TABLE 4.5. Environmental characteristics of ESSF and MH subzones and variants in the PRFR, south half

Subzone or Variant[a]	ESSFmc	ESSFmk ESSFwv
Extent[b]		
Area	683 602 ha	149 332 ha	1 107 991 ha
% of PRFR, south half	6.2%	1.3%	10.0%
Elevation range	1200 - 1800 m, south 950 - 1500 m, north	1000 - 1800 m	900 - 1550 m
Distribution		
Physiographic regions	Nechako Plateau; southeast Skeena Mtns; eastern Hazelton Mtns.	Eastern Kitimat Ranges, Coast Mtns.; also southernmost Hazelton Mtns.	Southeast Boundary Ranges, Coast Mtns.; northwest Skeena Mtns.; central Hazelton Mtns.
Major drainages, inlets, and islands	Above SBSmc and SBPS; Tahtsadle Cr.; Babine, Nilkitkwa, Bulkley, Morice, and Endako drainages; eastern Whitesail and Eutsuk lakes	Above southeastern CWHws2; upper Telkwa R., Burnie R.; Morice, Nanika, Kidprice, Tahtsa, and western Whitesail, Eutsuk, and Tesla lks.	Above ICH; Kitseguecla, Suskwa, Kitwanga, Kispiox, upper Skeena, and Nass rivers
Climate	Continental; cold winters; cool, fairly dry summers, and light snowpack (70 - 150 cm); total precip. 450 - 600 mm; deeply frozen soils	Subcontinental; warmest ESSF subzone; snowy winters but dry summers; total precipitation 1000+ mm; snowpack 2+ m; soil may not freeze deeply	Subcontinental; cool, moist summers and snowy winters; snowpack 1.2 - 2 m; total precip. 650 - 1100+ mm; soils may not freeze deeply
Soils		
Zonal soils	Humo-Ferric Podzols and Podzolic Gray Luvisols	Humo-Ferric Podzols	Ferro-Humic Podzols
Humus forms	Hemimors; 2 - 7 cm thick	Hemimors; 2 - 5 cm thick	Hemihumimors; 5 - 15 cm thick
Vegetation[c]		
Major tree species	Bl, Sxw, Pl	Bl, Hm, Ba, Pa, Pl	Bl, Hm, Sxw, Hw
Zonal site association	Bl -Huckleberry - Leafy liverwort	BlHm - Twistedstalk	BlHm - Azalea

a For a description of the ESSFmv3 refer to MacKinnon *et al*. (1990).

b Information includes contiguous parkland subzones.

c Tree species codes are found in Appendix 3.

Subalpine fir, hybrid white spruce, and lodgepole pine are dominant species; amabilis fir is absent, mountain hemlock is rare, and whitebark pine is occasionally present on the driest sites.

The **ESSFmk** occurs as a narrow (30 km wide at most) band along the leeward, eastern flanks of the Coast Mountains, south of the Telkwa Pass. It also occupies much of the subalpine elevations of the Tahtsa Ranges and Bulkley Ranges in the Burnie River area. The ESSFmk is the warmest of the three ESSF subzones. It also differs from the others in that it lies in a rainshadow of the Coast Mountains that receives low summer rainfall (total precipitation about 1000 mm), but experiences relatively snowy winters with minimal ground freezing. This combination allows for the growth of mountain hemlock and amabilis fir. Whitebark pine is also a common and distinctive feature of the ESSFmk, particularly on dry, rocky sites. The relatively dry summer climate seems to be responsible for a low diversity of herb and moss species. Increased presence of mountain leafy liverwort and lichens are characteristic of the ESSFmk.

The **ESSFmv** extends into the PRFR from the Prince George Forest Region to the east. The **ESSFmv3**, or Omineca variant, occupies a few high-elevation areas east of Babine Lake. It is of very limited extent in the PRFR and is not described in this guide. Readers should refer to MacKinnon *et al*. (1990) or use the descriptions provided here for the ESSFmc. The occurrence of white rhododendron in the ESSFmv3 is the main floristic distinction between these two biogeoclimatic units.

The ESSFwv is the most northerly ESSF subzone. It lies above the ICH zone and portions of the CWHws2 in the Hazelton Mountains, Skeena Mountains, Nass Basin, and along the eastern flanks of the Coast Mountains north of the Nass River. The ESSFwv has a snowy winter and a moister growing season than the other two subzones. Mean annual precipitation is 650 - 1100 mm, and growing season moisture deficits are unlikely. Climax forests are dominated by subalpine fir, with lesser components of mountain hemlock, hybrid white spruce, and western hemlock. Lodgepole pine is rare and whitebark pine is absent. This subzone has a greater diversity of shrubs and herbs than the other subalpine subzones, including many typically coastal species.

Above each of the forested subzones, there is a corresponding parkland subzone/variant (the ESSFmcp, ESSFmkp, ESSFmvp3, and ESSFwvp) occupying the transition from treeline to true alpine tundra (AT zone). These parkland subzones and variants share many of the classification features of their forested counterparts, but the harsher climate and lingering snowpack do not allow the growth of continuous forests. Instead, there is a mosaic of tree islands interspersed with heath vegetation (i.e., dwarf shrubs, usually of the heather, family) and subalpine herb meadows. Subalpine fir is the dominant tree throughout. Mountain hemlock is common in tree clumps of the ESSFmkp and ESSFwvp, but is rare in the ESSFmcp and absent from the ESSFmvp3. Compared to the two westerly subzones, the ESSFmcp and ESSFmvp3 also tend to have more subalpine forbs, grasses, and sedges, and less heath vegetation.

