Growth and Yield Monitoring Plan for the Grande Prairie Forest Management Agreement Area

Prepared for

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Executive Summary

As part of their Detailed Forest Management Plan process Weyerhaeuser Company Limited (Weyerhaeuser) must develop a growth & yield monitoring plan (GYMP) to measure actual growth in natural and managed stands. This GYMP establishes Weyerhaeuser's growth & yield (G&Y) monitoring objectives for the natural (fire-origin) and regenerated stands on the Grande Prairie FMA area.

The primary goal of the GYMP is to provide data to check G&Y predictions. The intent is that the GYMP will be robust and provide data to check the different yield projection systems that are developed over time. The specific objectives are to:

1. Monitor change in volume, species composition, stand top height, and site index in natural stands on the FMA.
2. Provide data on natural stand growth that can be used as a subset of the data to develop new G&Y models and calibrate or validate existing models.[1]
3. Monitor change in volume, species composition, stand top height, and site index (growth intercept) in regenerated stands on the FMA.
4. Provide data on competition and succession in regenerated stands that can be used to link early stand performance to late stand conditions, especially in succession-based mixedwood stands.
5. Provide data on stand height and volume growth as well as seedling mortality and ingress that can be used as a subset of the data to develop new G&Y models or calibrate existing ones for regenerated stands.[1]
6. Provide data that could be used to develop relationships between ecological classification and stand development.

Weyerhaeuser has an existing set of permanent sample plots (PSPs) established on a grid that samples 12 sections per township. A subset of these PSPs will be used to meet objectives 1, 2, and 6 in natural stands. A gap analysis showed that the 1,012 PSPs in natural stands are well distributed across the FMA. As the current program is prohibitively expensive to maintain, Weyerhaeuser is proposing to continue measuring 395 of these plots according to the current measurement schedule. This subset was chosen by selecting a less intense grid pattern from the original design. The remainder of the plots will be dropped but the data from these plots will be maintained for future analyses.

To meet objectives 3, 4, 5, and 6 Weyerhaeuser will continue to establish and re-measure all regenerated PSPs on the original grid. There are currently 237 grid points in the target population. By 2013 there should be approximately 380 GYM plots established in regenerated stands; at which time the sample intensity and resulting sample size will be reviewed.

Complete graphical and statistical analyses of the natural PSPs and GYM plots will be completed on a five-year cycle. Analyses will address objectives 1 and 3 by comparing actual volumes, species composition, and site indices to those assumed in timber supply analyses.

[1] Note that this program is not intended to develop new G&Y models, or calibrate and validate existing models. It is not expected that this program will provide all the data required to do this. Rather the data collected could be a subset of the total pool of data used.

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1. INTRODUCTION

1.1 BACKGROUND

As part of developing their Detailed Forest Management Plan (DFMP), Weyerhaeuser Company Limited (Weyerhaeuser) must develop a growth & yield monitoring program (GYMP) to measure actual growth in natural (fire-origin) and regenerated stands.

1.2 GROWTH & YIELD MONITORING DEFINED

Growth & yield (G&Y) monitoring is the process of comparing observed G&Y attributes of the forest, yield stratum, or a stand to predicted G&Y attributes to assess the risk and uncertainty of these predictions.[2]

Measurement data derived from the GYMP will be compared with G&Y models and assumptions used in timber supply analysis. If this analysis shows "practically different"[3] values from the assumptions used in timber supply analysis, then the GYMP data can be used to evaluate the impact and make the appropriate adjustments.

A GYMP is a key component of adaptive management; it provides an independent and statistically-based sample of a forest area that can confirm the G&Y information used in timber supply. This is especially significant for regenerated stands where there is less certainty around productivity and yield predictions.

1.3 PROJECT GOAL & OBJECTIVES

The overall goal of this project is to develop a GYMP that is cost effective and meets both Weyerhaeuser's and Alberta Sustainable Resource Development's (ASRD) objectives.

The specific objectives of this project are to:

1. Clearly define the GYMP goals and objectives, including identification of G&Y activities that will not be part of the GYMP.
2. Determine the suitability of existing natural stand permanent sample plots (PSPs) for meeting the GYMP objectives and determine whether improvements are required.
3. Develop a sample design to meet the GYMP objectives for regenerated stands.
4. Update field procedures as necessary.
5. Define future analysis and reporting procedures.
6. Establish a timeline for implementing the GYMP.

A database to store and manage all GYMP data (including existing PSPs and new GYMP plots) will be developed in a separate project.

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[2] McWilliams, E.R.G. and Thrower, J.S. 1994. A review of operational growth and yield monitoring in British Columbia. Contract Rep. BC MOF Inventory Branch, Minor Services Contract 19525.

[3] "practically different" is defined as differences that will change management decisions.

1.4 TERMS OF REFERENCE

This project was completed by J.S. Thrower & Associates Ltd. (JST) for Greg Behuniak, *RPFT* of Weyerhaeuser, Grande Prairie, Alberta. The JST project team included Eleanor McWilliams, *RPF* (project manager, analyst), and Craig Mistal, *RPF* (analyst).

1.5 DOCUMENT STRUCTURE

Section 2 describes the guiding principles used to develop the GYMP along with program goals, objectives, and scope. Sections 3 and 4 describe the yield groups, regeneration strategy and linkage to alternative regeneration standards. Section 5 describes the existing PSP program and the distribution of plots on the land base. Sections 6 and 7 describe the proposed GYMP for the natural and regenerated stands, respectively. Section 8 outlines the steps required to implement the GYMP.

2. GYMP OVERVIEW

2.1 GUIDING PRINCIPLES

The following general principles were used to guide the development of the GYMP:

1. The GYMP will address G&Y monitoring (*i.e.*, checking observed G&Y values against predicted G&Y variables and assumptions) in the short- and medium-term (10-20 years). G&Y monitoring will be carried out utilizing ASRD's ten minimum strata developed for alternative regeneration standards (ARS) and linked to the current approved DFMP.
2. The importance of linking the GYMP to ARS and silviculture survey design is recognized. The sampling design for the GYMP in regenerated stands will accommodate the linkage of early stand performance and other G&Y objectives.
3. Weyerhaeuser will utilize on-going existing data collection programs (*e.g.*, Western Boreal G&Y Cooperative) to complement data collected in the GYMP.
4. The data collected in the GYMP will be analyzed and the results submitted in the appropriate format five years after DFMP approval as part of the Forest Stewardship Plan.

2.2 GOAL AND OBJECTIVES

The primary goal of the GYMP is to provide data to check G&Y assumptions and predictions used in timber supply analysis. The specific objectives are to:

1. Monitor change in volume, species composition, stand top height, and site index in natural stands on the FMA. This data will be compared with predicted values of the same attributes used in timber supply analyses to provide a level-of-comfort that predictions are accurate.
2. Provide data on natural stand growth that can be used as a subset of the data to develop new G&Y models and calibrate or validate existing models.
3. Monitor change in volume, species composition, stand top height, and site index (growth intercept) in regenerated stands on the FMA. This data will be compared with predicted values of the same attributes and regeneration assumptions used in the timber supply analyses to provide a check that predictions are accurate.
4. Provide data on competition and succession in regenerated stands that can be used to link early stand performance to late stand conditions, especially in succession-based mixedwood stands.
5. Provide data on stand height, volume growth, seedling mortality, and ingress that can be used as a subset of the data to develop new G&Y models, or calibrate existing ones for regenerated stands.
6. Provide data that could be used to develop relationships between ecological classification and stand development.
7. Utilize a sampling design that will allow post-stratification of the data into the predominant strata used in timber supply analysis. Post-, as opposed to pre-stratification will be used to accommodate changes over time in the yield strata employed in timber supply analysis.

2.3 SCOPE

The primary goal of the GYMP is to provide data to check G&Y predictions. The intent is that the GYMP will be robust and provide data to check the different yield projection systems that are developed over

time. We consider the development of new yield curves or models a separate program; one that will evolve over time from the development of empirical yield curves to the development of more sophisticated G&Y models. It is recognized that additional data may need to be collected for the development of new yield curves or models. Data from the GYMP will be used to check the information used in timber supply analysis, regardless of whether it comes from empirical yield curves or G&Y models. The GYMP is designed to be a trigger mechanism (*i.e.*, raise the red flag) if problems are detected. If this is the case, more in-depth studies can be undertaken to determine the cause(s) of the problem.

Checks of yield predictions will not occur for each individual stand type as it is not necessary and this requires an unreasonably high number of plots (and expense). A sufficient number of plots will be established or maintained to ensure that, on average, stands within a stratum covering at least five percent of the land base are producing the expected yields. This is the minimum requirement to meet the goal of checking yield predictions used in timber supply analysis. If analyses show that a more narrowly defined stratum (with a small number of plots) appears to be consistently over or under-estimated, additional temporary plots may be established to investigate further. This would only be necessary if timber supply sensitivity analyses showed that AAC determinations were sensitive to the yield projections for the stratum in question.

Monitoring plots will be established and maintained across the forested land base within the FMA using a grid-based design. This design will ensure that stands are sampled proportional to their occurrence on the landscape, and furthermore that natural variation (in age class, density, and site class) is sampled proportional to its occurrence. Stratification will be done following field sampling. The target population of stands to sample will continually change over time making pre-stratification very complex. The design will be a simple system that will remain robust over time.

In the process of meeting the primary goal to check yield projections used in timber supply analysis, the GYMP will produce data that could be used as a subset of the data for future development of more sophisticated G&Y models. Ideally, independent datasets would be used to develop and check G&Y models. However, the cost of maintaining two independent sets of plots is likely prohibitively expensive and is not necessary. Most sophisticated G&Y models are developed using data from a wide range of areas and stand conditions. Consequently, the risk of a model projection being largely influenced by data from any given management unit is low. However, it is prudent to examine the degree to which monitoring data from a given area contributed to a model before using the same data to check the model projections.

The primary goal of the GYMP is to check that model outputs are as predicted for the specified target population; not to provide data for localization. The term "localization" can be interpreted several different ways. For simple models, localization can be re-fitting functions to local data. For models that are more complex, localization may simply be ensuring the correct input values and adjustment factors for outputs as opposed to re-fitting equations. If problems are detected in the G&Y monitoring analysis, data from the GYMP could be used to make interim adjustments to yield projections, but this is not a primary goal of the program.

