

TABLE 16. Vegetation table for zonal sites of submaritime CWH variants and the IDFww

Biogeoclimatic Unit		CWHds1	CWHds2	CWHms1	CWHms2	CWHws2	IDFww		
TREE LAYER	<i>Thuja plicata</i>	■	■	■	■	■	■	western redcedar	
	<i>Tsuga heterophylla</i>	■	■	■	■	■	■	western hemlock	
	<i>Abies amabilis</i>			■	■	■	■	amabilis fir	
	<i>Pseudotsuga menziesii</i>	■	■	■	■	■	■	Douglas-fir	
	<i>Betula papyrifera</i>		■					paper birch	
	<i>Picea sitchensis</i>		■					Sitka spruce	
	<i>Pinus contorta</i>						■	lodgepole pine	
	<i>Tsuga mertensiana</i>						■	mountain hemlock	
	SHRUB LAYER	<i>Vaccinium membranaceum</i>	■		■	■	■	■	black huckleberry
		<i>Menziesia ferruginea</i>			■	■	■	■	false azalea
<i>Vaccinium parvifolium</i>		■		■	■	■	■	red huckleberry	
<i>Vaccinium alaskaense</i>				■	■	■	■	Alaskan blueberry	
<i>Vaccinium ovalifolium</i>				■	■	■	■	oval-leaved blueberry	
<i>Chimaphila umbellata</i>		■	■	■	■	■	■	prince's pine	
<i>Paxistima myrsinites</i>		■		■	■	■	■	falsebox	
<i>Acer glabrum</i>			■	■	■	■	■	Douglas maple	
<i>Acer circinatum</i>				■	■	■	■	vine maple	
<i>Mahonia nervosa</i>		■		■	■	■	■	dull Oregon-grape	
<i>Rosa gymnocarpa</i>		■		■	■	■	■	baldhip rose	
<i>Lonicera ciliosa</i>				■	■	■	■	western trumpet honeysuckle	
<i>Amelanchier alnifolia</i>				■	■	■	■	saskatoon	
<i>Spiraea betulifolia</i>				■	■	■	■	birch-leaved spirea	
<i>Symphoricarpos albus</i>				■	■	■	■	common snowberry	
<i>Corylus cornuta</i>				■	■	■	■	beaked hazelnut	
<i>Holodiscus discolor</i>				■	■	■	■	ocean spray	
<i>Mahonia aquifolium</i>				■	■	■	■	tall Oregon-grape	
<i>Rosa acicularis</i>				■	■	■	■	prickly rose	
<i>Gaultheria shallon</i>		■		■	■	■	■	salal	
HERB LAYER		<i>Clintonia uniflora</i>	■	■	■	■	■	■	queen's cup
		<i>Cornus canadensis</i>			■	■	■	■	bunchberry
		<i>Goodyera oblongifolia</i>	■	■	■	■	■	■	rattlesnake-plantain
	<i>Orthilia secunda</i>	■	■	■	■	■	■	one-sided wintergreen	
	<i>Rubus pedatus</i>			■	■	■	■	five-leaved bramble	
	<i>Streptopus roseus</i>			■	■	■	■	rosy twistedstalk	
	<i>Streptopus streptopoides</i>			■	■	■	■	small twistedstalk	
	<i>Linnaea borealis</i>	■	■	■	■	■	■	twinflower	
	<i>Pyrola asarifolia</i>	■	■	■	■	■	■	pink wintergreen	
	<i>Trientalis latifolia</i>	■	■	■	■	■	■	broad-leaved starflower	

Biogeoclimatic Unit		CWHds1	CWHds2	CWHms1	CWHms2	CWHws2	IDFww
HERB LAYER	<i>Polystichum munitum</i>	■					■
	<i>Disporum hookeri</i>						■
	<i>Calamagrostis rubescens</i>						■
	<i>Festuca</i> spp.	■					■
	<i>Disporum trachycarpum</i>						■
	<i>Mycelis muralis</i>						■
MOSS LAYER	<i>Hylocomium splendens</i>	■	■	■	■	■	■
	<i>Pleurozium schreberi</i>	■	■	■	■	■	■
	<i>Rhytidiopsis robusta</i>	■	■	■	■	■	■
	<i>Rhytidiadelphus loreus</i>	■		■	■	■	■
	<i>Dicranum fuscescens</i>		■	■	■	■	■
	<i>Rhytidiadelphus triquetrus</i>	■	■	■	■	■	■
	<i>Kindbergia oregana</i>	■	■	■	■	■	■
	<i>Dicranum pallidisetum</i>				■		■
							■
							■
							■
							■
							■
							■
							■
							■
							■

