

Forest Stewardship Plan

Appendix 2: FSP Stocking Standards

October 23, 2006



Cowichan Lake Community
Forest Co-Operative Ltd.



FSP Appendix 2: Stocking Standards**
TFL 46, T0910 & FL A52027

Biogeoclimatic Classification		Regeneration Guide					Regen Delay (Max yrs)	Free Growing	
		Species		Stocking				Minimum Height	
ZONE Subzone	Variant	Conifer		Well Spaced/ ha			Species	Ht (m)	
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p			
CWHmm1	01	Fd Cw	Hw ⁷	900	500	400	6	Fd 3.00 Hw 2.00 Cw 1.50	
CWHmm1	02	Pl Fd	Cw	800	400	400	6	Fd 2.00 Pl 1.25 Cw 1.00	
CWHmm1	03	Fd	Cw Hw	800	400	400	3	Fd 2.00 Hw 1.75 Cw 1.00	
CWHmm1	04	Fd	Cw Hw Pw ¹⁶	900	500	400	3	Pw 2.50 Fd 2.00 Hw 1.75 Cw 1.00	
CWHmm1	05	Fd Cw	Ba Hw Pw ¹⁶	900	500	400	3	Fd 3.00 Pw 2.50 Hw 2.00 Cw 1.50 Ba 0.75	
CWHmm1	06	Cw Hw	Ba Fd ⁴	900	500	400	6	Fd 3.00 Hw 2.00 Cw 1.50 Ba 0.75	
CWHmm1	07	Cw Fd	Ba Hw	900	500	400	3	Fd 4.00 Hw 2.50 Cw 2.00 Ba 1.00	
CWHmm1	08	Cw Ss ¹⁷	Ba	900	500	400	3	Ss 4.00 Cw 2.00 Ba 1.00	
CWHmm1	09	Cw ¹	Ba ¹	900	500	400	3	Cw 2.00 Ba 1.00	
CWHmm1	11	Pl ¹	Cw ¹	400	200	200	3	Pl 1.25 Cw 1.00	
CWHmm1	12	Cw ¹	Ss ¹	800	400	400	3	Ss 2.00 Cw 1.00	
CWHmm1	01(03) ¹¹	Fd Cw	Hw	800	400	400	3	Fd 2.00 Cw 1.00 Hw 1.75	

**Additional information or requirements may be contained in the text portion of the stocking standards or footnotes

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ZONE Subzone	Variant	Conifer		Well Spaced/ ha			Species	Ht (m)	
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p			
CWHmm1	05(04) ¹¹	Fd Cw	Hw Ba Pw ¹⁶	900	500	400	3	Fd 2.00 Cw 1.00 Ba 0.75 Hw 1.75 Pw 2.50	
CWHmm2	01	Hm ⁹ Hw Cw Fd ¹³ Yc	Ba	900	500	400	6	Fd 2.25 Hw 1.25 Cw, Hm, Yc 1.00 Ba 0.75	
CWHmm2	02	Pl Fd	Cw	800	400	400	6	Fd 1.50 Pl 1.25 Cw 0.75	
CWHmm2	03	Fd Hw	Se ¹⁴ Hm ⁹ Cw Yc	800	400	400	3	Fd 1.50 Se 0.50 Hw 1.00 Cw, Hm, Yc 0.75	
CWHmm2	04	Fd Cw Yc	Se ¹⁴ Pw ¹⁶ Hw	900	500	400	3	Pw 2.50 Fd 1.50 Hw 1.00 Cw, Yc 0.75 Se 0.50	
CWHmm2	05	Cw Fd ¹³ Yc	Pw ¹⁶ Hw Ba	900	500	400	3	Pw 2.50 Fd 2.25 Hw 1.25 Cw, Yc 1.00 Ba 0.75	
CWHmm2	06	Hw Cw Yc	Ba Hm ⁹ Fd ¹⁰	900	500	400	6	Fd 2.25 Hm, Hw 1.25 Cw, Yc 1.00 Ba 0.75	
CWHmm2	07	Cw ¹ Hw Yc ¹	Ba Hm ⁹	800	400	400	3	Hw 1.00 Ba, Cw, Hm, Yc 0.75	
CWHmm2	08	Cw Yc	Ba Hw ² Fd ¹³	900	500	400	3	Fd 3.00 Hw 1.75 Cw, Yc 1.25 Ba 1.00	
CWHmm2	09	Pl ¹	Yc ¹	400	200	200	3	Pl 1.25 Yc 0.75	
CWHmm2	10	Cw ¹	Hw ¹ Pw ¹⁶ Yc ¹	800	400	400	3	Pw 2.50 Hw 1.00 Cw, Yc 0.75	