3. YIELD CURVES AND REGENERATION STRATEGY

In 1999, ASRD approved Weyerhaeuser Grande Prairie's DFMP and its program commitments. As part of this, empirical yield tables were developed from the fire-origin PSP database for the 1999 Grande Prairie DFMP. Since then, several new information sources and improved modeling methods have enforced the need to complete an interim timber supply analysis before the current (1999) Management Plan expires. Twenty-two (22) new yield groups have been defined for the new analysis (Table 1). In addition, there is an area weighted composite yield group (50), which was added to address polygon slivers. Of the 22 yield groups defined for fire origin stands, 19 are used for regenerated stands. No stands regenerate to yield groups 16, 17 or 40. Note that yield groups 1, 4, 6, 10, 14, 18, and 19 are A / B density stands and regenerate to A / B density stands.

Table 1. Weyerhaeuser Grande Prairie FMA yield groups and regeneration strategy.

Broad Cover Group	Yield Group	Species Group	Crown Closure	Guide Species	Regen Yield Group
CX	1	Pl	AB	Pl	1
	2	Pl	C	Pl	2
	3	Pl	D	Pl	3
	4	[Sw,Fa]	AB	Sw	4
	5	[Sw,Fa]	CD	Sw	5
	6	[Sb,Lt]	AB	Sb	6
	7	[Sb,Lt]	CD	Sb	7
	8	Pl-Sw	ABCD	Pl	8
	9	Sw-Pl	ABCD	Sw	9
	10	[Pl-Sb,Sb-Pl]	AB	Pl	10
	11	[Pl-Sb,Sb-Pl]	CD	Pl	11
	12	[Sw-Sb,Sb-Sw]	ABCD	Sw	12
CD	13	Pl-hwd	ABCD	Pl	13
	14	[Sw-Sb]-hwd	AB	Sw	14
	15	[Sw-Sb]-hwd	CD	Sw	15
DC	16	hwd-swd	AB	Aw	15
	17	hwd-swd	CD	Aw	15
DX	18	hwd	A	Aw	18
	19	hwd	B	Aw	19
	20	hwd	C	Aw	20
	21	hwd	D	Aw	21
DX	40	Conifer US			15
xComp[a]	50	Composite	ABCD		50

[a] Yield group 50 was created to handle an anomaly in GIS processing of the net land base. This stratum was not considered in the development of the sampling strategy.

4. LINKAGE TO ALTERNATIVE REGENERATION STANDARDS

Weyerhaeuser is currently developing ARS for all its operating areas in Alberta. To meet the stratification requirements of ARS, Weyerhaeuser's Grande Prairie regenerated yield groups were mapped to ASRD's ten minimum strata (Table 2).

Table 2. ASRD's ten minimum strata.

Broad Cover Group	ASRD Stratum #	Stratum Name	Leading Species
D	I	Deciduous	Aw, Pb, Bw, or A pure or leading
DC	II	Hardwood/Pine	Aw, Bw, or A leading D component
	III	Hardwood/Spruce	Aw, Bw, or A leading D component
CD	IV	White Spruce/Hardwood	Sw, Se, Fb, Fa or Fd leading C component
	V	Pine/Hardwood	P, Pl, Pj, Pa or Pf leading C component
	VI	Black Spruce/Hardwood	Sb, Lt, La, or Lw leading C component
C	VII	White Spruce pure or leading	Sw, Se, Fb, or Fa pure or leading
	VIII	Pine pure or leading	P, Pl, Pj, Pa or Pf pure or leading
	IX	Black Spruce pure or leading	Sb, Lt, La, or Lw pure or leading
	X	Douglas-fir pure or leading	Fd pure or leading

The following rationale was used to map the 19 regenerated yield groups to ASRD's ten minimum strata (Table 3):

1. Yield groups 18, 19, 20 and 21 are deciduous, and therefore map to ASRD stratum I.
2. Weyerhaeuser does not have any hardwood/pine regenerated yield curves; therefore, they do not have a match for ASRD stratum II.
3. Weyerhaeuser does not have any hardwood/spruce regenerated yield curves; therefore, they do not have a match for ASRD stratum III.
4. Yield groups 14 and 15 are white spruce/hardwood, and therefore map to ASRD stratum IV.
5. Yield group 13 is pine/hardwood, and therefore maps to ASRD stratum V.
6. Weyerhaeuser does not have any black spruce/hardwood regenerated yield curves; therefore, they do not have a match for ASRD stratum VI.
7. Yield groups 4, 5, 9 and 12 are conifer and white spruce leading, and therefore map to ASRD stratum VII.
8. Yield groups 1, 2, 3, 8, 10 and 11 are conifer pure pine and pine leading, and therefore map to ASRD stratum VIII.
9. Yield groups 6 and 7 are Sb leading, and therefore map to ASRD stratum IX.
10. Weyerhaeuser does not have any Douglas-fir regenerated yield curves; therefore, they do not have a match for ASRD stratum X.

The result is that six of the ASRD ten minimum strata occur on the FMA. These six strata will be used in the GYMP. Note that four of the strata (I, IV, VII, and VIII) account for 94% of the net land base.

Table 3. Weyerhaeuser Grande Prairie FMA regenerated yield groups mapped to ASRD ten minimum strata.

Broad Cover Group	ASRD Stratum #	Weyco YG	Net land base	%Net land base
D	I	18	25,356	2.9
		19	44,112	5.0
		20	118,083	13.3
		21	39,379	4.4
		Subtotal	226,930	25.6
DC	II	----	No hardwood/pine yield groups	
	III	----	No hardwood/spruce yield groups	
CD	IV	14	11,157	1.3
		15	96,344	10.9
		Subtotal	107,502	12.1
	V	13	11,058	1.2
	VI	----	No black spruce/hardwood yield groups	
C	VII	4	66,311	7.5
		5	74,900	8.5
		9	40,233	4.5
		12	16,196	1.8
		Subtotal	197,640	22.3
	VIII	1	48,171	5.4
		2	126,938	14.3
		3	35,609	4.0
		8	63,345	7.2
		10	18,765	2.1
		11	10,776	1.2
		Subtotal	303,604	34.3
	IX	6	20,707	2.3
		7	13,404	1.5
		Subtotal	34,110	3.9
	X	----	No Douglas-fir yield groups	
Composite	----		4,589	0.5
	Grand Total		885,434	100.0

5. EXISTING PSP PROGRAM

5.1 HISTORY

The PSP program was initiated in 1975 by Procter & Gamble Cellulose on their Grande Prairie FMA. The initial objectives were to replace or update the base inventory and to provide a better estimate of future forest growth. Over the past 30 years, over 1,300 plots have been established and re-measured. Within the current FMA boundary, there are 1,217 PSPs (Appendix I).

5.2 DESIGN

The PSPs provide up-to-date volume and growth information for the FMA and are located on a predetermined systematic fixed grid. This grid layout is identical for each township and consists of 12 plots per township. The locations of the plots in each township are depicted in Figure 1.

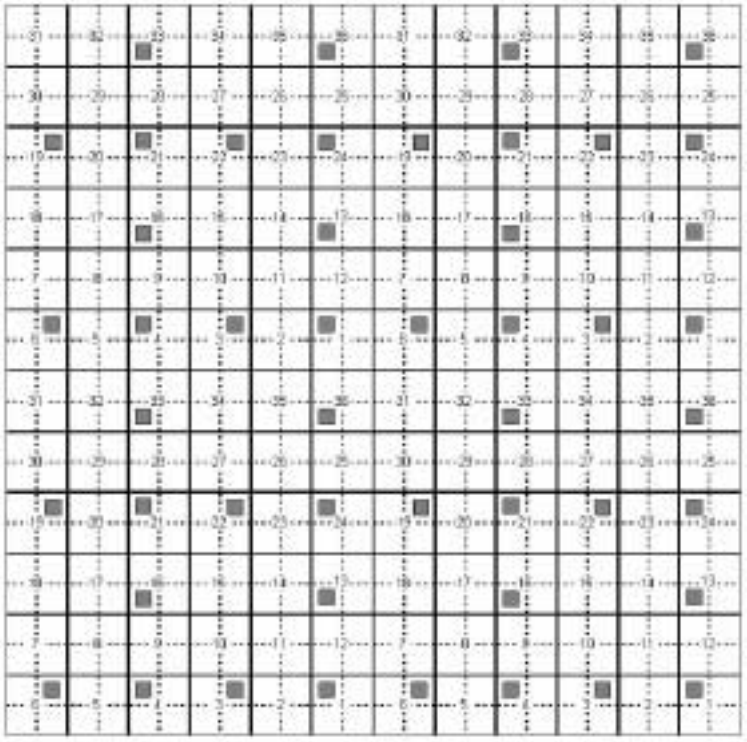


Figure 1. Original sample grid design showingfour townships to demonstrate the pattern.

PSPs are established in the following locations:

Center of northwest quarter, section 1
Center of northeast quarter, section 3
Center of northwest quarter, section 4
Center of northeast quarter, section 6
Center of southwest quarter, section 13
Center of southwest quarter, section 16
Center of northeast quarter, section 19
Center of northwest quarter, section 21
Center of northeast quarter, section 22
Center of northwest quarter, section 24
Center of southwest quarter, section 33
Center of southwest quarter, section 36

The PSPs are composed of three nested plots; the main plot is square with an area of 0.08 ha (0.04 ha in reduced size plots) and aligned in the cardinal directions. All trees greater than 50 mm DBH are tagged and measured in the main plot. PSPs in natural stands are composed of the main plot only. The 0.02 ha sapling plot is nested in the northwest corner of the main plot. Trees from 1.3 m height to 50 mm DBH are tagged and measured in regenerated stands. There are four 0.001 ha regeneration plots within the sapling plot, located at cardinal bearings from the center post. Trees less than 1.3 m are tallied in the regeneration plots.

Plots are numbered according to their location in the grid system and whether they are located in a natural (NAT) or regenerated (REG) stand. Plot numbers are composed of 12 digits; the first digit corresponds to the meridian, the next three to the township, the following two to the range, and the final six to the section (survey number). For example, PlotID = 605606000003_NAT represents natural plot #3 in township 56, range 6, and meridian 6.

A detailed description of Weyerhaeuser's PSP program and data collection protocols can be found in the Weyerhaeuser PSP Manuals (Appendix II, Appendix III, Appendix IV).

5.3 NULL POINTS

The systematic grid depicted in Figure 1 was intersected with the entire FMA area to determine if any points on this grid have not had plots established. Two hundred and fifty-eight (258) points do not have plots established (Table 4). There are likely several reasons for this such as original objectives to exclude locations in pure deciduous stands, non-quota timber licenses, and grazing leases.