ESSFwv
Wet Very Cold Subzone

Adjacent biogeoclimatic units: ICHmc, ICHvc, ICHwc, and CWHws2 at lower elevations; MHmm2 to the west, grading to AT at higher elevations.

Elevation range: 900 - 1550 m.

Description and comparison of site series:

Zonal site series:

01 BlHm- Azalea forests are widespread in the subzone most commonly on north- and east-facing upper to lower slopes where there are deep morainal or colluvial blankets. Soils are mainly coarse-textured Podzols or Brunisols. Forests are moderately productive and dominated by Bl with minor components of Sxw, Hm, and Hw. Shrub, herb, and moss layers are all well developed in these stands. Black huckleberry, oval-leaked blueberry, false azalea, five-leaved bramble, bunchberry, and a few ferns are common. Red-stemmed feathermoss and leafy liverworts dominate; other feathermosses are also common.

Drier sites: Three drier forested site series have been distinguished.

02 BlPl - Cladonia is found on ridge crests or upper south-facing slopes with thin and fragmental soils. This site series is infrequent in the subzone and is rarely extensive. Stands consist of widely dispersed and stunted Pl and Bl. Shrub and herb layers are sparse. A prominence of Pl and ground lichens, relatively thin soils, and more exposed location distinguish the 02 from the 03 site series.

03 BlHm - Feathermoss is common throughout the subzone on the upper portions of long, south- and west-facing slopes that have thin veneers of colluvium and morainal till. Stands are scrubby Bl, often with some Hm, Pl, or Sxw. These forests are moderately stocked and have a moderate shrub layer of black huckleberry, false azalea, and conifer regeneration (contrast with 02). Site series 03 is floristically similar to 01 forests but thinner soils, a sparse herb layer, and scrubby forest structure distinguish the 03 from the 01.

04 BlHm - Heron's-bill site series is found on ridge crests and upper slopes in areas of acidic parent materials and is generally uncommon throughout the subzone. Site conditions are similar to those in the 03 site series, but poorer soil conditions result in scrubby stands dominated by Hm, often with dense understories of oval-leaked blueberry, black huckleberry, and false azalea. The herb layer is sparse or absent. Heron's-bill and leafy liverworts are prominent.

Fresh to wet sites: Five wetter forested site series have been distinguished.

05 Bl - Oak fern - Heron's-bill is very common, particularly in the southern areas of the subzone. Typical landscape locations are at the lower or toe end of slopes that receive some seepage during the year. Soils are gleyed Podzols and Gray Luvisols derived from loamy-textured morainal and colluvial deposits. Bl forests with a well-developed understory of ovalleaked blueberry, false azalea,

conifer regeneration, and oak fern are typical. An abundance of oak fern and prominence of leafy mosses distinguish the 05 from 01 forests. Low presence of devil's club separates the 05 from 06.

06 Bl - Devil's club - Lady fern site series is found mainly at lower elevations on, or at the base of, steep slopes where abundant seepage creates highly productive conditions. These sites are usually of limited extent in the subzone. Stands are composed of large, well-spaced Bl and Sxw with a dense devil's club understory. Herb species such as oak fern, foamflower, five-leaved bramble, and spiny wood fern form a lush herb layer. The dominance of devil's club and lady fern differentiates the 06 from the 05.

07 Bl - Valerian - Sickle moss is mainly found at higher elevations in the subzone where productive soils are offset by an adverse local climate, a long-lasting snowpack, and a short growing season. These meadow forests are usually found on lower slopes and toes that receive constant cold seepage from upslope snow patches. Soils are Gleysols or gleyed Podzols with abundant organic matter. Stands are characterized by patches of low-productivity Bl, Sx, and Hm, interspersed with wet and lush herb glades. Typical meadow species include Sitka valerian, Indian hellebore, cow-parsnip, and twistedstalk; many alpine species are also common.

