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## **Appendix XV    Silviculture Standards and Procedures**

## Appendix XV Silviculture Standards and Procedures

This appendix provides additional detail and expands on the silviculture section in MP 8. It includes tables which outline species selection criteria and stocking standards for ecosystems on TFL 37. This section also outlines stand selection criteria for incremental silviculture treatments.

During the recent ecosystem mapping project, several atypical site series were encountered. The following list provides a brief description of these sites.

### Features of Atypical Site Series/Site Modifier Combinations

#### **Site Series 01s**

- Part of “poor Cw Hw-Salal” group of sites.
- Found only in CWHvm1 and vm2 - not in CWHxm.
- The “s” modifier is used when salal dominates the site and plays a significant role in ecological function.
- Salal cover very high (usually > 75%); can vary in height depending on light levels (shorter in clearcuts).
- Stand dominated by Cw, Hw; productivity well below average; foliage chlorotic; canopy usually fairly open. Productivity not as poor as moister, nutrient poor sites. Regeneration performance is typically poor, particularly in early stages.
- On variable terrain but generally rolling topography; but can cover steeper slopes.
- Soils commonly morainal or glacio-fluvial derived; and moderately-well to somewhat imperfectly drained. Soils have “zonal” characteristics.
- Forest floors thick, usually >20 cm and sometimes > 50 cm.
- In CWHvm2, 01s has common Yc and Hm.
- May be associated with shallow, rocky 03 sites. For example, in the Bonanza Lake unit, rocky 03 areas often formed “nodes” from which salal appears to have spread out into surrounding 01 sites on deeper soils with thick forest floors.

#### **Site Series 01 with poor site modifier**

- Sites which have the characteristics of 01, with SMR/SNR of 3-4/B, but which feature productivity distinctly poorer than normal for 01 sites. These are recognised for applications in yield analysis. These sites would not be grouped in the same productivity class as normal 01 site series. Features of these sites vary with biogeoclimatic unit. Usually they are in the drier and/or nutrient poorer range for site series 01.

#### **CWHxm**

- Often found on coarser textured glacio-fluvial deposits which are not dry enough to make 03 sites (e.g. sands or gravely loamy sand). Also found on morainal soils derived from acidic bedrock. Soils may contain cemented pans.
- Humus forms are thick (> 10cm) mors, often underlain by Ae horizons.
- Stands contain Fdc, Hw, with Cw and may have a component of Pw. Mature stands are typically open and relatively poor quality (mistletoe in Hw, some degree of chlorotic foliage). Younger stands often very dense with occasional larger trees sticking above the main canopy.

- Productivity is below average for 01 sites. This is reflected in shorter internodal growth, “bushy” upper crowns in mature Fdc due to slowed growth, generally shorter than expected height, smaller than normal diameters (see old stumps in second growth).
- Understory dominated by salal, *Vaccinium parvifolium* and *Hylocomium splendens*, with high salal cover. Under dense young stands vegetation is sparse.

**CWHvm**

- Stands generally Cw Hw dominated but may occasionally contain Ba; stands distinctly poorer than average productivity, with relatively open canopies, some degree of chlorotic foliage, and generally poor quality. Regeneration typically chlorotic.
- Understory may be dominated by dense *Vaccinium spp.* or a moderately high cover of salal. Salal is not as dominant as in 01s.
- Forest floors are thick mors, often exceeding 20 cm.
- Terrain is often rolling but may occur on steeper slopes.

**Site series 06s**

- Part of “poor Cw Hw-Salal” group of sites.
- Found only in CWHvm1 and CWHvm2 - not in CWHxm.
- The “s” modifier used when salal dominates the site and plays a significant role in ecological function.
- Salal cover very high (usually > 75%); can vary in height depending on light levels (shorter in clearcuts).
- On moist-very moist/nutrient poor sites.
- Stands dominated by Cw and Hw with poor productivity (poorer than 01s); canopies are typically open with chlorotic foliage.
- Soils are imperfectly to poorly drained on subdued terrain (depressions, flats, and swales).
- Forest floors are thick, moist-very and moist mors.
- Understory vegetation is dominated by salal, with *Vaccinium alaskense*, *Blechnum spicant.* and *Cornus canadensis* with varying amounts of salmonberry and scattered skunk cabbage.