Table 4. Distribution of null points by net land base category, stand type (natural or regen) and ASRD strata.

Stand Type	Not Assigned	ASRD Strata I	IV	V	VII	VIII	IX	Composite	Total
1. Dispositions & Other Area Removals									
Natural	14	4	1		2	2			23
Regen		2			2				4
Subtotal									27
2. Non-Forested Area Reductions									
Natural	22								22
Regen		1							1
Subtotal									23
3. Water Buffers and Seismic Lines									
Natural		4	5		5	3			17
Regen					2				2
Subtotal									19
4. Operability Restrictions & Subjective Deletions									
Natural		4	3	1	2	5	9		24
Regen						2			2
Subtotal									26
5. Net Harvestable									
Natural		58	20	1	20	29	7		135
Regen		5	1		12	8		2	28
Subtotal									163
Grand Totals									
Natural	36	70	29	2	29	39	16		221
Regen		8	1		16	10		2	37
Total	36	78	30	2	45	49	16	2	258

5.4 CURRENT STATUS

Given the goals and objectives of the GYMP, the distribution of the existing 1,217 PSPs and 258 null points across net land base categories, ASRD strata for ARS (Table 3), and PSP type was tabulated (Table 5) for comparison to the land base distribution (Table 6).

Table 5. Distribution of PSPs by net land base categories, ASRD strata, and PSP type (Natural = PSP in mature stand, Regen = PSP in regenerated stand, Nat→Regen = PSP was established in mature stand that has been harvested and a new regen PSP has not yet been established, Null = grid point without a PSP established). Note that the only ASRD strata shown are those included in the regeneration strategy so natural PSPs currently in DC stands that are scheduled to regenerate to CD stands are tabulated under ASRD Strata IV (Sw-Hardwood).

PSP Type	Not Assigned	ASRD Strata I	IV	V	VII	VIII	IX	Composite	Total
1. Dispositions & Other Area Removals									
Natural	10	4				1	2		17
Regen					1				1
Nat→Regen									
Null	14	6	1		4	2			27
Subtotal	24	10	1		5	3	2		45
2. Non-Forested Area Reductions									
Natural	38								38
Regen									
Nat→Regen									
Null	22	1							23
Subtotal	60	1							61
3. Water Buffers and Seismic Lines									
Natural		16	11	1	25	20	2		75
Regen					1	1			2
Nat→Regen						1			1
Null		4	5		7	3			19
Subtotal		20	16	1	33	25	2		97
4. Operability Restrictions & Subjective Deletions									
Natural		10	4	1	6	29	37		87
Regen		2							2
Nat→Regen									
Null		4	3	1	2	7	9		26
Subtotal		16	7	2	8	36	46		115
5. Net Harvestable									
Natural		219	107	18	126	294	31		795
Regen		11	5	1	68	81		1	167
Nat→Regen		9	1		5	13		4	32
Null		63	21	1	32	37	7	2	163
Subtotal		302	134	20	231	425	38	7	1,157
Grand Totals									
Natural	48	249	122	20	157	344	72		1,012
Regen		13	5	1	70	82		1	172
Nat→Regen		9	1		5	14		4	33
Established	**48**	**271**	**128**	**21**	**232**	**440**	**72**	**5**	**1,217**
Null	36	78	30	2	45	49	16	2	258
Total	84	349	158	23	277	489	88	7	1,475

Table 6. Area (ha) on the FMA by stand type, net land base category and ASRD strata. Note that the only ASRD strata shown are those included in the regeneration strategy so area currently in DC stands that are scheduled to regenerate to CD stands are tabulated under ASRD Strata IV (Sw-Hardwood).

Stand Type	Not Assigned	ASRD Strata I	IV	V	VII	VIII	IX	Composite	Total
1. Dispositions & Other Area Removals									
Natural	17,060	6,854	3,001	250	2,385	4,007	3,158	0	36,716
Regen	1	1,110	217	38	1,622	1,934	3	564	5,490
Subtotal	17,061	7,964	3,218	288	4,008	5,942	3,161	564	42,206
	1.5%	0.7%	0.3%	0.0%	0.4%	0.5%	0.3%	0.0%	3.7%
2. Non-Forested Area Reductions									
Natural	49,992	0	0	0	0	3	0	0	49,996
Regen	2	176	2	2	332	421	0	258	1,193
Subtotal	49,994	176	2	2	332	425	0	258	51,188
	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%
3. Water Buffers and Seismic Lines									
Natural	1	16,277	10,639	1,031	23,369	21,753	4,373	0	77,443
Regen	0	533	351	44	1,175	1,299	16	89	3,507
Subtotal	1	16,810	10,990	1,075	24,544	23,052	4,389	89	80,949
	0.0%	1.5%	1.0%	0.1%	2.2%	2.0%	0.4%	0.0%	7.1%
4. Operability Restrictions & Subjective Deletions									
Natural	5	12,695	4,888	712	12,206	19,638	27,459	0	77,603
Regen	0	543	60	0	5	280	16	0	904
Subtotal	5	13,238	4,948	713	12,211	19,918	27,475	0	78,507
	0.0%	1.2%	0.4%	0.1%	1.1%	1.7%	2.4%	0.0%	6.9%
5. Net Harvestable									
Natural	0	204,012	101,036	9,638	131,888	226,540	33,808	0	706,921
Regen	0	22,918	6,466	1,420	65,753	77,064	302	4,589	178,512
Subtotal	0	226,930	107,502	11,058	197,640	303,604	34,110	4,589	885,434
	0.0%	19.9%	9.4%	1.0%	17.4%	26.7%	3.0%	0.4%	77.8%
Grand Totals									
Natural	67,058	239,838	119,564	11,630	169,848	271,942	68,799	0	948,678
	5.9%	21.1%	10.5%	1.0%	14.9%	23.9%	6.0%	0.0%	83.3%
Regen	3	25,280	7,095	1,505	68,886	80,999	337	5,500	189,606
	0.0%	2.2%	0.6%	0.1%	6.1%	7.1%	0.0%	0.5%	16.7%
Total	67,062	265,118	126,659	13,135	238,734	352,941	69,135	5,500	1,138,284
	5.9%	23.3%	11.1%	1.2%	21.0%	31.0%	6.1%	0.5%	100.0%

The current program more than adequately represents the ASRD strata (Table 5, Table 6, Table 7, Table 8), and given the prohibitive expense of maintaining the PSP program, the intention is to downsize it while maintaining the flexibility to increase sample sizes in specific strata over time, if required.

Table 7. Comparison of natural stand area to number of PSPs.

ASRD Strata	Area (ha)	% FMA	PSPs	
			Established	Null
I	239,838	21.1%	249	70
IV	119,564	10.5%	122	29
V	11,630	1.0%	20	2
VII	169,848	14.9%	157	29
VIII	271,942	23.9%	344	39
IX	68,799	6.0%	72	16
Composite	0	0.0%	0	0
Not Assigned	67,058	5.9%	48	36
Total	948,678	83.3%	1,012	221

Table 8. Comparison of regenerated stand area to number of PSPs.

ASRD Strata	Area (ha)	% FMA	PSPs		
			Established	Nat→Regen	Null
I	25,280	2.2%	13	9	8
IV	7,095	0.6%	5	1	1
V	1,505	0.1%	1	0	0
VII	68,886	6.1%	70	5	16
VIII	80,999	7.1%	82	14	10
IX	337	0.0%	0	0	0
Composite	5,500	0.5%	1	4	2
Not Assigned	3	0.0%	0	0	0
Total	189,606	16.7%	172	33	37

6. PROPOSED NATURAL STAND G&Y MONITORING PROGRAM

6.1 OVERVIEW

Natural stands are the dominant forest type in the Grande Prairie FMA. These stands regenerated naturally following wildfire. The importance of natural stands will decline as the proportion of managed stands increases. The GYMP for natural stands will utilize the existing natural PSPs. A review of the PSP distribution shows that they are proportionately distributed across natural subregions, broad cover groups, productivity and density classes. The proposed design will establish and re-measure plots on a subset of the existing PSP grid.

6.2 OBJECTIVES

The GYMP objectives (Section 2.2) that apply to natural stands are:

1. Monitor change in volume, species composition, stand top height, and site index in natural stands on the FMA area. This data will be compared with predicted values of the same attributes used in timber supply analysis to provide a level-of-comfort that predictions are accurate. These comparisons will be made at the ASRD stratum level.
2. Provide data on natural stand growth that can be used as a subset of the data to develop new G&Y models and calibrate or validate existing models.
3. Provide data that could be used to develop relationships between ecological classification and stand development.

6.3 TARGET POPULATION

The target population consists of all natural stands within categories 2 through 5 of the Grande Prairie FMA land base (non-forested areas, water buffers and seismic lines, operability restrictions and subjective deletions and the net harvestable area) (Table 6). This area is currently 911,962 ha. The target population will decrease over time as stands are harvested and regenerated. There are currently 995 PSPs established in the target population (Table 9).

Table 9. Current distribution of PSPs on the FMA outside and within the natural stand target population.

PSP	Not	ASRD Strata							
Type	Assigned	I	IV	V	VII	VIII	IX	Composite	Total
Outside Target Population									
Established	10	4	0	0	0	1	2	0	17
Null	14	4	1	0	2	2	0	0	23
Subtotal	24	8	1	0	2	3	2	0	40
Within Target Population									
Established	38	245	122	20	157	343	70	0	995
Null	22	66	28	2	27	37	16	0	198
Subtotal	60	311	150	22	184	380	86	0	1,193
Grand Totals									
Established	48	249	122	20	157	344	72	0	1,012
Null	36	70	29	2	29	39	16	0	221
Total	84	319	151	22	186	383	88	0	1,233

6.4 SAMPLE DESIGN

The proposed sample design is to establish and continue re-measuring a subset of the existing PSP locations. The subset chosen consists of the points in sections 1, 4, 21, and 24 in each township (Figure 2). This maintains a grid-based design across the FMA and results in a total of 395 grid points in the target population (Table 10). Of this total, 61 are null points that will have new plots established. In locations with no trees, corner posts will be established. The remaining 334 existing plots will continue to be re-measured according to the current Weyerhaeuser PSP program schedule.