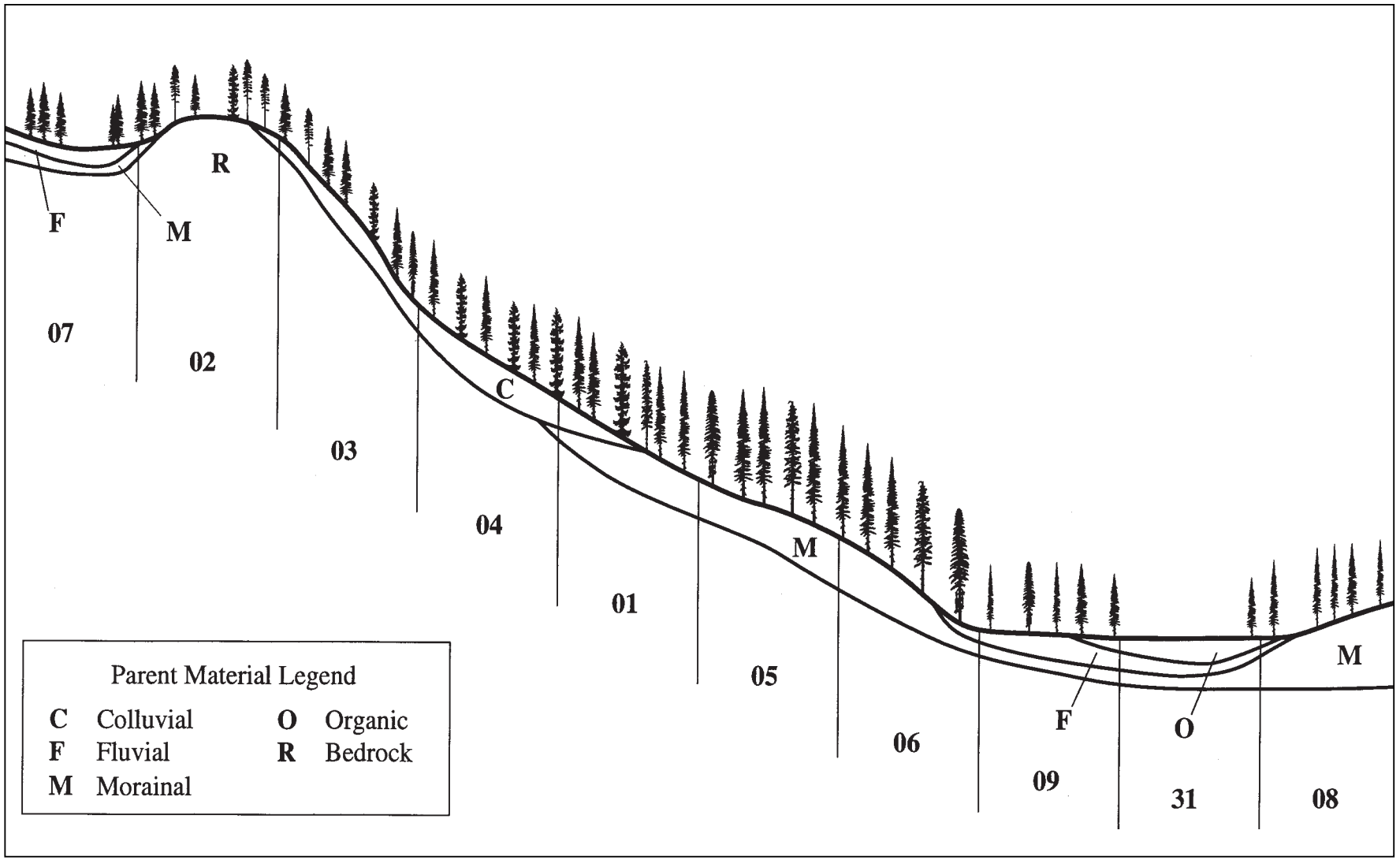
08 Bl - Horsetail - Glow moss is often found surrounding non-forested wetlands (31). It supports a scrubby tree layer (>10% cover) on saturated and poorly aerated Organic or Gleysolic soils. Willows, Sitka burnet, horsetails, glow moss, and sphagnum are typical understory species and the presence of these, complemented by the absence of rich-site indicators, distinguishes this unit from the 09.

09 Bl - Lady fern - Horsetail is common at lower elevations in the subzone, mainly on lower slopes where wet soil conditions limit growth on these otherwise productive sites. Trees grow on elevated hummocks with wet swales dominated by horsetails and leafy mosses. Soils are Gleysols. The prominence of horsetail differentiates the 09 from all other units except the 08 site series, which lacks rich-site indicators such as lady fern, oak fern, and foamflowers.

Non-forested site units:

Two very generalized non-forested site series have been described in the ESSFwv: **Non-forested wetland (31)** and **Avalanche track (51).** See page 5 • 81 for general descriptions of these units.

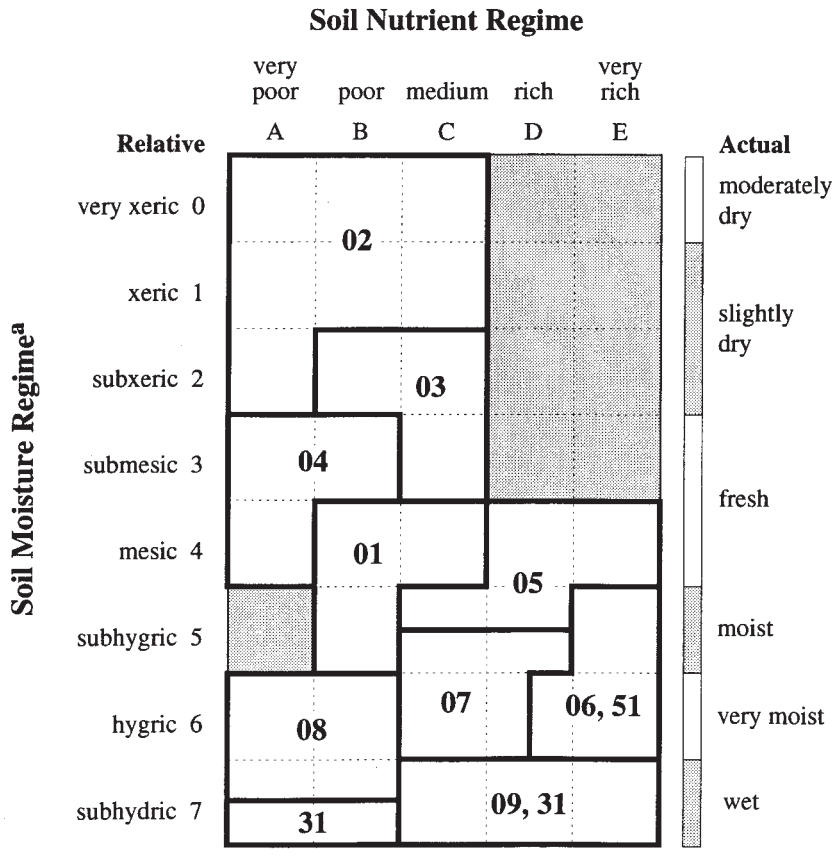
ESSFwv Landscape Profile[a]



[a] Tree symbols are defined in Appendix 3.