TABLE 20. Climatic data for certain submaritime CWH variants and the IDFww

Biogeoclimatic unit	CWHds1	CWHds2	CWHmsl	IDFww
Number of stations	7 <sup>a</sup>	2 <sup>b</sup>	2	1 <sup>c</sup>
Name of reference station	Pemberton BCFS		Alta Lk.	Hells Gate
Elevation of reference station (m)	218	-	668	122
Mean annual precipitation (mm)	range 990 to 2054 ref. stn. 1187	1614 to 2109 -	1415 to 1420 1415	- 1198
May to September precipitation (mm)	range 197 to 350 ref. stn. 224	357 to 491 -	265 to 276 265	- 176
Total mean annual snowfall (cm)	range 193 to 478 ref. stn. 310	139 to 190 -	609 to 657 657	- 188
Mean annual temperature (°C)	range 6.4 to 9.7 ref. stn. 7.2	7.5 to 7.7 -	- 5.7	- 9.2
Mean temperature of the coldest month (°C)	range -0.4 to -6.6 ref. stn. -5.6	-1.8 to -2.8 -	- -4.4	- -2.6
Extreme minimum temperature (°C)	range -24.4 to -40.0 ref. stn. -30.0	-22.2 to -28.9 -	- -30.6	- -27.8
Mean temperature of the warmest month (°C)	range 15.3 to 18.7 ref. stn. 18.7	16.1 to 16.5 -	- 15.3	- 20.4
Extreme maximum temperature (°C)	range 36.7 to 40.0 ref. stn. 39.4	33.9 to 37.8 -	- 36.1	- 40.6
Growing degree-days >5 (°C)	range 1732 to 2130 ref. stn. 1817	1591 to 1626 -	- 1279	- 2194
Frost-free period (days)	range 128 to 225 ref. stn. 150	161 to 198 -	- <b>116</b>	- 204

- <sup>a</sup> Temperature data based on 5 stations.  
<sup>b</sup> Both stations are near CWHms2.  
<sup>c</sup> Station is from lower part of subzone.  
- No data.

**MHmm2** - occurs adjacent to the west; it has;

- rare Se
- common Hm and Alaskan blueberry

**NOTES ON CLASSIFICATION:** Areas of ESSFmw-like vegetation, that may occur on steep southerly aspects in an area that is mostly MHmm2, should be treated as ESSFmw. Similarly, the MH-like vegetation, that may occur in special habitats within the ESSFmw, should be treated as MHmm2.

## **4.18 IDFww - Wet Warm Interior Douglas-fir Subzone**

**DISTRIBUTION:** The IDFww has limited distribution in the Vancouver Forest Region. It occurs at low elevations in major drainages near the eastern limits of the Region. It is more commonly distributed along southwest-facing slopes. In the southern portion it is present discontinuously from the Lillooet River to the Skagit River. In the northern part of the region it occurs in the Klinaklini and Atnarko river valleys. The elevational limits range from approximately 100 to 1200 m.

**CLIMATE** (Table 20): The IDFww has a continental climate that is transitional to a maritime climate because of its proximity to the Pacific Ocean. Summers are warm and dry, while winters are cool and relatively moist, with moderate snowfall. Growing season water deficits are very pronounced. This subzone represents the wettest and mildest part of the IDF zone, which is more extensive in the interior of the province.

**VEGETATION** (Table 16): Forests on zonal sites are dominated by Fd, with minor amounts of low vigour Hw and Cw. The understorey is characterized by a well-developed shrub layer featuring a diverse mixture of species, including falsebox, saskatoon, tall and dull Oregon-grape, prince's pine, birch-leaved spirea, baldhip rose, beaked hazelnut, and western trumpet honeysuckle. The moss layer is dominated by *Hylocomium splendens* and *Rhytidiadelphus triquetrus*. Py occurs on drier, lower-elevation sites at Anderson Lake and in the Fraser Valley north of Boston Bar.

