and sandy clay loam textures)
p Peaty material on surface
s Shallow soil (50-100 cm to bedrock)
v Very shallow soil (<50cm to bedrock)

ANTHROPOGENIC, SPARSELY VEGETATED OR NON-VEGETATED SITES

BF	Blockfields, blockslopes, blockstreams
CA	Canal
CB	Cutbank
CF	Cultivated field
CL	Cliff
ES	Exposed soil
GB	Gravel Bar
GP	Gravel pit
LA	Lake
MO	Moraine
MS	Rubbly mine spoils
OW	Shallow open water
PD	Pond
PS	Permanent snow
RE	Reservoir
RI	River
RN	Railway surface
RO	Rock
RP	Road surface
RR	Rural
RU	Rubble
TA	Talus
TS	Mine tailings
UR	Urban / suburban

STRUCTURAL STAGE

1	Sparse/bryoid (<20yrs since major disturbance unless disclimax ecosystem) (NS)
1a.	Sparse – less than 10% vegetation cover (NV)
2	Herb (<20yrs old unless disclimax) (H)
2a.	Forb-dominated (FO)
2b.	Graminoid-dominated (GR)
2c.	Aquatic (AQ)
2d.	Dwarf-shrub dominated (DS)
3	Shrub (includes trees <10m tall; <20 yrs old for forest site series) (SH)
3a.	Low Shrub (shrubs <2m tall) (LS)
3b.	Tall Shrub (shrubs 2-10m tall) (TS)
4	Pole /Sapling (trees >10m tall & usually <40 years old) (PS)
5	Young Forest (trees >10m tall & 40-80 years old) (YF)
6	Mature Forest (trees >10m tall; 80-140 years old for biogeoclimatic group A and 80-250 years for group B) (MF)
7	Old Forest (trees >10m tall; >140 years old for group A, and >250 years in group B) (OF)

Group A: SBSmh, SBSdw, SBSmw
GroupB: all other biogeoclimatic units within West Fraser Mills Ltd. TFL 52

STAND COMPOSITION

C	Coniferous (>75% of total tree cover is coniferous)
B	Broadleaf (>75% of total tree cover is broadleaf)
M	Mixed (neither coniferous or broadleaf account for >75% of total tree cover)

DATA SOURCES

Weldwood Area
Colour aerial photographs flown in 1997 at 1:15,000 supplied by Weldwood of Canada:
30BCC 96153 111 – 125, 96158 66 – 75, 119 – 205, 162 – 156, 96159 28 – 45, 96159 181 – 193

Colour aerial photographs at 1:60,000 and 1:20,000 TRIM bases from B.C. Ministry of Environment, Land and Parks
Forest Cover Maps: colour themes of 1:20,000 map sheets 93B090, 93B089, 93B080, 93B070 and 93A081 at 1:40,000 scale for Weldwood of Canada.
Map Base: 1:20,000 TRIM maps of 93B090, 93B089, 93B080, 93B070 and 93A081 for Weldwood of Canada.
Polygons were field checked at a 19% visitation. These were 7 full, 36 ground inspections, and 124 visuals.

West Fraser Area
Colour aerial photographs flown in 1992 at 1:20,000 supplied by West Fraser Mills from EcoMaps, B.C., 999 W. 7th, Victoria, B.C. Ph: 250-777-MAPS Fax: 250-777-FMAP
Forest Cover Maps, Mapsheets: 92A071, 72, 81, 82, 83, 91, 92, 93, 94; 93B099, 10, 19, 20, 29, 30, 40; 93H002, 3, 4, 5, 12, 13, 14, 22, 23, 24, 31, 32, 33, 34 from Timberline, Vancouver, B.C., for West Fraser Mills.
Colour aerial photographs at 1:60,000 and 1:20,000 TRIM bases from B.C. Ministry of Environment, Land and Parks

REFERENCES

Cadrin, C. T. Lea, B. Maxwell, D. Meidinger and B. von Sacken. 1996. Addenda to Terrestrial Ecosystem Mapping Standards - May 1996, Draft manuscript. Ministry of Environment, Lands and Parks, Wildlife Branch, Victoria, B.C. 85 pp.

Demarchi, D.A. 1995. Ecoregions of British Columbia (Fourth Edition). 1:2,000,000 Map. B.C. Ministry of Environment, Land and Parks, Victoria, B.C.

Demarchi, D.A. 1993. Ecoregions of British Columbia (Third Edition). 1:2,000,000 Map. B.C. Ministry of Environment, Land and Parks, Victoria, B.C.