**Site series 06 with poor site modifier**

- These are moist-very moist/nutrient poor sites which don’t feature the dominant salal cover. They have similar characteristics to the 06s, particularly in relation to terrain and soils. Salal may occur with moderate cover but is not dominant and is usually restricted to thick forest floor hummocks.
- These sites can occur in the CWHvm and xm.

**Table 1 - Basic Silviculture Strategy for MHmm1**

Site Series No	Area in TFL Net Operable Landbase (ha)	Recommended Species and Stocking Requirements <sup>2</sup>							Regeneration and Free Growing Specifications <sup>2</sup>							Comments
		Preferred Species and Site Index (P)	Acceptable (A)	Target Stocking (PA)	Min Stocking (PA)	Min Stocking (P)	Stocking Method	Min Intertree Distance (m)	Regen Delay <sup>3</sup> (yrs)	Free Grow Early (yrs)	Free Grow Late (yrs)	Min Height (Spp. m)	Size % height of Brush	Maximum Density	Comp Veg Potential L M H VH	
01	8,974	Ba (14), Hm (14), Yc (14), Bp (14)	Hw	900	500	400	P + N	2.0	5	12	20	Ba 0.6 Hm 1.0 Hw 1.0 Yc 1.0 Bp 1.25	125	10,000	M	Treatment options will be based on natural regeneration potential (amounts of advanced regeneration of Hm, Ba and Yc) Where required, augment stocking by fill planting with appropriate species to targets. If natural regeneration potential is low, plant immediately following harvest
01p <sup>1</sup>	526	Hm (14), Ba (14)	Yc, Hw	800	400	400	P + N	2.0	5	12	20	Ba 0.6 Hm 0.75 Hw 1.0 Yc 0.75	125	10,000	M	Treatment similar to 01 but may require time of planting fertilisation to release from Vaccinium competition
03	134	Ba (14), Hm (14), Yc (14), Bp (14)	Hw	900	500	400	P + N	2.0	5	12	20	Ba 0.6 Hm 1.0 Hw 1.0 Yc 1.0 Bp 1.25	125	10,000	M	Treatment similar to 01 but may require time of planting fertilisation to release from Vaccinium competition
05	299	Ba (15), Yc (15), Hm (15) Bp (15)	Hw	900	500	400	P + N	2.0	5	12	20	Ba 0.6 Hm 1.0 Hw 1.0 Yc 1.0 Bp 1.25	125	10,000	M	Treatment similar to 01 but may require time of planting fertilisation to release from Vaccinium competition
07	14	Ba (14), Yc (14), Hm (14)	Hw	900	500	400	P + N	2.0	5	12	20	Ba 0.6 Hm 0.75 Yc 0.75 Hw 1.0	125	10,000	M	Treatment similar to 01. Brush competition composed of subalpine herbs - Indian hellebore.

1. p - poor phase
2. specifications may be adjusted in SPs for difficult or unusual site conditions.
3. administrative regeneration delay period allows for completion of harvest, restocking, surveys and reporting – target is to restock areas within 1 year of harvest completion.

