

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>	■						sword fern
	<i>Disporum hookeri</i>						■	Hooker's fairybells
	<i>Calamagrostis rubescens</i>						■	pinegrass
	<i>Festuca</i> spp.						■	fescue
	<i>Disporum trachycarpum</i>						■	rough-fruited fairybells
	<i>Mycelis muralis</i>						■	wall-lettuce
MOSS LAYER	<i>Hylocomium splendens</i>	■	■	■	■	■	■	step moss
	<i>Pleurozium schreberi</i>	■	■	■	■	■	■	red-stemmed feathermoss
	<i>Rhytidiopsis robusta</i>	■	■	■	■	■	■	pipecleaner moss
	<i>Rhytidiadelphus loreus</i>	■	■	■	■	■	■	lanky moss
	<i>Dicranum fuscescens</i>	■	■	■	■	■	■	curly heron's-bill moss
	<i>Rhytidiadelphus triquetrus</i>	■	■	■	■	■	■	electrified cat's tail moss
	<i>Kindbergia oregana</i>	■	■	■	■	■	■	Oregon beaked moss
	<i>Dicranum pallidisetum</i>	■	■	■	■	■	■	pale-stalked broom moss

DISTINGUISHING ADJACENT UNITS FROM THE CWHms1 (using zonal sites)

CWHds1 - occurs below; it, has:

- rare Ba and Alaskan blueberry

CWHvm1 - occurs adjacent to the west; it has:

- less Fd (mainly on drier sites); more Ba
- rare *Pleurozium schreberi*, *Rhytidiopsis robusta*, black huckleberry, one-sided wintergreen, and falsebox
- minor salal (common on drier sites)
- rare one-leaved foamflower and rosy twistedstalk on rich sites

CWHvm2 - occurs adjacent to the west at higher elevations; it has:

- less Fd (mainly on drier sites); more Ba
- some Yc and Hm
- rare *Pleurozium schreberi*, black huckleberry, one-sided wintergreen, and falsebox
- minor salal (common on drier sites)
- rare one-leaved foamflower and oak fern on rich sites

MHmm2 - occurs above; it has:

- over 50% of hemlock cover as Hm; forests dominated by Hm and Ba
- more black huckleberry; minor white-flowered rhododendron

ESSFmw - occurs above in eastern limits, it has:

- common Bl, Se, black huckleberry, and white-flowered rhododendron

IDFww - occurs below in the eastern limits; it has:

- rare Ba and Hw

4.8 CWHms2 - Central Moist Submaritime Coastal Western Hemlock Variant

DISTRIBUTION: The CWHms2 occurs at lower elevations in submaritime and subcontinental areas north of the head of Knight Inlet. Its major occurrences include the lower Kimsquit River, southern Dean Channel, Labouchere Channel, South Bentinck Arm, and the main rivers draining

into the east end of Owikeno Lake. Elevational limits range from sea level to approximately 700 m.

CLIMATE: The CWHms2 has a climate transitional between the coast and interior, characterized by moist, cool winters and cool but relatively dry summers. Historically, dry summers have resulted in stand-replacing wildfires, which have contributed to the abundance of Fd in this variant. Snowfall is relatively heavy, particularly in the upper elevational ranges of the variant. Climate data are unavailable for this variant.

VEGETATION (Table 16): Forests on zonal sites are dominated by Hw, Fd, Cw, and Ba. Common understorey species include Alaskan blueberry, and a well-developed moss layer featuring *Hylocomium splendens*, *Rhytidopsis robusta*, and *Rhytidiadelphus loreus*. Less commonly occurring species include black huckleberry, oval-leaved blueberry, false azalea, bunchberry, queen's cup, five-leaved bramble, one-sided wintergreen, and *Pleurozium schreberi*. Higher elevations featuring greater snowfall and cooler temperatures are dominated by Hw, Ba, and Cw, with Fd restricted mainly to drier sites.