Demarchi, D.A. 1993. An introduction to ecoregions of British Columbia. Manus. Rept. Wildlife Branch, B.C. Ministry of Environment, Land and Parks. Victoria, B.C. 40pp.

Farstad, L. 1979. Soils and surficial geology of Ahbau Lake, B.C. B.C. Ministry of Environment, Surveys and Mapping Branch, Victoria, B.C. Map

Farstad, L. 1979. Soils and surficial geology of Cottonwood, B.C. B.C. Ministry of Environment, Surveys and Mapping Branch, Victoria B.C. Map

Howes, D.E., and E. Kenk. 1988. Terrain Classification System for British Columbia. Ministry of Environment, Recreational Fisheries Branch and Ministry of Crown Lands, Surveys and Resource Mapping Branch, Victoria, B.C. 90pp.

Lord, T.M. 1984. Soils of the Horsefly Area, British Columbia. Report No. 32 of the British Columbia Soil Survey. Land Resource Research Institute Contribution No. 84-11.

Lord, T.M., and A.J. Green. 1985. Soils of the Barkerville Area, B.C. B.C. Ministry of Environment, Surveys and Mapping Branch, Victoria, B.C.

Meidinger, D. and J. Pojar (compilers and editors). 1991. Ecosystems of British Columbia. B.C. Ministry of Forests Special Report Series 6. Victoria, B.C. 330pp.

Ministry of Forests. 1996. A field guide for site identification and interpretation for the Cariboo Forest Region. Draft. B.C. Ministry of Forests, Williams Lake, B.C.

Resource Inventory Committee. 1995. Standards for Terrestrial Ecosystem Mapping in British Columbia, Review Draft. Ministry of Environment, Lands and Parks, Wildlife Branch, Victoria, B.C. 190 pp.

Resource Inventory Committee. 1998. Standard for Terrestrial Ecosystem Mapping in British Columbia. Ecosystems Working Group, Terrestrial Ecosystems Task Force, Resources Inventory Committee. May 1998 edition.

Resource Inventory Committee. 1997 / 1998. Appendix J. http://www.env.gov.bc.ca/rib/wis/tem

Steen, O. and R. Coupe. 1997. A Field Guide to Forest Site Identification and Interpretation for the Cariboo Forest Region, Parts 1 and 2. B.C. Ministry of Forests Research Program.

CITATIONS

McIntosh, K.A. and C.A. Schaefer. 1999. Terrestrial Ecosystem Mapping of the Gerimi and Nyland Study Areas. Prepared for Weldwood of Canada and B.C. Ministry of Environment, Lands and Parks, in partnership with FRBC.
1:20,000 maps

CREDITS

Weldwood of Canada
Bio-terrain mapping: Geowest Environmental Consultants and J. M. Ryder and Associates
Ecosystem mapping: Lightening Creek, Little Swift – C. Schaefer and K. A. McIntosh of Keystone Wildlife Research, 1997
Willow River – S. Kesting and Keystone Wildlife Research, 1996
Provincial Correlation and Quality Control by Larry Lacelle and Carmen Cadrin, BC Environment
and Kristi Iverson, BC Ministry of Forests
Wildlife Interpretations by L. Andrusiak, G. Howald, K. Simpson and K. A. McIntosh of Keystone Wildlife Research
Map production by Keystone Wildlife Research
Contract monitoring by Chris Swan, BC Environment
Funded by Weldwood of Canada and Forest Renewal BC

Weldwood of Canada – Big Valley North
Ecosystem mapping: C.E. Thompson, ECO-Concepts Ecological Services, Kelowna, BC, and G. Young, Kelowna, B.C.
Digital Map: Aero Geometrics, New Westminster, B.C., and Hugh Hamilton, Ltd., North Vancouver, B.C.

West Fraser Mills
Ecosystem Mapper: Darren Bruhjell, Mark Sherrington
Surficial Geologist: Dennis O'Leary
Vegetation Ecologist: Mark Sherrington
Wildlife Biologist: Amit Saxena
Additional Field Personnel: Lonnie Bilyk, Marnie Martin, Kenton Rod, Megan D'Arcey, Jerry Bentz, Heather Mansell, Mark Piorecki, Scott Robertson, Craig Decoursey
Ministry of Environment
Ecosystem Correlator: Carmin Cadrin
Bioterrain Correlator: Larry Lacelle
Wildlife Correlator: Dennis Demarchi
Ministry of Forests
Regional Ecologist: Ray Coupe, Kristi Iverson

Co-ordinating and Funding Agencies
Forest Renewal Board
Ministry of Environment, Cariboo Region