Click here to continue to page 5-101

ESSFwv Edatopic Grid



Site Series

01 BlHm - Azalea
02 BlPl - Cladonia
03 BlHm - Feathermoss
04 BlHm - Heron's-bill
05 Bl - Oak fern - Heron's-bill
06 Bl - Devil's club - Lady fern
51 Avalanche track
07 Bl - Valerian - Sickle moss
08 Bl - Horsetail - Glow moss
09 Bl - Lady fern - Horsetail
31 Non-forested wetland

[a] Relative and actual SMR are defined in Appendices 6 and 7.

ESSFwv Site Series Flowchart

NON-FORESTED WETLANDS
Tree cover < 10%

→ Willows and sedges dominant vegetation. High diversity of subalpine/alpine herbs. → **31** Non-forested wetlands

AVALANCHE TRACKS

→ Sitka alder, Indian hellebore, cow-parsnip, or ferns predominate. → 51 Avalanche track

DRY FORESTS
Moisture regime 0-2. Sites with rapidly drained soils. Upper slope/ridge crest locations.

→ Stunted Pl(Bl) forests. Shrub and herb layer very sparse. Abundant reindeer lichens. → 02 BlPl - Cladonia

→ Scrubby Bl dominates tree and shrub layers; herb layer sparse; upper slopes and crests. → 03 BlHm - Feathermoss

VERY MOIST TO WET FORESTS
Moisture regime 6-7. Seepage areas or depressions.

→ Bl forests with good growth. **Devil's club abundant**; foamflowers and ferns abundant. Seepage slopes; soils often gleyed. → **06** Bl - Devil's club - Lady fern

→ **High-elevation meadow forests**; poor-productivity Bl in clumps surrounded by herb-rich wet meadows. **Sitka valerian** and leafy and sickle mosses common. → **07** Bl - Valerian - Sickle moss

→ Bl dominant, some Sxw and Hw; poor growth. **Horsetails, sphagnum, glow moss, and feathermosses abundant**. Level and depressional areas adjacent to wetlands. → **08** Bl - Horsetail - Glow moss

→ Bl/Sxw mixtures; moderate growth. **Horsetails and lady fern abundant**. Gradual lower slopes; soils Gleysolic or Organic. → **09** Bl - Lady fern - Horsetail

FRESH TO MOIST FORESTS
Moisture regime 3-5. Sites not clearly wet or dry.

→ Productive Bl forests. Oak fern abundant, other ferns common; Sitka valerian common; **little devil's club**. Lower slopes; soils often gleyed. → **05** Bl - Oak fern - Heron's bill