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ZONE Subzone	Variant	Conifer		Well Spaced/ ha			Species	Ht (m)	
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p			
CWHmm2	01(03) ¹¹	Fd Hw Cw Yc Hm ⁹	Ba	800	400	400	3	Fd 1.50 Hw 1.00 Cw,Yc,Hm,Ba 0.75	
CWHmm2	05(04) ¹¹	Fd Cw Yc	Ba Pw ¹⁶ Hw	900	500	400	3	Fd 1.50 Hw 1.00 Cw,Yc,Ba 0.75 Pw 2.50	
CWHvm1	01	Cw Hw Fd ⁶	Ba Ss ^{4,17}	900	500	400	6	Fd, Hw, Ss 3.00 Ba 1.75 Cw 1.50	
CWHvm1	02	Pl Cw Fd ⁶	Hw	400	200	200	3	Fd, Hw 2.00 Pl 1.25 Cw 1.00	
CWHvm1	03	Cw Hw Fd ⁶	Pl ¹⁸	800	400	400	6	Fd, Hw 2.00 Pl 1.25 Cw 1.00	
CWHvm1	04	Cw Hw Fd ⁶	Ba	900	500	400	3	Fd, Hw 3.00 Ba 1.75 Cw 1.50	
CWHvm1	05	Cw Hw Fd ^{1,6}	Ba Ss ¹⁷	900	500	400	3	Fd, Hw, Ss 3.00 Ba 1.75 Cw 1.50	
CWHvm1	06	Cw Hw	Ba Ss ^{4,17}	900	500	400	6	Hw, Ss 3.00 Ba 1.75 Cw 1.50	
CWHvm1	07	Cw Hw ² Fd ^{1,6,14}	Ba Ss ¹⁷	900	500	400	3	Fd, Hw, Ss 4.00 Ba 2.25 Cw 2.00	
CWHvm1	08	Cw Hw ²	Ba Ss ¹⁷	900	500	400	3	Hw, Ss 4.00 Ba 2.25 Cw 2.00	
CWHvm1	09	Cw Hw	Ba Ss ¹⁷	900	500	400	3	Hw, Ss 4.00 Ba 2.25 Cw 2.00	
CWHvm1	10	Cw ¹	Ba ¹ Ss ^{1,17}	900	500	400	3	Ss 4.00 Ba 2.25 Cw 2.00	
CWHvm1	12	Cw ¹ Hw ¹	Pl ¹	800	400	400	3	Hw 2.00 Pl 1.25 Cw 1.00	

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		Species		Stocking			Regen Delay (Max yrs)	Minimum Height
ZONE Subzone	Variant	Conifer		Well Spaced/ ha				Species
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p		
CWHvm1	13	Pl ¹	Cw ¹	400	200	200	3	Pl 1.25
								Cw 1.00
CWHvm1	14	Cw ¹	Hw ¹ Ss ^{1,17} Pl ¹⁸	800	400	400	3	Hw, Ss 3.00
								Pl 2.00
								Cw 1.50
CWHvm1	01(03) ¹¹	Cw Hw Fd ⁶	Ba Ss ^{4,17} Pl ¹⁸	800	400	400	6	Cw 1.00
								HwFd 2.00
								Ba 1.75
								Ss 3.00
								Pl 1.25
CWHvm1	05(04) ¹¹	Cw Hw Fd ⁶	Ba Ss ¹⁷	900	500	400	3	Cw 1.50
								HwFdSs 3.00
								Ba 1.75
CWHvm2	01	Fd ^{1,5,13,14} Hw Cw Yc ¹⁹	Ba Hm ⁹	900	500	400	6	Hw 2.50
								Fd 2.25
								Ba 1.75
								Cw, Yc 1.50
								Hm 1.00
CWHvm2	02	Pl Cw Fd ¹³ Yc ¹⁹	Hw Hm ⁹	400	200	200	3	Hw 1.75
								Fd 1.50
								Pl 1.25
								Cw, Yc 1.00
								Hm 0.75
CWHvm2	03	Cw Hw Fd ¹³ Yc ¹⁹	Pw ¹⁶ Pl ¹⁸ Hm ⁹	800	400	400	6	Pw 2.50
								Hw 1.75
								Fd 1.50
								Pl 1.25
								Cw, Yc 1.00
								Hm 0.75
CWHvm2	04	Cw Hw Fd ¹³ Yc ¹⁹	Ba Pw Ss ¹⁷ Hm ⁹	900	500	400	6	Pw 2.50
								Ss 2.00
								Hw 1.75
								Ba, Fd 1.50
								Cw, Yc 1.00
								Hm 0.75
CWHvm2	05	Cw Hw Yc ¹⁹	Fd ^{1,5,13,14} Ba Hm ⁹	900	500	400	3	Hw 2.50
								Fd 2.25
								Ba 1.75
								Cw, Yc 1.50
								Hm 1.00