**DISTINGUISHING ADJACENT UNITS FROM THE IDFww (using zonal sites)**

**CWHds** - occurs above or adjacent; it has

- much more Hw
- less falsebox
- less diverse and well-developed shrub layer

**CWHms** - occurs above; it has:

- common Hw and Ba

**ESSFmw** - occurs above; it has:

- common Bl and Se

## **4.19 MHmm1 - Windward Moist Maritime Mountain Hemlock Variant**

**DISTRIBUTION:** The MHmm1 occurs at high elevations on Vancouver Island and in maritime areas of the mainland coast. The lower elevational limit is between 800 and 1000 m and the upper limit is between 1100 and 1350 m.

**CLIMATE** (Table 17): The MHmm1 has long, wet, cold winters and short, cool moist summers. Frozen soils are rare due to the insulating snowpack, but growing season frosts are common. Total snowfall is high, resulting in substantial snowpacks that can persist into July.

**VEGETATION** (Table 13): Forests on zonal sites are dominated by Ba and Hm, and, to a lesser extent, Yc. Alaskan blueberry, oval-leaved blueberry, and *Rhytidopsis robusta* are prominent in the understorey. Vegetation and stand characteristics in the MHmm1 are strongly influenced by local topography, which affects timing and pattern of snowmelt. Upper elevations grade into discontinuous forests of the parkland subzone (MHmmp1).

**DISTINGUISHING ADJACENT UNITS FROM THE MHmm1 (using zonal sites)**

**CWHvm2** - occurs below; it has:

- over 50% of hemlock cover as Hw; forests dominated by Hw, Ba, and, to a lesser extent, Cw and Yc
- more *Hylocomium splendens* and *Rhytidiadelphus loreus*

## 5.2 Site Classification Grids and Vegetation Summary Tables

TABLE 21. Index of site classification grids

<b>Grid no.</b>	<b>Site category</b>	<b>Biogeoclimatic unit</b>
1	General	CDFmm
2	General	CWHdm
3	General	CWHds1
4	General	CWHds2
5	General	CWHmm1
6	General	CWHmm2
7	General	CWHms1
8	General	CWHms2
9	General	CWHvh1
10	General	CWHvh2
11	General	CWHvm1
12	General	CWHvm2
13	General	CWHwh1
14	General	CWHwh2
15	General	CWHws2
16	General	CWHxm
17	General	ESSFmw
18	General	IDFww
19	General	MHmm1
20	General	MHmm2
21	General	MHwh
22	Special - Floodplains	CDFmm
23	Special - Floodplains	CWHdm,CWHds1,CWHxm
24	Special - Floodplains	CWHds2
25	Special - Floodplains	CWHmm1
26	Special - Floodplains	CWHms1,CWHms2
27	Special - Floodplains	CWHwh1
28	Special - Floodplains	CWHvh1,CWHvh2
29	Special - Floodplains	CWHvm1
30	Special - Floodplains	CWHws2
31	Special - Fluctuat water table	CDFmm
32	Special - Fluctuat. water table	CWHdm, CWHxm
33	Special - Shoreline/ocean spray	CWHwh,CWHvh

### 6.1.6 Recommended tree species grids

TABLE 24. Index of recommended tree species grids

<b>Grid no.</b>	<b>Site category</b>	<b>Biogeoclimatic unit</b>
1	General	CDFmm
2	General	CWHdm
3	General	CWHds1
4	General	CWHds2
5	General	CWHmm1
6	General	CWHmm2
7	General	CWHms1
8	General	CWHms2
9	General	CWHvh1
10	General	CWHvh2
11	General	CWHvm1
12	General	CWHvm2
13	General	CWHwh1
14	General	CWHwh2
15	General	CWHws2
16	General	CWHxm
17	General	ESSFmw
18	General	IDFww
19	General	MHmm1
20	General	MHmm2
21	General	MHwh
22	Special - Floodplains	CDFmm
23	Special - Floodplains	CWHdm,CWHds1,CWHxm
24	Special - Floodplains	CWHds2
25	Special - Floodplains	CWHmm1
26	Special - Floodplains	CWHms1,CWHms2
27	Special - Floodplains	CWHwh1
28	Special - Floodplains	CWHvh1,CWHvh2
29	Special - Floodplains	CWHvm1
30	Special - Floodplains	CWHws2
31	Special - Fluctuat water table	CDFmm
32	Special - Fluctuat. water table	CWHdm, CWHxm
33	Special - Shoreline/ocean spray	CWHwh,CWHvh