**Table 2 - Basic Silviculture Strategy for CWHvm2**

Site Series No	Area in TFL Net Operable Landbase (ha)	Recommended Species and Stocking Requirements <sup>3</sup>							Regeneration and Free Growing Specifications <sup>3</sup>								Comments
		Preferred Species and Site Index (P)	Acceptable (A)	Target Stocking (PA)	Min Stocking (PA)	Min Stocking (P)	Stocking Method	Min Intertree Distance (m)	Regeneration Delay <sup>6</sup> (yrs)	Free Grow Early (yrs)	Free Grow Late (yrs)	Min Height (Spp, m)	Size % height of Brush	Maximum Density	Pw Min Prune Ht (m)	Comp Veg Potential L M H V H	
01	17,181	Ba (27), Hw (28), Cw (25), Yc (25) Bp <sup>5</sup>	Fdc <sup>4</sup>	900	500	500	P + N	2.0	5	10	13	Ba 1.75 Hw 2.5 Cw 1.5 Yc 1.5 Fdc 1.5 Bp 1.25	150	10,000	N/A	L	Treatment options will be based on natural regeneration potential (amounts of advanced regeneration of Hw and Ba) Where required, augment stocking by fill planting with appropriate species to targets. If natural regeneration potential is low, plant immediately following harvest.
01s <sup>1</sup>	202	Yc (21), Cw (21), Hw (23)	Hm, Pw	900	500	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Hm 0.75 Pw 2.5	150	10,000	1.3	M	Plant with high density of Yc, Cw and Hw. Site prep may be required. May require Cw/Salal fertiliser mix.
01p <sup>2</sup>	409	Yc (21), Cw (21), Hw (23)	Hm, Pw	800	400	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Hm 0.75 Pw 2.5	150	10,000	1.3	L	Treatment similar to 01s.
03	6,616	Cw (19), Hw (21), Yc (19), Fdc (26)	Pw	900	500	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Fdc 1.5 Pw 2.5	150	10,000	1.3	M	Moderate brush hazard is for salal. If thick salal is present treat similar to 01s. Fdc to be a minor component, (not greater than 20%) on warm aspects.
04	20	Cw (21), Hw (23), Ba (22), Yc (21), Fdc (26)	Pw	900	500	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Fdc 1.5 Pw 2.5	150	10,000	1.3	L	Rare site type on TFL 37
05	590	Ba (27), Hw (29), Cw (26), Yc (26) Bp <sup>5</sup>	Fdc <sup>4</sup>	900	500	500	P + N	2.0	5	10	13	Ba 1.75 Hw 2.5 Cw 1.5 Yc 1.5 Fdc 1.5 Bp 1.25	150	10,000	N/A	M	Treatment similar to 01.
06	1,219	Ba (28), Hw (30), Cw (26), Yc (26)		900	500	500	P + N	2.0	5	10	13	Ba 1.75 Hw 2.5 Cw 1.5 Yc 1.5	150	10,000	N/A	L	Treatment similar to 01.
06s <sup>1</sup>	20	Yc (20), Cw (20), Hw (21)	Hm, Pw	900	500	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Hm 0.75 Pw 2.5	150	10,000	1.3	M	Plant with high density of Yc, Cw and Hw. Site prep may be required. May require Cw/Salal fertiliser mix.
06p <sup>2</sup>	194	Yc (20), Cw (20), Hw (21)	Hm, Pw	800	400	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Hm 0.75 Pw 2.5	150	10,000	1.3	L	Treat similar to 06s.
07	500	Ba (29), Hw (30), Cw (28), Yc (28)		900	500	500	P + N	2.0	5	10	13	Ba 2.25 Hw 3.5 Cw 2.0 Yc 2.0	150	10,000	N/A	H	Treatment similar to 01.
09	363	Yc (20), Cw (20), Hw (21)	Hm, Pw	800	400	400	P + N	2.0	5	10	13	Hw 1.75 Cw 1.0 Yc 1.0 Hm 0.75 Pw 2.5	150	10,000	1.3	L	Treatment similar to 01.
11	68	Cw (20), Yc (20)	Hw	800	400	400	P + N	2.0	5	10	13	Cw 1.0 Yc 1.0 Hw 1.75	150	10,000	N/A	H	Treatment similar to 01.

1. s - salal phase

2. p - poor phase

3. specifications may be adjusted in SPs for difficult or unusual site conditions.