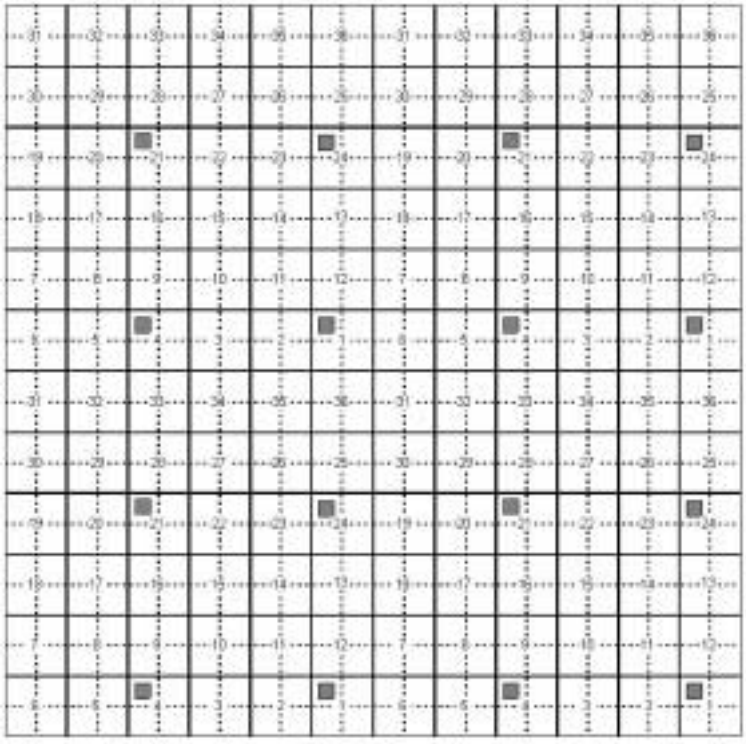


Figure 2. Proposed subset of grid points to be maintained in natural stands.

Table 10. Distribution of the proposed subset of grid points in natural stands, both outside and within the target population. Those within the target population will be maintained.

PSP	Not	ASRD Strata							
Type	Assigned	I	IV	V	VII	VIII	IX	Composite	Total
Outside Target Population									
Natural	3	0	0	0	0	0	0	0	3
Null	4	1	0	0	0	0	0	0	5
Subtotal	7	1	0	0	0	0	0	0	8
Within Target Population									
Natural	13	86	38	7	52	120	18	0	334
Null	9	18	10	0	4	14	6	0	61
Subtotal	22	104	48	7	56	134	24	0	395
Grand Totals									
Natural	16	86	38	7	52	120	18	0	337
Null	13	19	10	0	4	14	6	0	66
Total	29	105	48	7	56	134	24	0	403

The distribution of the proposed subset of plots adequately represents the ASRD strata occurring within the target population (Table 11).

Table 11. Distribution of proposed subset of plots to maintain in natural stands compared to the area of the target population.

ASRD Strata	Area (ha)	% Target Population	PSPs		
			Established	Null	Total
I	232,984	25.5%	86	18	104
IV	116,563	12.8%	38	10	48
V	11,380	1.2%	7	0	7
VII	167,462	18.4%	52	4	56
VIII	267,935	29.4%	120	14	134
IX	65,640	7.2%	18	6	24
Not Assigned	49,998	5.5%	13	9	22
Total	911,962	100.0%	334	61	395

6.5 MEASUREMENT SCHEDULE

PSPs will be remeasured every five to 10 years based on the anticipated rate of change in the particular stand type. Stands with relatively high rates of change include mature and over mature deciduous leading stands.

6.6 DATA MANAGEMENT

Weyerhaeuser will build a database to store and manage all the GYMP data (including existing PSPs and new GYMP plots).

6.7 DATA ANALYSIS AND REPORTING

The data collected in the GYMP will be analyzed and the results submitted in the appropriate format five years after DFMP approval as part of Weyerhaeuser's Forest Stewardship Plan. A thorough analysis of sample sizes will be conducted as part of the analysis.

7. PROPOSED REGENERATED STAND G&Y MONITORING PROGRAM

7.1 OVERVIEW

Regenerated stands are those that originate after harvesting and reforestation activities. For the purposes of the GYMP, these stands are further defined as those resulting from harvesting from 1969 onwards. The importance of regenerated stands to the annual harvest will increase over time. Currently there are 189,606 ha of regenerated stands in the FMA. The GYMP for regenerated stands will utilize the existing regenerated stand PSPs.

7.2 OBJECTIVES

Weyerhaeuser's GYMP will monitor critical G&Y indicators to track progress towards meeting DFMP G&Y targets and validating timber supply assumptions. The GYMP objectives (Section 2.2) that apply to regenerated stands are:

1. Monitor change in volume, species composition, stand top height, and site index (growth intercept) in regenerated stands in the Grande Prairie FMA. This data will be compared with predicted values of the same attributes and regeneration assumptions used in the DFMP timber supply analysis to check that predictions are accurate and precise.
2. Provide data on competition and succession that can be used to link early stand performance to late stand conditions, especially in succession-based mixedwood stands.
3. Provide data on stand height, volume growth, seedling mortality, and ingress that can be used as a subset of the data to develop new or calibrate existing G&Y models for regenerated stands.
4. Provide data that could be used to develop relationships between ecological classification and stand development.

7.3 GENETIC GAIN

The following is an excerpt from a letter[4] Weyerhaeuser received from ASRD regarding monitoring of genetic gain.

"Monitoring and reporting is a requirement under STIA and standards for improved tree strata need to be explicitly stated. Weyerhaeuser must address the following in their Growth & Yield Program (due September 2006).

a) Monitoring genetically improved deployment requires post-harvest yield strata to be defined based on deployment of improved seed. Monitoring these strata requires increased intensity relative to other post-harvest yield strata.

b) Weyerhaeuser must develop a system to identify planted stock from natural (ingress) seedlings. Surveyors must be able to identify genetically improved planted stock when conducting regeneration surveys on blocks where improved stock has been deployed."

The required increased intensity relative to other strata will be obtained by complementing the PSPs with trials designed to quantify genetic gain on a per hectare basis. While theoretically possible, it has not

[4] Letter from Robert Stokes to Mitch Yaremko February 6, 2006.

been demonstrated to be practically feasible to quantify genetic gain by sampling operational stands. A more detailed discussion of this topic is provided in Appendix V.

The establishment of all PSPs in blocks where improved stock has been deployed will include identification of the genetically improved stock. This will be accomplished by establishing the plots as soon after planting as possible. Attempts to distinguish planted from natural trees in regeneration surveys have demonstrated that it cannot be done consistently, making such data unreliable.

7.4 EXISTING DATA COLLECTION PROGRAMS

In addition to the regenerated stand PSPs described in Section 7.7, Weyerhaeuser is an active participant in the following cooperative programs.

7.4.1 The Foothills Growth and Yield Association (FGYA)

The FGYA was formed in 2000 by nine participating member companies (including Weyerhaeuser) with forest tenures on the eastern slopes of the Rocky Mountains who recognized the value of a collaborative lodgepole pine G&Y research program. The mandate of FGYA[5] is to continually improve the assessment of lodgepole pine G&Y in managed stands by:

1. Forecasting and monitoring responses to silvicultural treatments.
2. Facilitating the scientific development and validation of yield forecasts used by members in managing their tenures.
3. Promoting knowledge, shared responsibility and cost-effective cooperation.

The FGYA studies in regenerated lodgepole pine stands should be incorporated in forest management planning, regenerated stand G&Y modeling, and silviculture practice on the FMA. These studies are considered complementary to the GYMP; FGYA plots will not be utilized as part of the GYMP design.

7.4.2 The Western Boreal Growth and Yield Association (WESBOGY)

WESBOGY is a cooperative of 16 agencies involved in forest growth, yield, inventory, and planning in western Canada. Weyerhaeuser has been a member since WESBOGY's inception in 1985. WESBOGY's main research focus is the mixedwood G&Y of boreal spruce and aspen. This program aims to advance the understanding of mixedwood stand dynamics under intensive management from establishment to final harvest.

The main objectives of WESBOGY are:[6]

1. To identify, evaluate, rank, and address areas of research which are: of regional importance, shared mutual interest, and most effectively approached by cooperative rather than individual efforts;
2. To facilitate the dissemination of G&Y information through the development of appropriate procedures, standards, and databases for members' use;

[5] Source: www.fmf.ab.ca/pa_FGYA.html

[6] Source: www.wesbogy.rr.ualberta.ca/about.asp

3. To encourage the establishment and continued monitoring of standardized permanent sample plots (PSPs) to quantify the effects of intensive forest management practices, and in general to coordinate the acquisition of high priority G&Y data;
4. To expedite the development of managed stand yield models for the major commercial tree species in the region;
5. To encourage or sponsor research designed to satisfy established needs;
6. To identify, monitor, evaluate, and disseminate to its members, information on trends in G&Y research and to provide a forum for communication;
7. To provide opportunities to members for mutual action to address information needs in forest G&Y.

The findings of WESBOGY studies will be incorporated in forest management planning, regenerated stand G&Y modeling, and silviculture practice on the FMA. These WESBOGY plots will not be utilized as part of the GYMP design, but will complement the GYMP.

7.4.3 MixedWood Management Association

The MixedWood Management Association (MWMA) is a partnership of ten Alberta Forest Products Companies and ASRD. It works to address management issues around sustaining the mixed species characteristics of mixedwood stands. Weyerhaeuser has been a member of the MWMA since its inception in 2000. The goals and objectives of MWMA[7] are:

1. Development of defensible, ecologically-based (*e.g.* that accounts for the effects of succession), site-specific yield curves for:
    - Naturally regenerated stands with or without treatments;
    - Post-harvest regenerated stands across a range of potential management interventions (treatments).
2. Development of defensible site-specific crop plans that lead to mixedwood stands in:
    - Naturally regenerated stands with or without treatments;
    - Post-harvest regenerated stands across the range of potential management interventions (treatments).
3. Development and use of a standardized monitoring protocol. Define the characteristics to measure, optimal timing of these measurements, and how to measure them:
    - Monitoring to judge conformity of predicted and realized stand trajectories.
    - Monitoring to assess accuracy of yield projections.
4. Development of stand assessment tools (*i.e.*, attributes needed to be quantified) to:
    - Enable assignment of naturally-occurring understory spruce to appropriate yield trajectories.
    - Assist in the selection of specific understory spruce protection treatments and the determination of associated probabilities of success for mixedwood stands.
    - Select hardwood stands that will allow for the successful establishment and growth of understory spruce.
5. Development of a decision-support tool (model) that will estimate cost versus yield (m^3) for a wide range of silvicultural regimes that will aid in the selection of crop plans to be developed (with an understanding of the models limitations with respect to accuracy). (It was understood that such a

[7] Source: http://www.mwma.rr.ualberta.ca/about.asp

model would be based on estimated yields, given the lack of data, but that it would be a "first cut" at enabling a structured assessment of the economic merits of numerous silvicultural regimes.)