DISTINGUISHING ADJACENT UNITS FROM THE CWHms2 (using zonal sites)

CWHds2 - occurs below in some drainages; it has:

- rare Ba and Alaskan blueberry

CWHws2 - occurs above; it has:

- rare Fd and black huckleberry
- rare falsebox and kinnikinnick on drier sites

CWHvm1 - occurs adjacent to the west; it has:

- less Fd (mainly on drier sites); more Ba
- rare *Pleurozium schreberi*, *Rhytidiopsis robusta*, black huckleberry, one-sided wintergreen, and falsebox
- minor salal (common on drier sites)

5.2 Site Classification Grids and Vegetation Summary Tables

TABLE 21. Index of site classification grids

Grid no.	Site category	Biogeoclimatic unit
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

FLOODPLAINS**Grids No: 25 - 27****Grid No. 25****CWHmm1**

High Bench	08	Ss - Salmonberry
Medium Bench	09	Act - Red-osier dogwood
Low Bench	10	Act - Willow

Medium to very rich soil nutrient regime

Grid No. 26**CWHms1, CWHms2**

High Bench	07	Ss - Salmonberry
Medium Bench	08	Act - Red-osier dogwood
Low Bench	09	Act - Willow

Medium to very rich soil nutrient regime

Grid No. 27**CWHwh1**

High Bench	07	Ss - Lily-of-the-valley
Medium Bench	08	Ss - Trisetum
Low Bench	09	Dr - Lily-of-the-valley

Medium to very rich soil nutrient regime

6.1.6 Recommended tree species grids

TABLE 24. Index of recommended tree species grids

Grid no.	Site category	Biogeoclimatic unit
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. 8 CWHms2

GENERAL COMMENTS:

- **Se** is an alternative to **Ss** in the eastern and upper limits of the variant
- high hazard for Sitka spruce weevil, except north of Dean Channel; moderate hazard for Armillaria root rot

SPECIFIC COMMENTS:

- 01 **Hw** is an alternative to **Fd** on fresh sites, particularly on northerly aspects
- 02 marginal sites for timber production; **Fd** is an alternative to **Pl**
- 03 **Pl** is an alternative to **Fd**; **Cw** can function as a non-crop (nurse) species
- 04 **Ba** and **Hw** are alternatives to **Fd** at higher elevations and on fresh, northerly aspects; **Ss** is a suitable minor species in the western portion of the variant; **Se** is a suitable minor species at upper elevations in the eastern portion of the variant
- 05 **Ba** is suitable at higher elevations and on northerly aspects
- 06 **Ba** is an alternative to **Fd** at higher elevations and on northerly aspects; **Ss** is a suitable minor species in the western portion of the variant; **Se** is a suitable minor species on upper elevation in the eastern portion of the variant
- 10 marginal sites for timber production; elevated microsites are preferred
- 11 elevated microsites are preferred

Grid No. 8

CWHms2	Central Moist Submaritime CWH Variant
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Soil nutrient regime

		Actual	Relative	Very Poor	Poor	Medium	Rich	Very Rich
				A	B	C	D	E
Soil moisture regime	VD	0	02	Pl	Fd			
	MD	1	03	Fd(Cw)				
	MD	2		Pl				
	SD	3	01	Fd(Cw)			04	FdCw
	F	4		Hw			BaHw	(SaSe)
	M	5	05	HwCw			06*	FdCw
	VM	6		Ba			Ba(SaSe)	
W	7	10	Pl(Cw)		11	Cw(HwSs)		

See comments on facing page

* See grid # 26 for site series 07 - 09

Site series

01 HwBa - Step moss

02 FdPl - Kinnikinnick

03 FdHw - Falsebox

04 BaCw - Oak fern

05 HwBa - Queen's cup

06 BaCw - Devil's club

10 Pl - Sphagnum

11 CwSs - Skunk cabbage

Comments: Floodplain sites Grids No. 26 and 27

Floodplain sites have high fisheries, wildlife, water, and aesthetic values - refer to the appropriate guidelines for riparian ecosystem management.