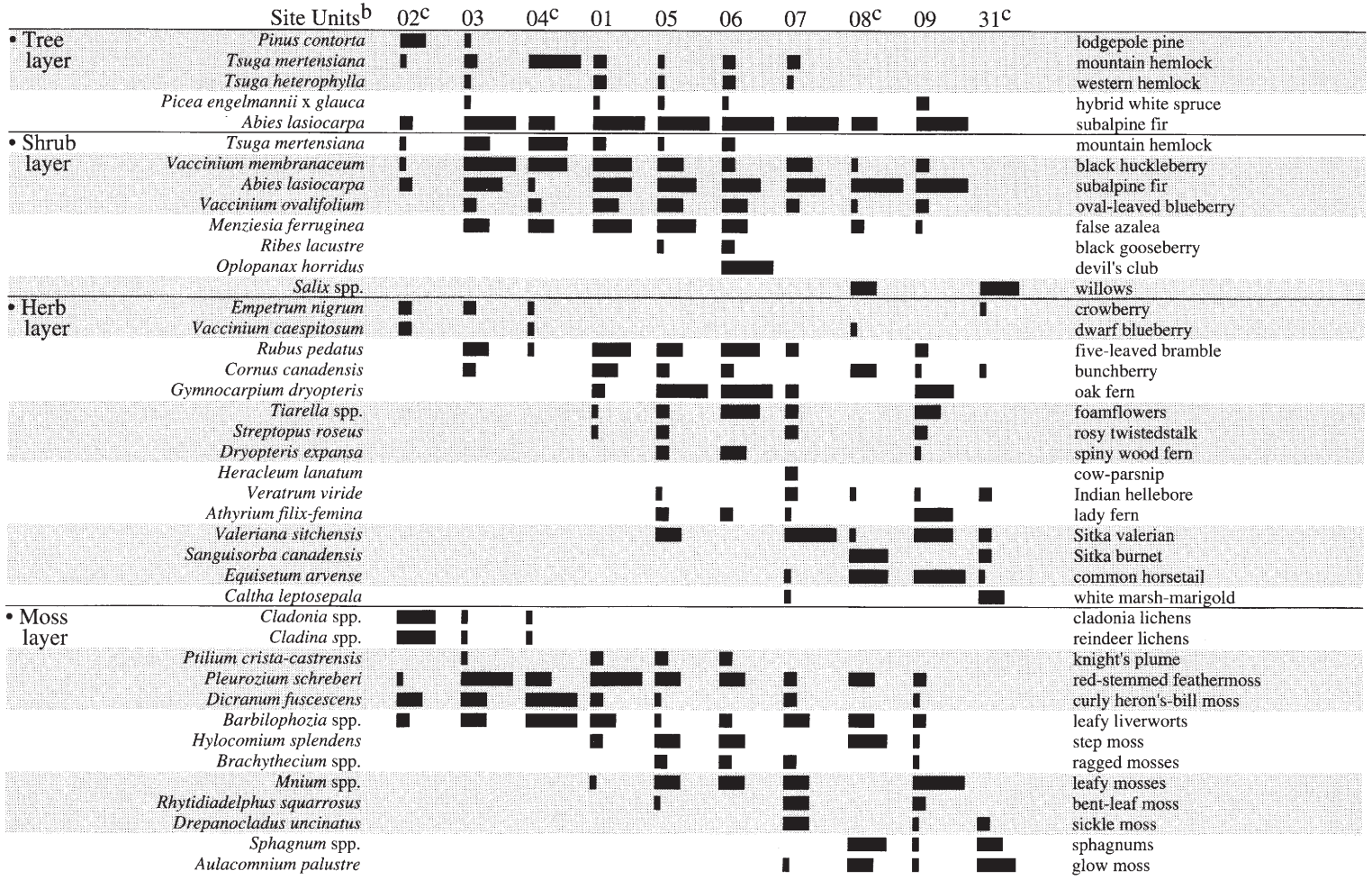
→ Bl forests with good growth. **Devil's club, foamflowers, and ferns abundant. Seepage slopes**; soils often gleyed. → **06** Bl - Devil's club - Lady fern

→ **Scrubby Hm prominent in canopy** and shrub layer; **herb layer almost absent**. Soils thin/coarse; upper slopes and crests. → **04** BlHm - Heron's - bill

→ Scrubby Bl dominates tree and shrub layers; herb layer sparse; upper slopes and crests. → 03 BlHm - Feathermoss

→ Bl forests with moderate growth; **herb layer moderately developed**; few ferns. Upper to mid slopes. → **01** BlHm - Azalea

ESSFwv Vegetation Table[a]



[a] Prominence bars are described in Section 3.3.2, pg. 3 • 6.

[b] Site series 51 (Avalanche track) has not been sampled in this subzone; see general description on page 5 • 81.

[c] Limited data; unit described from fewer than three plots.

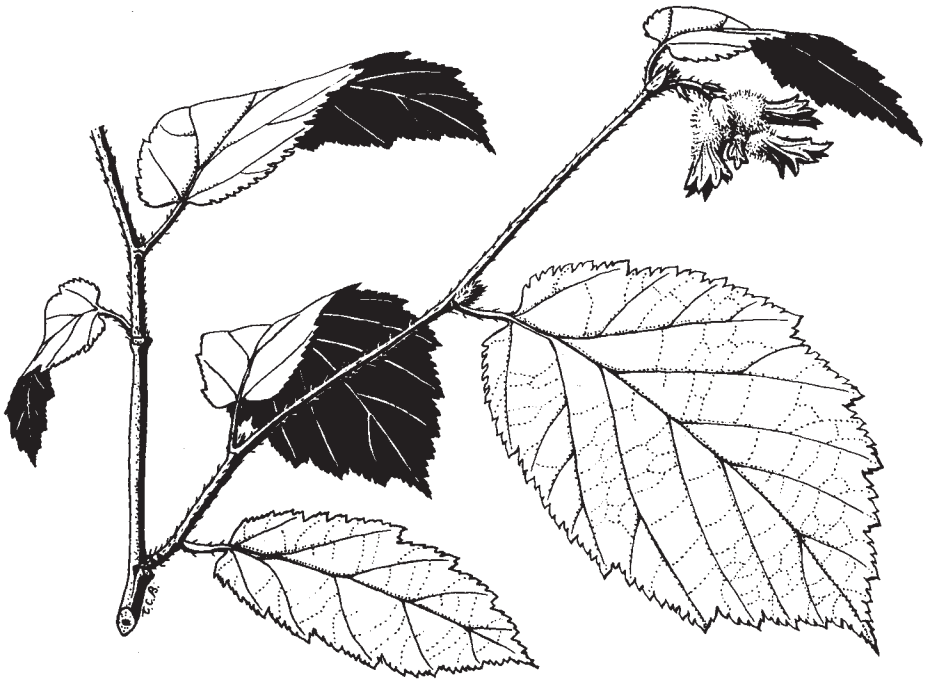
ESSFwv Environment Table

Site series	Phase	Soil moisture/ nutrients	Slope position	Slope % range	Parent material[a]
01		4-SB-C	all	5 - 75	M,C, Ov/R, Mv/R
02[b]		0-2/A-C	upper - crests	0 - 25	Cv/R, Mv/R
03		2-3B-C	upper - crests	5 - 80	M, C, Mv/R, Cv/R
04[b]		3-4/A-B	upper - crests	5 - 15	Mv/R, Ov/R
05		4-5/(C)-E	lower - toe	10 - 45	C, M, (F)
06		5-6/D-E	lower - toe, (mid)	20 - 70	Fv/R, M, C, Cv/M
07		5-6/C-D	lower - toe	0 - 30	F, (M)
08[b]		6-7/A-B	lower - depressions	0 - 30	O, F
09		7/C-E	toe - depressions	0 - 15	F
31[b]		7+/A-E	depressions	0	O
51[b]		5-6/D-E	upper - lower	15 - 100	C