6. Documentation of the effects of mixedwood management on non-fibre values.
    - Soil nutrient changes from existing and proposed stand trajectories.
    - Biodiversity implications from practicing mixedwood management.
    - Potential to aid in 'fire-proofing' the forest.
    - Aiding in inter-company cooperation.

7.5 TARGET POPULATION

The target population consists of all regenerated stands within the Weyerhaeuser Grande Prairie FMA harvested 1969 or later. The target population will expand over time as natural stands are harvested and regenerated. It currently consists of 189,606 ha, or 16.7% of the land base (Table 6).

7.6 STRATIFICATION

Stratification will be done post-sampling by ASRD strata. The target population of stands to sample will continually change over time making pre-stratification very complex. As the target population expands, the number of plots will increase allowing additional post-stratification as necessary.

7.7 SAMPLE DESIGN

The proposed sample design is to continue to establish and re-measure the existing PSPs as per the original grid (Figure 1) and current Weyerhaeuser PSP program schedule. This maintains a grid-based design across the FMA and currently results in 237 grid points in the target population (Table 12). Of this total, 33 are null points that will have new plots established, and 33 are locations where natural PSPs were established and new regenerated PSPs have not yet been re-established. New regenerated stand PSPs will be established if an original grid point falls in new cutblock. A re-assessment of the sampling intensity and resulting sample size (Table 13) will be conducted in 2013 as part of G&Y monitoring analysis reported in the DFMP Stewardship report.

Table 12. Distribution of original grid points in regenerated stands.

PSP Type	Not Assigned	ASRD Strata							
		I	IV	V	VII	VIII	IX	Composite	Total
Outside Target Population									
Regen	0	0	0	0	1	0	0	0	1
Nat→Regen	0	0	0	0	0	0	0	0	0
Null	0	2	0	0	2	0	0	0	4
Subtotal	0	3	0	0	3	0	0	0	6
Within Target Population									
Regen	0	13	5	1	69	82	0	1	171
Nat→Regen	0	9	1	0	5	14	0	4	33
Null	0	6	1	0	14	10	0	2	33
Subtotal	0	27	7	1	88	106	0	7	237
Grand Totals									
Regen	0	13	5	1	70	82	0	1	172
Nat→Regen	0	9	1	0	5	14	0	4	33
Null	0	8	1	0	16	10	0	2	37
Total	0	30	7	1	91	106	0	7	242

7.8 PLOT DESIGN

GYM plots will consist of a 0.08 ha large tree plot (≥5 cm DBH), a 0.02 sapling plot (1.3 m in height to 4.99 cm DBH) and four 0.001 ha regen plots (10 cm to 1.3 m height). DBH and height measurements will be recorded for all trees. Trees will be tagged once they reach 1.3 m.

7.9 MEASUREMENT SCHEDULE

Plots in new cutblocks will be established following harvest and re-measured at years 2, 7, 12, 17, 22, 27, 37, 47, etc. Existing regenerated stand PSPs will continue to be measured every five years until approximately age 30 and subsequently re-measured every ten years.

Table 13. Projected future distribution of regenerated PSPs.

ASRD Strata	# of Regenerated PSPs		
	Current	2008	2013
I	28	46	64
IV	7	16	25
V	1	2	3
VII	88	101	114
VIII	106	127	148
IX	0	5	10
Composite	7	7	7
Not Assigned	0	4	8
Total	237	308	380

7.10 DATA MANAGEMENT

Measurements will be keypunched at the end of the field season and imported into a database for validation, error checking, and compilation. New measurements are checked for error and are cross-referenced against previous measurements to identify discrepancies in potentially high or low growth in tree height and/or DBH.

7.11 DATA ANALYSIS AND REPORTING

The data collected in the GYMP will be analyzed and the results submitted in the appropriate format five years after DFMP approval as part of the Forest Stewardship Plan.

The first measurement provides yield estimates only, which can be used to audit the projected yield of managed stands. Change is estimated when two or more measurements, for the main attributes of interest, are available to determine differences between measured and predicted G&Y. Graphical analysis will include plotting actual versus predicted values and plotting differences (actual-predicted) versus stand age or any other chosen variable to examine trends. The statistical analysis includes the average differences and associated confidence intervals.[8]

The graphical and statistical analyses are intended to examine overall trends in the data. If the analyses suggest over- or under-prediction, then the possible sources of the differences should be identified. For example, when considering volume estimates, factors to consider as sources of error are the differences between the inventory inputs into the model and the actual stand attributes.

The monitoring plot data could be used to adjust yields, but it should not be used to adjust growth projections (yield curves) based on observed growth. Both activities address the symptom of a problem

[8] J.S. Thrower & Associates Ltd. 2000. Graphical and statistical analysis for monitoring estimates of change at the management-unit level. Version 2.0. Contract report to B.C. Ministry of Forests, Resources Inventory Branch, Victoria, BC. Project MFI-055. Available at http://srmwww.gov.bc.ca/tib/reports/gymonitor/index.html

rather than its actual cause. Adjusting current yields for the sampled population is acceptable if data are representative of current yields. Adjusting yield curves to reflect observed growth in one time period is risky because this trend may not continue over time. The more prudent approach is to determine why differences occur. Often they result from incorrect inputs to the models.

8. NEXT STEPS

Upon ASRD approval of this GYMP, Weyerhaeuser will develop a detailed work schedule, listing all necessary steps to achieve the GYMP goals and objectives. The following is a preliminary list of the tasks to be completed:

1. Update field procedures prior to the 2007 field season.
2. Develop a database to manage both the natural and regenerated stand PSP data. This will include data entry, error checking, and compilation routines. This is currently under development.
3. Establish and re-measure regenerated PSPs as per the existing schedule.
4. Continue to re-measure the proposed subset of existing natural PSPs as per the current Weyerhaeuser schedule.
5. Complete first analysis of GYM data in 2013 as part of the DFMP stewardship report.

APPENDIX I – LIST OF EXISTING PSPS

Table 1. List of existing PSPs with numbers of trees per ha by tree size class from the last compiled measurement. Note that a subset of these plots was measured in 2006 (noted in the table) but this data has not yet been compiled. The number of measurements shows how many times the plot has been measured. Those plots with both natural and regenerated stand measurements are those where a regen plot has been established after the natural stand plot was harvested.