4. Fdc acceptable on lower elevations and warm aspects.

5. Bp preferred above 800m on warm aspects.

6. administrative regeneration delay period allows for completion of harvest, restocking, surveys and reporting – target is to restock areas within 1 year of harvest completion.

**Table 3 - Basic Silviculture Strategy for CWHvm1**

Site Series No	Area in TFL Net Operable Landbase (ha)	Recommended Species and Stocking Requirements <sup>3</sup>							Regeneration and Free Growing Specifications <sup>3</sup>								Comments
		Preferred Species and Site Index (P)	Acceptable (A)	Target Stocking (PA)	Min Stocking (PA)	Min Stocking (P)	Stocking Method	Min Intertree Distance (m)	Regeneration Delay <sup>5</sup> (yrs)	Free Grow Early (yrs)	Free Grow Late (yrs)	Min Height (Spp, m)	Size % height of Brush	Maximum Density	Pw Min Prune Ht (m)	Comp Veg Potential L M H VH	
01	18,753	Fdc (34), Hw (30), Cw <sup>4</sup> (27), Ba (29)	Pw <sup>5</sup>	1200	500	500	P + N	2.0	3	8	11	Fdc 3.0 Hw 3.0 Cw 1.5 Ba 1.75 Pw 2.0	150	10,000	1.3	L	Plant immediately following harvest with Fdc/Cw/Hw/Ba. Fdc to be a minor component on colder aspects.
01s <sup>1</sup>	813	Cw <sup>4</sup> (23), Hw (25)	Fdc, Pw <sup>5</sup>	1200	500	400	P + N	2.0	4	9	12	Fdc 2.0 Hw 2.0 Cw 1.0 Pw 2.0	150	10,000	1.3	M - H	Plant at higher densities with cedar/salal fertiliser mix. May require site prep.
01p <sup>2</sup>	754	Cw <sup>4</sup> (23), Hw (25)	Fdc, Pw <sup>5</sup>	900	500	400	P + N	2.0	4	9	12	Fdc 2.0 Hw 2.0 Cw 1.0 Pw 2.0	150	10,000	1.3	L	Sites identified by presence of Pw. Treatment similar to 01s sites.
03	7,381	Fdc (29), Cw <sup>4</sup> (21), Hw (23)	Pw <sup>5</sup>	1100	500	400	P + N	2.0	3	8	11	Fdc 2.0 Hw 2.0 Cw 1.0 Pw 2.0	150	10,000	1.3	M	Moderate brush risk is for salal, treat similar to 01s sites.
04	18	Fdc (29), Cw <sup>4</sup> (23), Hw (25)	Ba	1100	500	400	P + N	2.0	3	8	11	Fdc 3.0 Hw 3.0 Cw 1.5 Ba 1.75	150	10,000	N/A	M	Rare blocky talus sites