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ZONE Subzone	Variant	Conifer		Well Spaced/ ha				Species
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p		
CWHvm2	06	Cw Hw Yc ¹⁹	Ba Hm ⁹ Ss ⁴ Fd ^{1, 13, 14}	900	500	400	6	Ss 3.00 Fd 2.25 Hw 2.50 Ba 1.75 Cw, Yc 1.50 Hm 1.00
CWHvm2	07	Cw Hw ² Yc ¹⁹	Ba Hm ⁹ Fd ^{1, 13, 14}	900	500	400	3	Hw 3.50 Fd 3.00 Ba 2.25 Cw, Yc 2.00 Hm 1.00
CWHvm2	08	Cw ¹⁰ Hw ² Yc ¹⁹	Ss ¹⁷ Hm ⁹ Ba	900	500	400	3	Ss 4.00 Hw 3.50 Ba 2.25 Cw, Yc 2.00 Hm 1.00
CWHvm2	09	Cw ¹ Hw ¹ Yc ^{1, 19}	Ba Hm ⁹ Pl ¹	800	400	400	3	Hw 1.75 Ba 1.50 Pl 1.25 Cw, Yc 1.00 Hm 0.75
CWHvm2	10	Pl ¹ Yc ^{1, 19}	Hm	400	200	200	3	Pl 1.25 Yc 1.00 Hm 0.75
CWHvm2	11	Cw ¹ Yc ^{1, 19}	Hw ¹ Hm ^{9, 18}	800	400	400	3	Hw 1.75 Cw, Yc 1.00 Hm 0.75
CWHvm2	01(03) ¹¹	Hw Cw Fd ¹³ Yc ¹⁹	Ba Hm ⁹ Pw ¹⁶ Pl ¹⁸	800	400	400	6	Hw Ba 1.75 Cw Yc 1.00 Fd 1.50 Hm 0.75 Pw 2.50 Pl 1.25
CWHvm2	05(04) ¹¹	Hw Cw Yc ¹⁹ Fd ¹³	Ba Hm ⁹ Ss ¹⁷ Pw ¹⁶	900	500	400	3	Hw 1.75 Fd Ba 1.50 Ss 2.00 Cw Yc 1.00 Hm 0.75 Pw 2.50

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ZONE Subzone	Variant	Conifer		Well Spaced/ ha				Species
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p		
CWHxm	01	Fd	Hw ¹⁵ Cw Pw ¹⁶	900	500	400	3	Fd 3.00 Pw 2.50 Hw 2.00 Cw 1.50
CWHxm	02	Pl Fd		400	200	200	3	Fd 2.00 Pl 1.25
CWHxm	03	Fd Pl ⁶	Cw Hw	800	400	400	3	Fd 2.00 Hw, Pl 1.25 Cw 1.00
CWHxm	04	Fd	Cw Hw ⁸ Pw ¹⁶	900	500	400	3	Fd 3.00 Hw 1.50 Pw 2.50 Cw 1.50
CWHxm	05	Cw Fd	Pw ¹⁶ Bg ¹⁸ Hw	900	500	400	3	Fd 4.00 Bg 3.50 Pw 2.50 Cw 2.00 Hw 1.75
CWHxm	06	Cw Hw Fd ¹²	Bg ⁴	900	500	400	6	Bg, Fd 3.00 Hw 2.00 Cw 1.50
CWHxm	07	Cw Fd	Bg Hw	900	500	400	3	Fd 4.00 Bg 3.50 Cw 2.00 Hw 1.75
CWHxm	08	Cw Ss ¹⁷	Bg	900	500	400	3	Ss 4.00 Bg 3.50 Cw 2.00
CWHxm	09	Cw ¹	Bg ¹	900	500	400	3	Bg 3.50 Cw 2.00
CWHxm	11	Pl ¹	Cw ¹	400	200	200	3	Pl 1.25 Cw 1.00
CWHxm	12	Cw ¹	Pw ¹⁶ Ss ¹⁷	800	400	400	3	Pw 2.50 Ss 1.50 Cw 1.00
CWHxm	13	Cw Bg Fd		900	500	400	3	Fd 4.00 Bg 3.50 Cw 2.00
CWHxm	14	Bg ¹ Cw ¹		900	500	400	3	Bg 3.50 Cw 2.00