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees		Saplings		Regen		Meas 2006	# Measure	
									Conifer	Decid	Conifer	Decid	Conifer	Decid		Natural	Regen
605809000033	CX	8	PL5FB3SW2	54	No	Natural	800	2000	1 100	0	0	0	0	0		3	
605809000036	CX	2	PL8SW1FB1	64	No	Natural	800	2000	2 363	0	0	0	0	0		3	
605906000006	5. 30m Buffer	20	AW5PB5	84	No	Natural	800	1982	0	663	0	0	0	0		1	
605906000019	DX	18	AW8PL2	74	No	Natural	800	2001	300	675	0	0	0	0		2	
605906000021	DC	16	AW7SB3	104	No	Natural	800	2001	1 138	800	0	0	0	0		3	
605906000033	CD	13	PL7AW3	74	No	Natural	800	2000	438	100	0	0	0	0		3	
605907000001	DX	20	AW10	104	No	Natural	800	1995	0	825	0	0	0	0		2	
605907000003	DX	20	AW10	104	No	Natural	800	2001	125	1 088	0	0	0	0		3	
605907000006	DX	20	AW9PB1	104	No	Natural	800	2001	0	288	0	0	0	0		2	
605907000016	CX	1	PL8AW2	124	No	Natural	800	1998	563	0	0	0	0	0		2	
605907000019	CX	4	FB5SW3PL2	94	No	Natural	800	2005	1 388	0	0	0	0	0		4	
605907000021	CX	8	PL6SW3FB1	114	No	Natural	800	2002	625	0	0	0	0	0		2	
605907000022	CX	1	PL8SW1AW1	114	No	Natural	800	1995	250	0	0	0	0	0		2	
605907000024	CX	1	PL8AW2	64	No	Natural	800	1998	425	13	0	0	0	0		2	
605907000033	CX	2	PL10	114	No	Natural	800	1998	838	0	0	0	0	0		2	
605907000036	CX	2	PL10	114	No	Natural	800	1998	1 013	0	0	0	0	0		2	
605908000003	CX	5	SW9AW1	10	Yes	Regen	800	2001	0	0	250	0	10 000	0		1	2
605908000013	CX	2	PL9SW1	124	No	Natural	800	2004	438	0	0	0	0	0		3	
605908000016	5. 30m Buffer	8	PL5SW3FB2	124	No	Natural	800	2001	2 188	0	0	0	0	0		3	
605908000019	CX	2	PL10	94	No	Natural	800	2001	1 713	0	0	0	0	0		3	
605908000021	CX	1	PL10	104	No	Natural	800	1996	1 925	0	0	0	0	0		2	
605908000022	4. Non-Forested Vegetated				No	Natural	800	1986	0	0	0	0	0	0		1	
605908000024	CX	2	PL9AW1	3	Yes	Regen	800	2004	0	0	0	0	0	0		2	2
605908000026	CX	8	PL6SW2FB2	104	No	Natural	800	2002	1 488	0	0	0	0	0		1	
605908000033	CX	3	PL10	104	No	Natural	800	1996	1 238	0	0	0	0	0		2	
605908000036	5. 30m Buffer	8	PL7SW2FB1	104	No	Natural	800	2002	950	0	0	0	0	0		3	
605909000001	CX	2	PL9SW1	94	No	Natural	800	1998	1 188	0	0	0	0	0		2	
605909000003	1. Steep Slopes	1	PL8SW1FB1	94	No	Natural	800	1998	525	13	0	0	0	0		2	
605909000004	CX	2	PL9SW1	94	No	Natural	800	1998	2 850	0	0	0	0	0		2	
605909000006	5. 30m Buffer	16	AW5SW3PL1FB1	64	No	Natural	800	2004	1 038	13	0	0	0	0		3	
605909000016	CX	3	PL9SW1	104	No	Natural	800	1998	2 388	0	0	0	0	0		2	
605909000019	5. 30m Buffer	8	PL5FB3SW2	64	No	Natural	800	1993	2 063	325	0	0	0	0		2	
605909000021	1. Steep Slopes	8	PL7SW3	104	No	Natural	800	2002	1 125	0	0	0	0	0		3	
605909000022	1. Steep Slopes	1	PL10	104	No	Natural	800	1998	413	0	0	0	0	0		2	
605909000024	CX	4	SW5FB3PL2	144	No	Natural	800	1998	1 238	0	0	0	0	0		3	
605909000033	DC	17	AW7PL2SW1	64	No	Natural	800	1993	363	13	0	0	0	0		2	
605909000036	CX	2	PL10	104	No	Natural	800	1998	1 900	0	0	0	0	0		2	
605910000001	CX	8	PL5SW3FB1AW1	64	No	Natural	800	1998	575	0	0	0	0	0		2	
605910000013	CX	8	PL7SW2FB1	104	No	Natural	800	1998	2 013	0	0	0	0	0		2	
605910000016	1. Steep Slopes	8	PL7SW2FB1	144	No	Natural	800	2000	1 688	0	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
605910000019	CX	9	SW5PL3FB2	144	No	Natural	800	2004	1 475	0	0	0	0	0		5	
605910000021	CX	8	PL5SW3FB2	144	No	Natural	800	1998	2 738	0	0	0	0	0		3	
605910000024	CX	2	PL8AW2	64	No	Natural	800	2004	388	50	0	0	0	0		3	
605910000036	DX	19	AW8SW2	84	No	Natural	800	1998	225	675	0	0	0	0		2	
605911000003	CX	8	PL5SW3FB2	64	No	Natural	800	2002	1 313	0	0	0	0	0		3	
605911000016	CX	4	SW6PL2FB2	154	No	Natural	800	2005	1 650	0	0	0	0	0		4	
605911000019	CX	3	PL9SW1	74	No	Natural	800	2002	3 900	0	0	0	0	0		3	
605911000021	CX	2	PL10	184	No	Natural	800	2002	538	0	0	0	0	0		3	
605911000022	CX	4	SW5FB3PL2	184	No	Natural	800	2004	1 888	0	0	0	0	0		4	
605911000024	CX	8	PL6SW2FB2	144	No	Natural	800	2004	1 013	0	0	0	0	0		3	
605911000033	CX	1	PL10	124	No	Natural	800	2005	388	0	0	0	0	0		3	
605911000036	CX	2	PL8SW2	184	No	Natural	800	2005	1 063	0	50	0	0	0		4	
605912000036	1. Steep Slopes	13	PL4PB4SW2	54	No	Natural	400	1998	1 825	0	0	0	0	0		2	
606005000004	CX	8	PL7SW2AW1	74	No	Natural	800	1992	363	163	0	0	0	0		1	
606005000006	DX	19	AW8SW1PL1	104	No	Natural	800	1995	25	125	0	0	0	0		2	
606005000016	CX	2	PL9AW1	4	Yes	Regen	800	2003	0	13	0	0	2 750	0	Yes	3	2
606005000019	CX	2	PL9AW1	104	No	Natural	800	2000	763	138	0	0	0	0		4	
606005000021	CX	2	PL9AW1	13	Yes	Regen	800	2001	0	0	150	0	25 500	0		2	2
606005000022	5. 30m Buffer	1	PL10	104	No	Natural	800	2000	913	0	0	0	0	0		3	
606005000033	CX	2	PL9AW1	13	Yes	Regen	800	2001	0	0	1 600	0	5 750	0		1	2
606006000001	CX	8	PL6SW2AW2	104	No	Natural	800	2000	550	238	0	0	0	0		3	
606006000003	CX	2	PL8SW1AW1	84	No	Natural	800	1995	750	0	0	0	0	0		3	
606006000004	CX	2	PL9AW1	12	Yes	Regen	800	2001	0	0	0	0	13 750	0		2	2
606006000006	CX	3	PL10	74	No	Natural	800	1995	1 075	0	0	0	0	0		3	
606006000013	CX	2	PL9AW1	11	Yes	Regen	800	2001	0	0	0	0	3 250	0	Yes	3	2
606006000016	CX	2	PL8SW1AW1	104	No	Natural	800	1998	700	25	0	0	0	0		3	
606006000019	CX	2	PL9AW1	8	Yes	Regen	800	2003	13	0	0	0	9 500	0	Yes	2	2
606006000021	CX	3	PL8AW2	84	No	Natural	800	1995	500	413	0	0	0	0		2	
606006000022	CX	2	PL9AW1	9	Yes	Regen	800	2002	0	0	0	0	4 250	1 250		2	3
606006000024	CX	2	PL9AW1	11	Yes	Regen	800	2001	0	0	50	0	26 000	250		1	2
606006000033	CX	2	PL9AW1	7	Yes	Regen	800	2004	0	0	0	0	3 000	0		2	3
606006000036	CX	2	PL9AW1	14	Yes	Regen	800	2001	0	0	150	0	3 750	0		1	2
606007000001	5. 30m Buffer	2	PL10	154	No	Natural	800	2004	963	238	0	0	0	0		3	
606007000003	CX	1	PL9SW1	154	No	Natural	800	1998	1 938	0	0	0	0	0		2	
606007000004	3. Black Spruce	7	SB10	154	No	Natural	800	2005	2 013	0	0	0	0	0		4	
606007000006	CX	1	PL8SW2	144	No	Natural	800	2005	1 113	13	350	0	0	0		4	
606007000015	CX	2	PL10	194	No	Natural	800	2002	1 613	0	0	0	0	0		1	
606007000016	CX	3	PL9FB1	154	No	Natural	800	2005	2 325	0	150	0	0	0		4	
606007000019	CX	8	PL6SW2FB2	204	No	Natural	800	2004	750	0	0	0	0	0		3	
606007000022	CX	2	PL10	204	No	Natural	800	2004	1 275	0	0	0	0	0		4	
606007000024	5. 30m Buffer	2	PL8SW1FB1	204	No	Natural	800	1998	1 550	25	0	0	0	0	Yes	3	
606008000001	CX	8	PL7SW2FB1	94	No	Natural	800	1998	2 150	0	0	0	0	0		3	
606008000003	4. Non-Forested Vegetated				No	Natural	800	1986	0	0	0	0	0	0		1	
606008000004	1. Seismic Lines	8	PL7SW2FB1	124	No	Natural	800	2004	1 325	0	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
606008000006	CX	9	SW5PL3FB2	124	No	Natural	800	2004	938	0	0	0	0	0		4	
606008000013	1. Steep Slopes	8	PL6SW2AW2	104	No	Natural	800	1998	613	0	0	0	0	0		2	
606008000016	CX	8	PL5SW3FB2	144	No	Natural	800	1998	1 675	0	0	0	0	0		3	
606008000021	1. Steep Slopes	3	PL10	74	No	Natural	800	2000	3 338	0	0	0	0	0		2	
606008000022	CX	4	SW7FB2PL1	124	No	Natural	800	2004	2 313	0	0	0	0	0		4	
606008000024	CX	9	SW6PL3FB1	204	No	Natural	800	2004	1 625	0	0	0	0	0		4	
606008000033	CX	8	PL7SW2FB1	64	No	Natural	800	2004	2 013	0	0	0	0	0		3	
606008000036	1. Seismic Lines	2	PL8FB2	144	No	Natural	800	2004	713	0	0	0	0	0		4	
606009000001	CX	3	PL8SW2	104	No	Natural	800	1998	2 638	0	0	0	0	0		2	
606009000003	CX	1	PL8SW1FB1	124	No	Natural	800	2004	375	0	0	0	0	0		3	
606009000004	1. Steep Slopes	1	PL8SW1FB1	104	No	Natural	800	1993	338	13	0	0	0	0		2	
606009000006	CX	8	PL6SW2FB2	124	No	Natural	800	2000	1 638	0	0	0	0	0		2	
606009000016	DC	17	AW5PL3SW2	64	No	Natural	800	2000	663	200	0	0	0	0		3	
606009000021	CX	10	SB5PL3SW1AW1	64	No	Natural	800	1993	63	288	0	0	0	0		2	
606009000022	CX	10	PL5SB3SW1AW1	84	No	Natural	800	1998	675	988	0	0	0	0		2	
606009000024	1. Steep Slopes	8	PL7SW3	104	No	Natural	800	2000	350	0	0	0	0	0		2	
606010000001	CX	2	PL10	74	No	Natural	800	1998	988	0	0	0	0	0		2	
606010000004	1. Steep Slopes	2	PL8SW1FB1	104	No	Natural	800	1998	1 288	0	0	0	0	0		2	
606010000006	1. Steep Slopes	4	SW6PL2FB2	144	No	Natural	800	1998	738	0	0	0	0	0		3	
606010000013	1. Steep Slopes	3	PL10	84	No	Natural	800	2002	1 488	0	0	0	0	0		2	
606010000019	1. Steep Slopes	8	PL7SW2FB1	64	No	Natural	800	2000	1 688	0	0	0	0	0		2	
606010000021	CX	8	PL5SW3FB2	124	No	Natural	800	2001	2 075	0	0	0	0	0		2	
606010000033	1. Steep Slopes	5	SW6FB3PL1	144	No	Natural	800	2004	1 138	0	0	0	0	0		3	