05	1,643	Fdc (37), Hw (31), Cw <sup>4</sup> (28), Ba (29)		1200	500	500	P + N	2.0	3	8	11	Fdc 3.0 Hw 3.0 Cw 1.5 Ba 1.75	150	10,000	N/A	H	Plant immediately following harvest with Fdc/Cw/Hw/Ba. Consider use of large planting stock (415Ds) Fdc to be a minor component on colder aspects. Brush hazard is for salmonberry/Dr complex.
06	1,029	Ba (30), Cw <sup>4</sup> (30), Hw (31)		1100	500	500	P + N	2.0	3	8	11	Fdc 3.0 Hw 3.0 Cw 1.5 Ba 1.75	150	10,000	N/A	L	Treatment similar to 01. Favour Cw, Hw and Ba. Usually too wet for Fdc.
06s	148	Cw <sup>4</sup> (22), Hw (23)	Fdc, Pw <sup>5</sup>	1200	500	400	P + N	2.0	4	9	12	Fdc 2.0 Hw 2.0 Cw 1.0 Pw 2.0	150	10,000	1.3	M	Plant at higher densities with cedar/salal fertiliser mix. Similar to 01s. May require site prep.
06p	146	Cw <sup>4</sup> (22), Hw (23)	Fdc, Pw <sup>5</sup>	900	500	400	P + N	2.0	4	9	12	Fdc 2.0 Hw 2.0 Cw 1.0 Pw 2.0	150	10,000	1.3	L	Plant at higher densities with cedar/salal fertiliser mix. Similar to 01s. May require site prep.
07	1570	Ba (31), Cw <sup>4</sup> (30), Hw (32)		1100	500	500	P + N	2.0	3	8	11	Hw 4.0 Cw 2.0 Ba 2.25	150	10,000	N/A	VH	Plant as soon as possible following harvest with large stock (415Ds). Brush risk for Dr and salmonberry.
09	35	Ba (31), Cw <sup>4</sup> (30) Act Dr	Hw	1100	500	400	P + N	2.0	3	8	11	Hw 4.0 Cw 2.0 Ba 2.25	150	10,000	N/A	VH	Plant as soon as possible following harvest with large stock (415Ds). Brush risk for Dr and salmonberry. Areas may be managed for conifers, conifer/hardwood mix or hardwoods only.
10	17	Ba (31), Cw <sup>4</sup> (30) Act Dr		1000	500	400	P + N	2.0	3	8	11	Cw 2.0 Ba 2.25	150	10,000	N/A	VH	Areas may be managed for conifers, conifer/hardwood mix or hardwoods only.
12	73	Cw <sup>4</sup> (22), Hw (23), Yc (22)	Pw <sup>5</sup>	800	400	400	P + N	2.0	4	9	12	Yc 1.0 Hw 2.0 Cw 1.0 Pw 2.0	150	10,000	1.3	L	Rare Yc goldthread sites.
14	312	Cw <sup>4</sup> (22)	Hw	800	400	400	P + N	2.0	3	8	11	Hw 3.0 Cw 1.5	150	10,000	N/A	VH	Brush risk is for Dr and salmonberry. Plant immediately following harvest with large stock (415Ds).