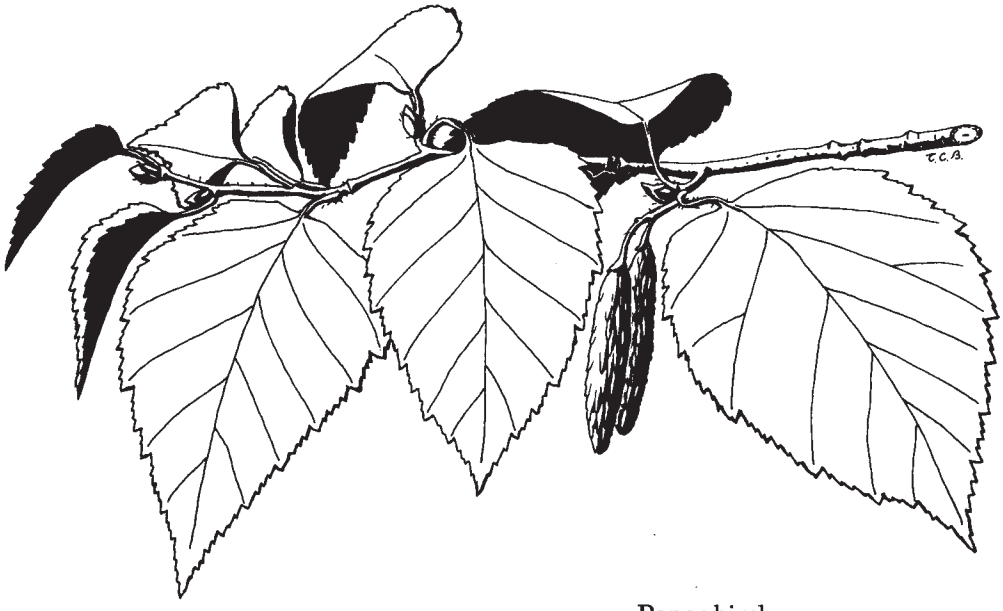
[a] Codes are described in Section 3.2.2, page 3 • 8.

[b] Limited data; unit described from fewer than three plots.

Soil particle size[a]	**Soil classification**[a]	**Humus form depth (cm)** min-**mean**-max	**Important site features**
FL - KL(s)	HFP, FHP, DYB, (FO)	Mors 2 - **9** - 25	Widespread on a variety of mesic sites.
KLf	HFP	Mors 1 - **3** - 5	Crusty, thin humus forms predominate.
FL, (FL)	HFP, DYB, GL	Mors 4 - **6** - 8	Nutrient-poor Podzolic soils most common.
KL	HFP, FO	Mors 7 - **13** - 20	Sites appear poorer than 03. Shallow soils over acidic bedrock.
FL - KL	FHP, HFP, GL; (often gleyed)	Mors 7 - **10** - 20	Sites subjected to some seepage. Widespread unit.
FL - KL (Ss, Ls)	HFP, FHP, (G); (gleyed)	Mors, Moders 5 - **13** - 35	Very fertile seepage slopes. Loose, crumbly humus layers.
FL - KL	G, HFP, FHP; gleyed	Mors, Moders 4 - **9** - 18	High-elevation meadow forests. High fertility but soils cold and wet.
FL(s)	R, G, H	Mors 10 - **15** - 30	Wet, poorly aerated, cold, nutrient-poor soils.
FL - KL (s)	G	Mors, Moders 12 - **14** - 17	Nutrient-rich sites but saturated, poorly aerated soils restrict rooting.
--	F, M	peaty “O” horizons > 1 m	Non-forested wetlands. Sites too wet and cold for tree growth.
KL(s), S	R, DYB	Moders, Mulls 0 - **1**- 2	Rich soil conditions from colluvial mixing and deciduous litterfall.



Beaked hazelnut
Corylus cornuta



Paper birch
Betula papyrifera

TABLE 5.2.1 *Distribution of Fen Site Associations by biogeoclimatic zone*

		BG PP	BWBS SWB	ESSF	ICH	IDF	MS	SBPS SBS	CDF	CWH	MH
Wf01	Water sedge – Beaked sedge		xx	x	xx	xxx	xxx	xxx		x[i]	
Wf02	Scrub birch – Water sedge		xxx	x	xx	xx	xx	xx			
Wf03	Water sedge – Peat-moss			xx				x			
Wf04	Barclay's willow – Water sedge – Glow mosss		x	xxx			x	x			
Wf05	Slender sedge – Common hook-moss		x		xx	xx	xx	xx			
Wf06	Slender sedge – Buckbean		x		x	x		x			
Wf07	Scrub birch – Buckbean – Shore sedge		x		x	x		x			
Wf08	Shore sedge – Buckbean – Hook-moss		x	x		x	x	x			
Wf09	Few-flowered spike-rush – Hook-moss			x			x	x			
Wf10	Hudson Bay clubrush – Red hook-moss							x			
Wf11	Tufted clubrush – Star moss		x	x	x		x	x			
Wf12	Narrow-leaved cotton-grass – Marsh-marigold			xxx							
Wf13	Narrow-leaved cotton-grass – Shore sedge			xx			x				
Wf50	Narrow-leaved cotton-grass – Peat-moss									x	xxx
Wf51	Sitka sedge – Peat-moss				x				xx	xx	
Wf52	Sweet gale – Sitka sedge								xx	xx[s]	
Wf53	Slender sedge – White beak-rush								x	xx[s]	