606010000036	CX	3	PL10	84	No	Natural	400	2001	3 075	0	0	0	0	0		2	
606011000001	CX	9	SW5PL3FB2	124	No	Natural	800	2004	1 600	0	0	0	0	0		5	
606011000003	CX	1	PL10	124	No	Natural	800	2001	438	0	0	0	0	0		3	
606011000006	CX	1	PL10	104	No	Natural	800	2001	3 025	0	0	0	0	0		3	
606011000016	1. Steep Slopes	8	PL6SW2FB1AW1	84	No	Natural	800	2000	2 050	25	0	0	0	0		3	
606011000019	CX	1	PL10	104	No	Natural	800	2001	725	0	0	0	0	0		3	
606011000021	CX	2	PL10	84	No	Natural	800	2001	2 225	0	0	0	0	0		3	
606011000022	CX	1	PL9AW1	104	No	Natural	800	2001	575	1 425	0	0	0	0		3	
606011000024	5. 30m Buffer	4	SW8FB2	124	No	Natural	800	2001	150	0	0	0	0	0		3	
606011000033	CX	2	PL8AW2	104	No	Natural	800	2001	1 063	75	0	0	0	0		3	
606011000036	DX	19	AW8PL1SB1	64	No	Natural	800	2001	138	438	0	0	0	0		3	
606012000019	1. Steep Slopes	9	SW4PL3FB3	104	No	Natural	800	2000	1 863	0	0	0	0	0		2	
606012000024	5. 30m Buffer	8	PL5SW3FB2	84	No	Natural	800	2000	250	50	0	0	0	0		2	
606012000026	CX	9	PL4SW3FB3	144	No	Natural	800	2002	1 825	0	0	0	0	0		1	
606012000036	CX	3	PL9FB1	94	No	Natural	400	2001	2 475	0	0	0	0	0		2	
606013000036	CX	8	PL5SW3FB2	144	No	Natural	800	2000	2 300	0	0	0	0	0		2	
606104000004	DX	20	AW8SW1PL1	64	No	Natural	800	2001	0	438	0	0	0	0		3	
606104000006	CX	5	SW9AW1	5	Yes	Regen	800	2003	0	0	0	250	7 500	750		3	1
606104000016	CX	5	SW9AW1	5	Yes	Regen	800	2003	0	150	0	550	1 000	5 750		2	1
606104000019	CX	2	PL9AW1	15	Yes	Regen	800	2001	63	25	1 700	50	500	1 250		2	3
606104000021	xCOMP	50		1	Yes	Nat Regen	800	2000	563	0	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606104000022	DX	20	AW8PB2	104	No	Natural	800	2001	38	638	0	0	0	0		2	
606104000033	CX	3	PL8SW1AW1	114	No	Natural	800	2001	875	163	0	0	0	0		3	
606105000001	CX	2	PL9AW1	13	Yes	Regen	800	2001	0	0	3 850	1 350	9 750	750		2	2
606105000003	CX	2	PL9AW1	104	No	Natural	800	1998	325	0	0	0	0	0		2	
606105000004	CX	8	PL7SW2AW1	94	No	Natural	800	2001	150	0	0	0	0	0		3	
606105000006	CX	2	PL9AW1	6	Yes	Regen	800	2004	0	0	0	100	1 750	0		2	2
606105000013	CX	1	PL9AW1	114	No	Natural	800	1998	238	13	0	0	0	0		2	
606105000016	CX	9	SW5PL3FB2	124	No	Natural	800	2004	1 550	0	200	0	0	0		4	
606105000019	CX	5	SW9AW1	5	Yes	Regen	800	2003	0	0	0	0	2 000	500		3	1
606105000021	CX	1	PL8SW1FB1	104	No	Natural	800	1995	1 675	0	0	0	0	0		3	
606105000022	CX	4	SW10	204	No	Natural	800	2000	750	125	0	0	0	0		3	
606105000024	CX	8	PL5SW2AW2SB1	104	No	Natural	800	2001	663	275	0	0	0	0		3	
606105000031	CX	5	SW5FB3AW2	144	No	Natural	800	2002	413	100	0	0	0	0		1	
606105000033	DC	17	AW7SW2PL1	84	No	Natural	800	2001	550	300	0	0	0	0		2	
606105000034	CX	4	SW10	194	No	Natural	800	2002	950	63	0	0	0	0		1	
606105000036	CX	2	PL9AW1	16	Yes	Regen	800	2001	0	0	7 200	50	16 000	250			2
606106000001	CX	9	SW5PL3FB1AW1	104	No	Natural	800	1995	2 688	0	0	0	0	0		3	
606106000003	CX	8	PL6FB2SW1AW1	104	No	Natural	800	2001	563	25	0	0	0	0		5	
606106000004	CX	2	PL9SW1	114	No	Natural	800	1995	350	63	0	0	0	0		3	
606106000006	CX	3	PL9AW1	104	No	Natural	800	1995	1 350	50	0	0	0	0		3	
606106000013	CX	5	SW9AW1	104	No	Natural	800	2000	913	0	0	0	0	0		4	
606106000016	CX	3	PL9AW1	104	No	Natural	800	2002	1 038	0	0	0	0	0		2	
606106000019	CX	2	PL8SW2	104	No	Natural	800	1998	175	113	0	0	0	0		3	
606106000021	CX	2	PL9AW1	104	No	Natural	800	1998	325	163	0	0	0	0		3	
606106000024	2. Naturally Non-Vegetated				No	Natural	800	1976	0	0	0	0	0	0		1	
606106000033	CX	8	PL5SW3SB2	94	No	Natural	800	2001	1 463	75	0	0	0	0		5	
606106000036	CX	5	SW9AW1	22	Yes	Regen	800	2005	1 050	488	900	1 150	0	0			7
606107000001	2. River Buffer	9	SW7AW2PL1	104	No	Natural	800	1998	250	0	0	0	0	0		2	
606107000003	CX	6	SB8SW1PL1	104	No	Natural	800	2001	1 213	0	0	0	0	0		2	
606107000004	5. 30m Buffer	9	SW7PL2AW1	84	No	Natural	800	1995	700	125	0	0	0	0		3	
606107000006	CX	2	PL10	114	No	Natural	800	2004	950	0	0	0	0	0		3	
606107000013	3. Black Spruce	6	SB10	104	No	Natural	800	2001	1 350	0	0	0	0	0		2	
606107000016	5. 30m Buffer	11	PL6SB3SW1	64	No	Natural	800	2000	2 700	0	0	0	0	0		2	
606107000019	CX	4	SW10	104	No	Natural	800	2001	250	425	0	0	0	0		2	
606107000021	5. 30m Buffer	18	AW10	64	No	Natural	800	2001	988	763	0	0	0	0		2	
606107000022	CX	8	PL6SW3FB1	104	No	Natural	800	1998	1 275	163	0	0	0	0		3	
606107000024	CX	3	PL10	104	No	Natural	800	1998	1 413	0	0	0	0	0		3	
606107000033	CX	8	PL6SW4	104	No	Natural	800	2001	650	175	0	0	0	0		3	
606107000036	CX	3	PL10	104	No	Natural	800	1998	1 375	50	0	0	0	0		3	
606108000003	CX	2	PL10	104	No	Natural	800	2001	1 188	0	0	0	0	0		2	
606108000004	1. Steep Slopes	2	PL10	84	No	Natural	800	2001	925	0	0	0	0	0		2	
606108000006	CX	12	SB6SW2PL1AW1	64	No	Natural	800	2001	650	0	0	0	0	0		3	
606108000013	CX	11	SB6PL3AW1	64	No	Natural	800	2001	5 463	0	0	0	0	0		2	
606108000016	CX	6	SB10	64	No	Natural	800	2001	688	25	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen
606108000021	CX	12	SB5SW3PL2	64	No	Natural	800	2001	4 475	0	0	0	0	0		2
606108000022	5. 30m Buffer	4	SW10	104	No	Natural	800	2001	2 238	13	0	0	0	0		2
606108000024	DX	18	AW9PL1	64	No	Natural	800	2001	1 213	725	0	0	0	0		2
606108000033	CX	4	SW6FB3PL1	104	No	Natural	800	2001	1 025	0	0	0	0	0		2
606108000036	CX	10	PL6SB3SW1	84	No	Natural	800	2001	863	0	0	0	0	0		2
606109000001	CX	11	PL6SB4	64	No	Natural	800	1993	3 350	0	0	0	0	0		2
606109000003	3. Black Spruce	6	SB9LT1	104	No	Natural	800	2002	988	0	0	0	0	0		2
606109000004	2. River Buffer	12	SW4SB3PL2AW1	64	No	Natural	800	2002	1 838	163	0	0	0	0		3
606109000006	DC	16	AW7PL2SW1	104	No	Natural	800	2001	1 200	400	0	0	0	0		3
606109000013	CX	11	PL6SB4	64	No	Natural	800	1995	2 975	0	0	0	0	0		2
606109000016	CX	7	SB8PL2	94	No	Natural	800	2001	2 025	388	0	0	0	0		2
606109000019	5. 30m Buffer	9	SW5PL3FB2	124	No	Natural	800	2004	763	0	0	0	0	0		4
606109000021	CX	4	SW10	114	No	Natural	800	2000	1 088	0	0	0	0	0		2
606109000029	CX	4	SW7FB3	204	No	Natural	800	2002	1 150	0	0	0	0	0		1
606109000033	CX	5	FB7SW2PL1	114	No	Natural	400	2000	1 675	0	0	0	0	0		2
606109000036	CX	2	PL9AW1	124	No	Natural	800	2002	525	13	0	0	0	0		3
606110000004	5. 30m Buffer	5	SW10	144	No	Natural	800	2004	1 275	0	0	0	0	0		4
606110000006	1. Steep Slopes	8	PL4SW2SB2AW2	64	No	Natural	800	2004	963	13	0	0	0	0		5
606110000013	CX	2	PL8SW2	114	No	Natural	800	1998	1 113	13	0	0	0	0		3
606110000016	CX	2	PL10	94	No	Natural	800	1995	900	0	0	0	0	0		2
606110000019	5. 30m Buffer	5	SW6FB3PL1	124	No	Natural	800	2004	1 750	0	0	0	0	0		5
606110000022	CX	2	PL10	104	No	Natural	800	2000	1 988	0	0	0	0	0		3
606110000024	CX	3	PL10	94	No	Natural	800	2000	2 275	0	0	0	0	0		3
606110000033	CX	4	SW4FB4PL2	174	No	Natural	800	1998	863	0	0	0	0	0	Yes	5
606110000036	CX	8	PL6SW2FB2	174	No	Natural	800	2000	513	0	0	0	0	0		3
606111000001	2. River Buffer	15	SW6AW3PB1	124	No	Natural	800	2004	538	25	0	0	0	0		4
606111000003	1. Steep Slopes	9	PL4SW4AW2	84	No	Natural	800	1992	188	50	0	0	0	0		2
606111000004	CX	2	PL8SW1AW1	104	No	Natural	800	2002	400	0	0	0	0	0		3
606111000006	CX	3	PL10	94	No	Natural	800	2002	1 225	0	0	0	0	0		3
606111000013	CX	12	SB5FB3PL1SW1	104	No	Natural	800	2004	2 625	0	0	0	0	0		4
606111000016	5. 30m Buffer	4	SW9PL1	104	No	Natural	800	2001	1 688	0	0	0	0	0		3
606111000019	6. Linear and Landuse Disposit	3	PL10	124	No	Natural	800	2001	2 588	0	0	0	0	0		3
606111000021	CX	2	PL10	124	No	Natural	800	1995	2 775	0	0	0	0	0		2
606111000022	1. Seismic Lines	4	SW6FB3PL1	124	No	Natural	800	2001	363	0	0	0	0	0		3
606111000024	1. Steep Slopes	8	PL5SW3FB2	124	No	Natural	800	2001	963	0	0	0	0	0		3
606111000033	CX	4	SW7FB2PL1	164	No	Natural	800	2001	1 475	0	0	0	0	0		3
606111000036	CX	5	SW7FB2PL1	124	No	Natural	800	2001	1 538	0	0	0	0	0		2
606112000001	CX	3	PL10	94	No	Natural	800	1995	1 925	0	0	0	0	0		2
606112000003	CX	8	PL7SW2SB1	104	No	Natural	800	1995	1 725	0	0	0	0	0		2
606112000004	CX	1	PL10	104	No	Natural	800	1998	1 600	0	0	0	0	0		2
606112000006	4. Non-Forested Vegetated				No	Natural	800	1987	25	0	0	0	0	0		1
606112000013	CX	3	PL10	124	No	Natural	800	2002	1 813	0	0	0	0	0		3
606112000019	CX	2	PL10	104	No	Natural	800	1998	2 525	0	0	0	0	0		2
606112000022	CX	2	PL10	104	No	Natural	800	1998	1 738	0	0	0	0	0		2