1. s - salal phase
2. p - poor phase
3. specifications may be adjusted in Silviculture Prescriptions for difficult or unusual site conditions.
4. Cw may require browse protection depending on ungulate levels in unit.
5. Pw will become a preferred species on root rot affected units.
6. administrative regeneration delay period allows for completion of harvest, restocking, surveys and reporting – target is to restock areas within 1 year of harvest completion.

**Table 4 - Basic Silviculture Strategy for CWHxm**

Site Series No	Area in TFL Net Operable Landbase (ha)	Recommended Species and Stocking Requirements <sup>4</sup>							Regeneration and Free Growing Specifications <sup>4</sup>								Comments
		Preferred Species and Site Index (P)	Acceptable (A)	Target Stocking (PA)	Min Stocking (PA)	Min Stocking (P)	Stocking Method	Min Intertree Distance (m)	Regeneration Delay <sup>5</sup> (yrs)	Free Grow Early (yrs)	Free Grow Late (yrs)	Min Height (Spp, m)	Size % height of Brush	Maximum Density	Pw Min Prune Ht (m)	Comp Veg Potential L M H VH	
01	17,914	Fdc (33), Hw (27), Cw <sup>2</sup> (25)	Pw <sup>3</sup>	1200	500	500	P + N	2.0	3	8	11	Fdc 3.0 Hw 2.0 Cw 1.5 Pw 2.5	150	10,000	1.3	L	Plant immediately following harvest Fdc/Cw mix.
01p <sup>1</sup>	1,909	Fdc (26), Hw (24), Cw <sup>2</sup> (22)	Pw <sup>3</sup>	900	500	400	P + N	2.0	4	9	12	Fdc 2.0 Hw 1.5 Cw 1.0 Pw 2.5	150	10,000	1.3	M	Brush hazard is for salal. If heavy salal, plant higher densities and use Cedar/Salal fertiliser mix. May require site prep.
03	6,812	Fdc (25), Cw <sup>2</sup> (20)	Pw <sup>3</sup>	1200	500	400	P + N	2.0	3	8	11	Fdc 2.0 Cw 1.0 Pw 2.5	150	10,000	1.3	M	Brush hazard is for salal. If heavy salal plant higher densities and use Cedar/Salal fertiliser mix. May require site prep. May require alternate spp mix (Pw and Cw) on root rot sites.
05	2,905	Fdc (37), Cw <sup>2</sup> (26), Bg (36)	Pw <sup>3</sup>	1400	500	500	P + N	2.0	3	8	11	Fdc 4.0 Bg 3.5 Cw 2.0 Pw 2.5	150	10,000	1.3	M - H	Plant immediately following harvest Fdc/Cw mix, Bg where appropriate. Consider use of large planting stock (415Ds) at higher densities.
06	363	Cw <sup>2</sup> (28), Hw (28), Fdc (34)	Pw <sup>3</sup>	1200	500	400	P + N	2.0	3	8	11	Fdc 3.0 Hw 2.0 Cw 1.5 Pw 2.5	150	10,000	1.3	L	Plant immediately following harvest Cw/Hw/Fdc mix.
06p <sup>1</sup>	286	Cw <sup>2</sup> (22), Hw (23)	Pw <sup>3</sup>	900	500	400	P + N	2.0	4	9	12	Hw 1.5 Cw 1.0 Pw 2.5	150	10,000	1.3	M	Treatment similar to 01p sites
07	2161	Fdc (40), Cw <sup>2</sup> (28), Bg (40)		1400	500	500	P + N	2.0	3	8	11	Fdc 4.0 Bg 3.5 Cw 2.0	150	10,000	N/A	VH	Plant immediately following harvest Fdc/Cw mix, Bg where appropriate. Fdc on elevated microsites. Use large planting stock (415Ds) at higher densities. Very High brush hazard -salmonberry, Dr complex.
08	288	Fdc (43), Cw <sup>2</sup> (28), Bg (40), Act, Dr		1400	500	500	P + N	2.0	3	8	11	Fdc 4.0 Bg 3.5 Cw 2.0	150	10,000	N/A	VH	Plant immediately following harvest Fdc/Cw mix, Bg where appropriate. Fdc on elevated microsites. Use large planting stock (415Ds) at higher densities. Very High brush hazard salmonberry, Dr complex. May be managed for conifers, mixed hardwood/conifers or hardwoods only.
09	192	Cw <sup>2</sup> (28), Bg (40) Act, Dr		1000	500	400	P + N	2.0	3	8	11	Bg 3.5 Cw 2.0	150	10,000	N/A	VH	May be managed for conifers, mixed hardwood/conifers or hardwoods only
12	394	Cw <sup>2</sup> (22)	Hw, Pw <sup>3</sup>	900	400	400	P + N	2.0	4	9	12	Hw 1.5 Cw 1.0 Pw 2.5	150	10,000	1.3	VH	Plant immediately following harvest with Cw. Use large planting stock (415Ds) at higher densities. Very High brush hazard salmonberry, Dr complex.

1. p - poor phase
2. Cw may require browse protection depending on ungulate levels in unit.
3. Pw will become a preferred species on root rot affected units.
4. specifications may be adjusted in SPs for difficult or unusual site conditions.
5. administrative regeneration delay period allows for completion of harvest, restocking, surveys and reporting – target is to restock areas within 1 year of harvest completion.

# Incremental Silviculture Stand Selection Criteria

## Juvenile Spacing

On TFL 37, juvenile spacing will be restricted to the CWHxm and CWHvm1 variants. Site series considered for treatment will include 01, 03, 04, 05, 06, 07 08 and 09 in both variants. Stands will be selected according to the following guidelines.