GENERAL COMMENTS:

- high bench sites are suited to the following options:
 1. conifer management
 2. hardwood management
 3. mixed hardwood / conifer management
- medium bench sites are best suited to hardwood management because of the high frequency of flooding, severe competition from deciduous trees and shrubs, and restriction of conifers to elevated microsites. It may be possible to manage for conifers if elevated microsites occupy a sufficiently large portion of the area.
- low bench sites are marginally productive

SPECIFIC COMMENTS:

Grid No.26: high hazard for Ss weevil; Se is generally more suitable in the eastern portion of the variant; Ss can replace Se in the western portion of the CWHms2; hardwood management not recommended on high bench sites with very coarse textured soils (>70% coarse fragment content)

Grid No.27: hardwood management not recommended on high bench sites with very coarse textured soils (>70% coarse fragment content)

FLOODPLAINS

Grid No. 26-27

Grid No. 26

CWHms1, CWHms2

High Bench	07	CwBa(Se)	Act or Dr
Medium Bench	08	CwBa	Act or [Dr]
Low Bench	09		Act

Medium to very rich soil nutrient regime
See comments on facing page

Grid No. 27

CWHwh1

High Bench	07	SsCw(Hw)	Dr
Medium Bench	08	SsCw	Dr
Low Bench	09		Dr

Medium to very rich soil nutrient regime
See comments on facing page

Site series

CWHms1, CWHms2

- 07 Ss - Salmonberry
08 Act - Red-osier dogwood
09 Act - Willow

CWHwh1

- 07 Ss - Lily-of-the-valley
08 Ss - Trisetum
09 Dr - Lily-of-the-valley

Grid No. 7: CWHms1

		Soil Nutrient Regime				
Actual	Relative	Very Poor	Poor	Medium	Rich	Very Rich
		A	B	C	D	E
VD 0	02	(IV) L				
MD 1	03	(III) L				
MD 2						
SD 3	01	(III) L		04	(II) M-H/3	
F 4						
M 5	05	(III) L		06	(II) VH/3	
VM 6						
W 7	10	(IV) L		11	(IV) VH/3	

Grid No. 8: CWHms2

		Soil Nutrient Regime				
Actual	Relative	Very Poor	Poor	Medium	Rich	Very Rich
		A	B	C	D	E
VD 0	02	(IV) L				
MD 1	03	(III) L				
MD 2						
SD 3	01	(III) L		04	(II) M-H/3	
F 4						
M 5	05	(III) L		06	(II) VH/3	
VM 6						
W 7	10	(IV) L		11	(IV) VH/3	

FLOODPLAINS

Grid No. 26

CWHms1, CWHms2

High Bench	07	II	I *	VH/1
Medium Bench	08	-	II	VH/1
Low Bench	09	-	IV	VH/1

*SI class for Act in square.

Grid No. 27

CWHwh1

High Bench	07	I	-	VH/1
Medium Bench	08	-	-	VH/1
Low Bench	09	-	-	VH/1

Grid No. 28

CWHvh1, CWHvh2

High Bench	08	I	-	VH/1
Medium Bench	09	-	-	VH/1
Low Bench	10	-	-	VH/1

Grid No. 29

CWHvm1

High Bench	09	I	I	VH/1
Medium Bench	10	-	II	VH/1
Low Bench	11	-	IV	VH/1

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

TABLE A-1. Biogeoclimatic units

New symbol	New name	Old symbol ^a
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 ^b	Eastern Very Dry Maritime CWH	CDFb
CWHxm2 ^b	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

^a From Yole *et al.* (1982), Banner, *et al.* 1983, Green, *et al.* (1984), Pojar *et al.* (1988).

^b 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 ²	4	5	6	7	*	*	8	9						
4 CWHds2	17 CWHc2	3	1	1/3	2/4 ²	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 ³	13 CWHb5	4	1	2	5	6	7	8	*	*	9	10							
8 CWHms2 ³	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 ³	15 CWHb7	4	1	2	5	6	7	8	*	*	9	10							
16 CWHxm ⁴	7 CWHa1	4	1	2	3	5	6	7	8	*	*	9	10	*	*	*			
17 ESSFmw ⁵	3 ESSFf	4	1	2	*	6	7	7	9										
18 IDFww ⁶	4,5 IDFe	3	1	1	4	6	6	9											
19 MHmm1	1 MHa	3	1,2 ⁷	4	5	6	5	6	7	8									
20 MHmm2	2 MHb	3	1,2 ⁷	4	5	6	5	6	7	8									
21 MHwh	*																		

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

¹ New site series includes portions of old site units 1 and 3

² New site series includes portions of old site units 2 and 4

³ No new equivalent for old site unit 3

⁴ CWHxm most closely represents the old CWHa1

⁵ No new equivalent for old site units 3, 5, and 8

⁶ No new equivalent for old site units 2, 5, 7, and 8

⁷ New site series includes old site units 1 and 2