## Comments: Grid No. 18 **IDFww**

### GENERAL COMMENTS:

- **Lw** is recommended on a trial basis as a minor species south of 50° N latitude
- **Bg** is suitable only south of 50° N latitude
- high hazard for Sitka spruce weevil; moderate hazard for laminated root rot and Armillaria root rot

### SPECIFIC COMMENTS:

- 01** **Pl** is an alternative to **Fd**; **Py** is an alternative to **Fd** on nutrient medium sites in the southern portion of the subzone (south of 51° N latitude); **Lw** is a suitable minor species south of 50° N latitude; **Cw** can function as a non-crop (nurse) species
- 02** marginal sites for timber production
- 03** **Pl** is an alternative to **Fd**; **Py** is an alternative to **Fd** on nutrient medium sites in the southern portion of the subzone
- 04** **Py** is an alternative to **Fd** in the southern portion of the subzone; **Lw** is a suitable minor species south of 50° N latitude
- 05** **Ss** is a suitable minor species in the northern portion of the subzone
- 06** **Bg** is suitable in the southern portion of the subzone; **Ss** is a suitable minor species in the northern portion of the subzone
- 07** **Ss** is a suitable minor species in the northern portion of the subzone



Grid No. 18

IDF <sup>W</sup> W	Wet	Warm
	IDF	Subzone

Soil nutrient regime

	Actual	Relative	Soil nutrient regime						
			Very Poor A	Poor B	Medium C	Rich D	Very Rich E		
Soil moisture regime	VD	0	02	Pl(Fd)					
	VD	1	03	Fd					
	VD	2		PlPy					
	MD	3	01	Fd(Cw)		04	Fd(Cw)		
	MD	4		PlPy		Py			
	SD	5					05	FdCw (Sa)	
	F	6					06	FdCw Bg(Sa)	
W	7				07	Cw (Sa)			

See comments on facing page

Site series \_\_\_\_\_

01 FdCw - Hazelnut

05 CwFd - Vine maple

02 FdPl - Peltigera

06 Cw - Devil's club-  
Lady fern

03 Fd - Falsebox-  
Feathermoss

07 CwSs - Skunk cabbage

04 Fd - Douglas maple-  
Fairybells

Grid No. 17: ESSFmw

Soil Nutrient Regime

Soil Moisture Regime	Actual Relative	Soil Nutrient Regime				
		Very Poor A	Poor B	Medium C	Rich D	Very Rich E
SD 0	02	(IV) L				
	03	(IV) L				
F 2	04	(IV) L				
F 3	01	(III) M/6		06		
F 4	05	(III) L		(III) VH/8		
M 5				07	(IV) VH/8	
VM 6				08	(IV) VH/3	
W 7						

Grid No. 18: IDFWw

Soil Nutrient Regime

Soil Moisture Regime	Actual Relative	Soil Nutrient Regime				
		Very Poor A	Poor B	Medium C	Rich D	Very Rich E
VD 0	02	(IV) L				
	03	(IV) L				
VD 1		(III) L				
VD 2		(III) L				
MD 3	01	(III) M/7		04	(III) H/7	
MD 4						
SD 5				05	(II) H/5	
F 6				06	(II) H/5	
W 7				07	(III) H/5	