**Table 5 - Stand Leading Species**

Species	Priority
Fdc	1
Hw/Ba	2

**Table 6 - Site Quality**

Douglas-fir		Western Hemlock – Amabilis fir	
Site Index	Priority	Site Index	Priority
35+	1	30+	1
29 – 35	2	23 – 30	2
<29	No treatment	<23	No Treatment

**Table 7 - Initial Stand Density**

Douglas-fir		Western Hemlock – Amabilis fir	
Density (sph)	Priority	Density (sph)	Priority
2000+	1	3000+	1
1500 – 2000	2	1500 – 3000	2
<1500	No treatment	<1500	No Treatment

In general, stands will be spaced to a residual density of 1000 plus or minus 50 stems per hectare. Stand density may vary according to desired objectives. For example, densities may be reduced for creation of wildlife habitat on specific units.

Crop tree selection will always be based on tree size and quality over intertree spacing. Dominants and co-dominant trees shall be selected. In order to select the most desirable crop trees, minimum intertree spacing will be 1.0 metres.

It is also our intent to create a multi-tiered stand through spacing. To facilitate this, we will retain all western red cedar regardless of stem size and density. The cedar component will provide:

- Forage for ungulate species
- Insurance against possible root rot infection
- Nutrient cycling
- Canopy closure to aid in crown lift and self pruning of dominant crop trees
- A valuable component at stand rotation



## Pruning

Similar to juvenile spacing, pruning will take place only on CWHxm and CWHvm1 biogeoclimatic variants. An exception to this rule may occur for yellow cedar pruning trials in the CWHvm2. Treatments will be restricted to stands occurring on the most productive site series: 01, 05, 06, 07, 08 and 09.

Candidate stands will be selected according to the following guidelines.

**Table 8 - Stand Leading Species**

Species	Priority
Fdc	1
Hw	2

**Table 9 - Site Quality**

Douglas-fir		Western Hemlock	
Site Index	Priority	Site Index	Priority
35+	1	30+	1
29 – 35	2	23 – 30	2
<29	No treatment	<23	No Treatment

**Table 10 - Stand height**

Douglas-fir / Hemlock		
1st Lift	2nd Lift	Priority
4–6 m	9–12 m	1
6–7 m	12–14 m	2
<4 m	< 9 m	No Treatment

**Table 11 - Diameter breast height**

Douglas-fir / Hemlock	
DBH	Priority
5.0–7.5 cm	1
7.5–10.5 cm	2
10.5–15 cm	3
>15 cm	No Treatment

Typically our first lift heights are 3.1 m. Crop trees will be the dominant and codominant top quality 500 to 600 trees per hectare. Minimum intertree spacing will be 1.0 m to allow flexibility in crop tree selection. Second lift heights are 5.5m.

## Fertilisation

Fertilisation will be undertaken on CWHxm and vm1 variants only. Poor and medium sites will receive highest priority. Specifically, the following site series will be considered for treatment: 01, 01s, 01p, 03, 06, 06s and 06p in both variants.

Candidate stands will be selected according to the following guidelines.

**Table 12 - Stand Leading Species**

Species	Priority
Coastal Douglas-fir (> 80% stocking)	1
Coastal Douglas-fir (60–80% stocking)	2
Western hemlock, spaced, < 40 years	3

Hw leading stands will generally not be considered for treatment. An exception to this may occur on salal and poor phase sites where recent research results indicate a favourable response to fertilisation.

**Table 13 - Stand Age**

*Stand Age	Priority
10–30 years from rotation end, (particularly commercially thinned stands)	1
More than 30 years from rotation end	2
Trees < 2m taller than ground vegetation	No Treatment
Recently planted stands	No Treatment (unless required for green-up)

Fertiliser used will typically be Forestry Grade urea (46 0 0) NPK. Agricultural Grade fertilisers will be used if Forestry Grade is not available. Additional nutrients will be included based on results of foliar analysis.