x = incidental; < 5% of wetlands xx = minor; 5–25% of wetlands xxx = major; >25% of wetlands
i = inland areas only s = southern subzones only

TABLE 5.2.2 *Fen Species Importance Table*

	Species	Wf01	Wf02	Wf03	Wf04	Wf05	Wf06	Wf07	Wf08
Shrubs	*Betula nana*								
	Salix barclayi								
	Salix pedicellaris								
	Spiraea douglasii								
	Myrica gale								
Herbs and Dwarf Shrubs	*Carex utriculata*								
	Carex aquatilis								
	Comarum palustre								
	Calamagrostis canadensis								
	Carex lasiocarpa								
	Menyanthes trifoliata								
	Carex limosa								
	Carex chordorrhiza								
	Eleocharis quinqueflora								
	Trichophorum alpinum								
	Trichophorum cespitosum								
	Eriophorum angustifolium								
	Caltha leptosepala								
	Carex anthoxanthea								
	Equisetum fluviatile								
	Carex magellanica								
	Carex sitchensis								
	Rhynchospora alba								
	Carex livida								
	Eriophorum chamissonis								
	Vahlodea atropurpurea								
	Drosera anglica								
	Hypericum anagalloides								
	Triantha glutinosa								
	Schoenoplectus tabernaemontani								
	Fauria crista-galli								
	Senecio triangularis								
	Andromeda polifolia								
	Kalmia microphylla								
	Oxycoccus oxycoccos								
	Triglochin maritima								
	Drosera rotundifolia								
	Leptarrhena pyrolifolia								
	Platanthera dilatata								
	Sanguisorba canadensis								
	Utricularia intermedia								
	Viola palustris								
Lichens and Mosses	*Sphagnum* Group I								
	Aulacomnium palustre								
	Drepanocladus spp.								
	Sphagnum Group II								
	Tomentypnum nitens								
	Philonotis fontana								
	Calliergon stramineum								
	Scorpidium spp.								
	Campylium stellatum								
	Warnstorfia spp.								
	Meesia triquetra								

Carex aquatilis – Sphagnum

General Description

Water sedge – Peat-moss fens occur mainly at elevations above 1100 m in the Interior (ESSF zone), where they are the counterpart to the **Wf02** of lower elevations. These communities appear to be relatively common but have not been extensively sampled. Small pocket depressions or gradual seepage slopes where there is no flooding are typical locations.

Carex aquatilis is the dominant species, though there can be significant occurrence of subalpine forbs such as *Caltha leptosepala*, *Sanguisorba canadensis*, or *Senecio triangularis* on some sites. Peat-mosses are usually dominant in the **Wf03**, though there may be a diversity of other mosses such as *Aulacomnium palustre*, *Tomentypnum nitens*, and others.

Mesisols derived from sedge peat up to 2 m (rarely to 4 m) in depth are common.

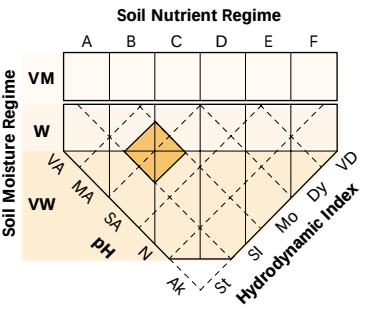
Characteristic Vegetation

Tree layer (0 - **0** - 0)
Shrub layer (0 - **3** - 10)
Herb layer (25 - **70** - 100)
Carex aquatilis, *C. sitchensis, Senecio triangularis*
Moss layer (30 - **85** - 100)
Aulacomnium palustre, ***Sphagnum* Group I**, *Tomentypnum nitens*

Comments

*The **Wf11** and **Wf12** occur only at higher elevations but require greater surface waterflow and replace the **Wf03** on active seeps and more saturated sites. Frost and cold soils rather than a high watertable probably limit shrub establishment on **Wf03** sites.*

Wetland Edatopic Grid



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Wf02	Scrub birch – Water sedge		xxx	x	xx	xx	xx	xx			
Wf03	Water sedge – Peat-moss			xx				x			
Wf04	Barclay's willow – Water sedge – Glow mosss		x	xxx			x	x			
Wf05	Slender sedge – Common hook-moss		x		xx	xx	xx	xx			
Wf06	Slender sedge – Buckbean		x		x	x		x			
Wf07	Scrub birch – Buckbean – Shore sedge		x		x	x		x			
Wf08	Shore sedge – Buckbean – Hook-moss		x	x		x	x	x			
Wf09	Few-flowered spike-rush – Hook-moss			x			x	x			
Wf10	Hudson Bay clubrush – Red hook-moss							x			
Wf11	Tufted clubrush – Star moss		x	x	x		x	x			
Wf12	Narrow-leaved cotton-grass – Marsh-marigold			xxx							
Wf13	Narrow-leaved cotton-grass – Shore sedge			xx			x				
Wf50	Narrow-leaved cotton-grass – Peat-moss									x	xxx
Wf51	Sitka sedge – Peat-moss				x				xx	xx	
Wf52	Sweet gale – Sitka sedge								xx	xx[s]	
Wf53	Slender sedge – White beak-rush								x	xx[s]	