# APPENDIX 8. Correlation of old and new biogeoclimatic and site units.

TABLE A-1. Biogeoclimatic units

New symbol	New name	Old symbol <sup>a</sup>
CDFmm	Moist Maritime CDF	CDFa
CWHdm	Dry Maritime CWH	CWHa2
CWHds1	Southern Dry Submaritime CWH	CWHc1
CWHds2	Central Dry Submaritime CWH	CWHc2, h1, h2
CWHmm1	Submontane Moist Maritime CWH	CWHb3
CWHmm2	Montane Moist Maritime CWH	CWHb4
CWHms1	Southern Moist Submaritime CWH	CWHb5
CWHms2	Central Moist Submaritime CWH	CWHb6, h3
CWHvh1	Southern Very Wet Hypermaritime CWH	CWHd1
CWHvh2	Central Very Wet Hypermaritime CWH	CWHd2, CCPH
CWHvm1	Submontane Very Wet Maritime CWH	CWHb1, i1
CWHvm2	Montane Very Wet Maritime CWH	CWHb2, i2
CWHwh1	Submontane Wet Hypermaritime CWH	CWHe1, g1
CWHwh2	Montane Wet Hypermaritime CWH	CWHe2, g2
CWHws2	Montane Wet Submaritime CWH	CWHb7, f2, i3
CWHxm1 <sup>b</sup>	Eastern Very Dry Maritime CWH	CDFb
CWHxm2 <sup>b</sup>	Western Very Dry Maritime CWH	CWHa1
ESSFmw	Moist Warm ESSF	ESSFf
IDFww	Wet Warm IDF	IDFe
MHmm1	Windward Moist Maritime MH	MHa, d
MHmm2	Leeward Moist Maritime MH	MHb, e
MHwh	Wet Hypermaritime MH	MHc, f

<sup>a</sup> From Yole *et al.* (1982), Banner, *et al.* 1983, Green, *et al.* (1984), Pojar *et al.* (1988).

<sup>b</sup> Combined into CWHxm in this guide because of floristic and management similarities.

## APPENDIX 8. ( Continued )

TABLE A-2. Site units

New grid # and BGC unit	Old grid # and BGC unit	New sites series #																	
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
1 CDFmm	6 CDF	3	1	2	4	5	6	7	*	*	8	9	*	*	*				
2 CWHdm	8 CWHa2	4	1	2	3	5	6	7	8	*	*	9	10	*	*	*			
3 CWHds1	18 CWHc1	3	1	1/3	2/4 <sup>2</sup>	4	5	6	7	*	*	8	9						
4 CWHds2	17 CWHc2	3	1	1/3	2/4 <sup>2</sup>	4	5	6	7	*	*	8	9						
5 CWHmm1	11 CWHb3	4	1	2	3	5	6	7	8	*	*	9	10						
6 CWHmm2	12 CWHb4	4	1	2	3	5	6	*	7	8	9								
7 CWHms1 <sup>3</sup>	13 CWHb5	4	1	2	5	6	7	8	*	*	9	10							
8 CWHms2 <sup>3</sup>	14 CWHb6	4	1	2	5	6	7	8	*	*	9	10							
9,10 CWHvh	18 CWHd	3	1	2	*	*	4	6	*	*	*	5	7	8	*	*	*	*	
11 CWHvm1	9 CWHb1	3	1	2	*	4	5	6	6	7	*	*	*	8	9				
12 CWHvm2	10 CWHb2	3	1	2	*	4	5	6	6	*	7	8							
13,14 CWHwh	*																		
15 CWHws2 <sup>3</sup>	15 CWHb7	4	1	2	5	6	7	8	*	*	9	10							
16 CWHxm <sup>4</sup>	7 CWHa1	4	1	2	3	5	6	7	8	*	*	9	10	*	*	*			
17 ESSFmw <sup>5</sup>	3 ESSFf	4	1	2	*	6	7	7	9										
18 IDFww <sup>6</sup>	4,5 IDFe	3	1	1	4	6	6	9											
19 MHmm1	1 MHa	3	1,2 <sup>7</sup>	4	5	6	5	6	7	8									
20 MHmm2	2 MHb	3	1,2 <sup>7</sup>	4	5	6	5	6	7	8									
21 MHwh	*																		

\* No equivalent in Green *et al.* (1984)

<sup>1</sup> New site series includes portions of old site units 1 and 3

<sup>2</sup> New site series includes portions of old site units 2 and 4

<sup>3</sup> No new equivalent for old site unit 3

<sup>4</sup> CWHxm most closely represents the old CWHa1

<sup>5</sup> No new equivalent for old site units 3, 5, and 8

<sup>6</sup> No new equivalent for old site units 2, 5, 7, and 8

<sup>7</sup> New site series includes old site units 1 and 2