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		Species		Stocking			Regen Delay (Max yrs)	Minimum Height	
ZONE Subzone	Variant	Conifer		Well Spaced/ ha				Species	Ht (m)
		Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p			
CWHxm	15	Cw ¹		800	400	400	3	Cw	2.00
MHmm1	01	Ba Hm Yc	Hw ^{10,18} Se ¹⁴	900	500	400	7	Hm, Hw, Yc Se Ba	1.00 1.00 0.60
MHmm1	02	Hm Yc	Ba Se ¹⁴	800	400	400	4	Hm, Yc Se Ba	0.75 0.75 0.60
MHmm1	03	Ba Hm Yc	Hw ^{10,18} Se ¹⁴	900	500	400	4	Hm, Hw, Yc Se Ba	1.00 1.00 0.60
MHmm1	04	Ba Hm Yc	Hw ^{10,18}	900	500	400	7	Hm, Hw, Yc Ba	1.00 0.60
MHmm1	05	Ba Yc	Hm Hw ^{10,18}	900	500	400	4	Hm, Hw, Yc Ba	1.00 0.60
MHmm1	06	Hm ¹ Yc ¹	Ba ¹	800	400	400	7	Hm, Yc Ba	0.75 0.60
MHmm1	07	Ba ¹ Yc ¹	Hm ¹	900	500	400	4	Hm, Yc Ba	0.75 0.60
MHmm1	08	Hm ¹ Yc ¹		400	200	200	4	Hm, Yc	0.75
MHmm1	09	Yc ¹	Hm ¹	800	400	400	4	Hm, Yc	0.75
CWHvm1	05,07,09,10,14	Dr Mb		1200	700	600	3	Dr, Mb	4.0
CWHmm1	05,07,08,09,12								
CWHxm	05,07,08,09,12,13,14								
CWHvm1	05,07,09,10,14	Act	Dr Mb	700	600	500	3	Act, Dr, Mb	4.0
CWHmm1	05,07,08,09,12								
CWHxm	05,07,08,09,12,13,14								

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Reference Guide For FSP Stocking Standards

Conifer Tree Species

"Ba" means amabilis fir
 "Bg" means grand fir
 "Bl" means subalpine fir
 "Cw" means western red cedar
 "Fd" means douglas-fir (coast)
 "Hm" means mountain hemlock
 "Hw" means western hemlock
 "Pl" means lodgepole pine (coast)
 "Pw" means white pine
 "Se" means engelmann spruce
 "Ss" means sitka spruce
 "Yc" means yellow cedar

Broadleaf Tree Species

"Act" means black cottonwood
 "Dr" means red alder
 "Mb" means bigleaf maple
 "Ra" means arbutus

Interpretations

"**Biogeoclimatic unit**" or "**BGC classification**" means the zone, subzone, variant and site series described in the most recent field guide published by the Ministry of Forests for the identification and interpretation of ecosystems, as applicable to a harvested area.

"**MIN**" or "**Min**" means minimum

Foot note

Footnote

- 1 elevated microsites are preferred
- 2 suitable on thick forest floors
- 3 restricted to coarse-textured soils
- 4 restricted to nutrient-medium sites
- 5 restricted to steep slopes
- 6 the application on the north aspects will be based on local evidence of natural occurrence
- 7 a) species will not be used for artificial regeneration on southern aspects
b) the application will be based on local evidence of natural occurrence on southern aspects
- 8 the application will be based on local evidence of natural occurrence
- 9 restricted to upper elevation of biogeoclimatic unit
- 10 restricted to lower elevation of biogeoclimatic unit
- 11 Site series complex. Minor site series will represent at least 25% of Standards Unit productive area.
- 12 in eastern portion of biogeoclimatic unit in the region
- 13 Restricted to southerly aspects.
- 14 restricted to trial use
- 15 major species in wetter portion of biogeoclimatic unit
- 16 risk of white pine blister rust
- 17 risk of weevil damage
- 18 minor component
- 19 Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
- 20 The standard applies to existing hardwood stands where the main objective is a continuous hardwood management.

Reference Guide for FDP Stocking Standards (cont.)

Additional Comments

- 1 The minimum horizontal tree distance (MHTD) will be 2.0m with the following exceptions:
 - (a) The MHTD of 1.0m will be accepted within 20m of the road centreline in places where the plantability was reduced due to the impact of harvest activities
 - (b) The MHTD of 1.5m will be accepted throughout the rest of the NAR to restock areas of limited plantability (e.g. wet or rocky sections, etc.) and to utilize the most suitable planting microsites

- 2 The following principles regarding the deciduous stand component will apply at free growing:
 - (a) Up to 100 uniformly distributed red alder (Dr) trees per ha and 30 uniformly distributed bigleaf maple (Mb) trees or coppiced stumps per ha may be regarded as ghost trees
 - (b) Up to 20 uniformly distributed black cottonwood (Ac) trees or coppiced stumps per ha may be regarded as ghost trees.