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	Carex anthoxanthea								
	Equisetum fluviatile								
	Carex magellanica								
	Carex sitchensis								
	Rhynchospora alba								
	Carex livida								
	Eriophorum chamissonis								
	Vahlodea atropurpurea								
	Drosera anglica								
	Hypericum anagalloides								
	Triantha glutinosa								
	Schoenoplectus tabernaemontani								
	Fauria crista-galli								
	Senecio triangularis								
	Andromeda polifolia								
	Kalmia microphylla								
	Oxycoccus oxycoccos								
	Triglochin maritima								
	Drosera rotundifolia								
	Leptarrhena pyrolifolia								
	Platanthera dilatata								
	Sanguisorba canadensis								
	Utricularia intermedia								
	Viola palustris								
Lichens and Mosses	*Sphagnum* Group I								
	Aulacomnium palustre								
	Drepanocladus spp.								
	Sphagnum Group II								
	Tomentypnum nitens								
	Philonotis fontana								
	Calliergon stramineum								
	Scorpidium spp.								
	Campylium stellatum								
	Warnstorfia spp.								
	Meesia triquetra								

General Description

Barclay's willow – Water sedge – Glow moss fen/swamps are common at subalpine elevations of the Sub-Boreal Interior, Southern Interior Mountains, and Northern Boreal Mountains. They occur on subalpine seepage slopes, along glacier-fed creeks, and in frost-prone basins.

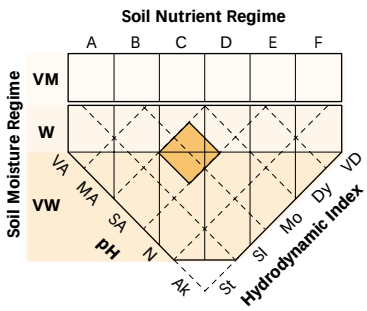
Salix barclayi dominates the shrub layer with a scattering of other low shrub species. *Carex aquatilis* dominates the herb layer but is often accompanied by scattered high-elevation species such as *Caltha leptosepala*, *Eriophorum angustifolium*, and *Leptarrhena pyrolifolia*. The moss layer can be absent or moderately well developed.

Continuous (often copious) groundwater or snowmelt seepage is typical, and soils are cold. Peat is often shallow because of low biomass production but occasionally deep sedge peat deposits are encountered. Common soil types include terric Mesisols, Humisols, and Fibrisols

Characteristic Vegetation

Tree layer (0 - **.5** - 3)
Shrub layer (10 - **35** - 95)
Salix barclayi
Herb layer (26 - **65** - 99)
Calamagrostis canadensis, ***Carex aquatilis***, *C. sitchensis*
Moss layer (0 - **15** - 95)
Aulacomnium palustre, *Mnium* spp., *Philonotis fontana*

Wetland Edatopic Grid



Comments

Wf04 *can occur alone or surrounding sedge or cotton-grass fens (**Wf03** or **Wf12**), or in wet depressions within forb-rich subalpine meadows or carrs. The similar **Sc03** is also common at high elevations in the Interior. However, the **Sc03**'s low shrub physiognomy is the result of cold-air drainage not wet soils, and it is characterized by subalpine forbs with few hydrophytes.*

General Description

The Mountain alder – Pink spirea – Sitka sedge Swamp Site Association is common in wet climates of the Sub-Boreal Interior, Southern Interior Mountains, and interior transition areas of the Coast and Mountains. The **Ws02** occurs on beaver-flooded flats of small creeks, peripheral zones of wetlands, and lakeshores, where there is early season flooding, continuous seepage near the surface, and poor drainage.

Alnus incana forms an open to sparse canopy. *Spiraea douglasii* can be scattered or prominent. *Carex aquatilis* or *C. sitchensis* is usually the dominant species of the herb layer, but *Scirpus microcarpus* dominates on some sites. Significant cover of *Calamagrostis canadensis* is common.

Soils are derived from fluvial or lacustrine material and often have a veneer or blanket of sedge peat. Organic horizons have silty or sandy lenses throughout, indicating periodic significant flood events.

Characteristic Vegetation

Tree layer (0 - **0** - 2)
Shrub layer (12 - **44** - 99)
Alnus incana*, *Spiraea douglasii
Herb layer (20 - **72** - 100)
Calamagrostis canadensis*, *Carex aquatilis/sitchensis*, *Comarum palustre*, *Scirpus microcarpus
Moss layer (0 - **10** - 85)
***Mnium* spp.**

Comments

*The **Ws02** is similar to Willow – Sedge Site Associations but occurs on sites with more dynamic water flow; willow-dominated sites (**Ws04–06**) tend to be more stagnant.*

Wetland Edatopic Grid