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606112000033	5. 30m Buffer	1	PL10	84	No	Natural	800	1998	200	13	0	0	0	0		2	
606112000036	CX	4	SW6FB3PL1	134	No	Natural	800	2004	525	0	0	0	0	0		4	
606113000001	CX	3	PL10	84	No	Natural	400	2000	3 150	0	0	0	0	0		2	
606113000003	CX	8	PL5SW3FB2	134	No	Natural	800	2005	813	0	50	0	0	0		4	
606113000013	CX	8	PL5FB3SW2	134	No	Natural	800	2005	1 925	0	100	0	0	0		5	
606113000024	CX	5	SW7FB2PL1	134	No	Natural	800	1998	1 000	25	0	0	0	0		2	
606113000036	1. Steep Slopes	8	PL7SW2AW1	114	No	Natural	800	1998	375	150	0	0	0	0		2	
606204000003	CX	9	SW6PL2SB2	44	No	Natural	800	1993	3 075	0	0	0	0	0		2	
606204000004	DX	20	AW9PL1	1	Yes	Nat Regen	800	2001	100	175	0	0	0	0		2	
606204000015	CD	14	SW6AW3PB1	134	No	Natural	800	2002	513	100	0	0	0	0		1	
606204000016	CX	1	PL8SB1AW1	134	No	Natural	800	2005	825	113	0	0	0	0		4	
606204000019	3. Disturbance Areas	5	SW9AW1	15	Yes	Regen	800	2002	25	250	350	1 050	1 000	500			6
606204000021	CX	5	SW9AW1	154	No	Natural	800	2005	500	13	0	0	0	0		3	
606204000022	CX	5	SW9AW1	15	Yes	Regen	800	2002	750	0	750	0	1 000	250		1	6
606204000024	1. Steep Slopes	20	AW9SW1	84	No	Natural	800	2001	700	375	0	0	0	0		2	
606204000033	CX	9	SW7AW2PL1	124	No	Natural	800	2000	388	700	0	0	0	0		2	
606204000036	CX	4	SW10	25	Yes	Regen	800	2005	688	600	2 300	1 150	0	0			7
606205000003	CX	11	PL7AW2SB1	134	No	Natural	800	2002	713	38	0	0	0	0		2	
606205000006	CX	2	PL9AW1	24	Yes	Regen	800	2002	300	1 013	9 450	700	10 750	500			6
606205000013	2. Naturally Non-Vegetated				No	Natural	800	1998	563	138	0	0	0	0		2	
606205000016	CX	9	SW5PL2AW2FB1	28	Yes	Regen	800	2005	1 900	750	1 900	250	0	0			7
606205000018	CX	8	PL5SW3AW2	134	No	Natural	800	2002	500	0	0	0	0	0		1	
606205000019	CX	8	PL4SW2FB2AW2	28	Yes	Regen	800	2005	738	1 250	2 400	1 150	0	0			7
606205000021	CX	9	SW6PL2AW2	134	No	Natural	800	2004	2 250	38	0	0	0	0		3	
606205000022	CX	4	SW9AW1	134	No	Natural	800	2004	488	1 063	0	0	0	0		3	
606205000033	CX	9	SW7PL2AW1	134	No	Natural	800	2004	500	13	0	0	0	0		4	
606205000034	DC	16	AW5SW4PL1	64	No	Natural	800	2002	1 038	1 000	0	0	0	0		1	
606205000036	CX	11	PL7SB2AW1	134	Partial Cut	Regen	800	2005	13	13	0	50	0	0		4	1
606206000001	CX	4	SW6FB2PL1AW1	144	No	Natural	800	2004	863	313	0	0	0	0		4	
606206000003	CX	2	PL9AW1	22	Yes	Regen	800	2005	1 713	13	950	0	0	0			7
606206000004	CX	8	PL6SW3FB1	124	No	Natural	800	2001	288	800	0	0	0	0		3	
606206000006	CX	8	PL7SW2SB1	104	No	Natural	800	1995	1 038	0	0	0	0	0		3	
606206000013	CX	2	PL8SB2	124	No	Natural	800	2001	1 125	63	0	0	0	0		5	
606206000016	CX	2	PL9SB1	104	No	Natural	800	2000	625	0	0	0	0	0		3	
606206000019	CX	8	PL6SW4	144	No	Natural	800	2000	1 500	13	0	0	0	0		4	
606206000021	CX	2	PL9AW1	27	Yes	Regen	800	2005	1 013	0	5 000	100	0	0			6
606206000022	CX	6	SB10	104	No	Natural	800	2001	1 013	0	0	0	0	0		5	
606206000024	CX	9	SW4PL3FB3	20	Yes	Regen	800	2002	625	25	3 500	500	4 000	0			7
606206000031	CX	5	SW9AW1	29	Yes	Regen	800	2002	450	13	1 000	50	750	0	Yes		2
606206000033	CX	2	PL9AW1	28	Yes	Regen	800	2005	4 163	25	6 500	50	0	0			6
606206000036	CX	8	PL7SW2AW1	22	Yes	Regen	800	2002	913	175	2 350	2 000	20 000	0			7
606207000001	CX	12	SB6FB2AW2	104	No	Natural	800	1995	200	0	0	0	0	0		3	
606207000003	DC	16	AW6SB3FB1	114	No	Natural	800	2001	388	413	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606207000004	CX	11	SB7PL2FB1	114	No	Natural	800	2000	2 113	0	0	0	0	0		4	
606207000006	1. Seismic Lines	2	PL9AW1	26	Yes	Nat Regen	800	2005	1 025	13	0	0	0	0		4	
606207000013	CX	6	SB9FB1	174	No	Natural	800	2000	1 175	0	0	0	0	0		3	
606207000016	CX	5	SW9AW1	14	Yes	Regen	800	2002	0	0	100	0	1 250	500		1	4
606207000019	CX	12	SB6SW4	174	No	Natural	800	2000	1 038	0	0	0	0	0		4	
606207000021	CX	2	PL9AW1	28	Yes	Regen	800	2005	1 550	13	2 850	250	0	0			6
606207000024	CX	12	SB5SW3FB2	184	No	Natural	800	2004	1 050	0	0	0	0	0		4	
606207000031	CX	5	SW9AW1	29	Yes	Regen	800	2002	175	0	6 100	0	5 250	0	Yes		2
606207000033	CX	11	PL6SB4	114	No	Natural	800	2000	2 350	0	0	0	0	0		4	
606207000036	CX	12	SB5SW2FB2PL1	144	No	Natural	800	2001	625	13	0	0	0	0		4	
606208000001	CX	12	SB7FB2PL1	104	No	Natural	800	2002	538	0	0	0	0	0		3	
606208000003	CX	3	PL10	104	No	Natural	800	2001	2 113	0	0	0	0	0		3	
606208000004	CX	3	PL10	104	No	Natural	800	2000	1 075	0	0	0	0	0		3	
606208000006	CX	1	PL8SB2	104	No	Natural	800	2001	638	75	0	0	0	0		3	
606208000013	CX	9	SW5PL2SB2FB1	144	No	Natural	800	2004	1 088	0	0	0	0	0		4	
606208000016	CX	2	PL9AW1	22	Yes	Regen	800	2002	750	50	3 850	200	23 000	0			6
606208000019	CX	2	PL9AW1	24	Yes	Regen	800	2001	1 850	0	7 650	1 000	4 750	0			5
606208000021	CX	2	PL9AW1	26	Yes	Regen	800	2002	3 463	150	3 350	1 000	0	0			6
606208000022	xCOMP	50		1	Yes	Nat Regen	800	2000	588	0	0	0	0	0		3	
606208000024	CX	3	PL9SB1	164	No	Natural	800	1998	3 300	0	0	0	0	0	Yes	3	1
606208000033	5. 30m Buffer	2	PL8SB2	134	No	Natural	800	2000	1 100	0	0	0	0	0		3	
606208000036	CX	5	SW9AW1	25	Yes	Regen	800	2002	313	175	1 350	15 300	7 750	3 750			6
606209000001	CX	3	PL10	54	No	Natural	800	2001	1 888	650	0	0	0	0		3	
606209000003	CX	8	PL7SW1SB1AW1	54	No	Natural	800	2000	725	75	0	0	0	0		2	
606209000004	CX	2	PL8SW1FB1	134	No	Natural	800	2001	975	0	0	0	0	0		2	
606209000006	CX	3	PL10	54	No	Natural	800	2000	1 313	0	0	0	0	0		2	
606209000013	CX	10	SB5PL3SW2	54	No	Natural	800	2000	650	25	0	0	0	0		3	
606209000016	CX	9	SW7PL1SB1AW1	54	No	Natural	800	2000	138	25	0	0	0	0		2	
606209000019	CX	2	PL9AW1	18	Yes	Regen	800	2002	38	0	2 000	0	27 500	250			6
606209000021	CX	10	SB6SW2PL2	124	No	Natural	800	1996	650	0	0	0	0	0		3	
606209000022	CX	2	PL9AW1	22	Yes	Regen	800	2002	988	0	7 400	0	1 750	0			6
606209000024	CX	2	PL9AW1	2	Yes	Nat Regen	800	2000	875	0	0	0	0	0		3	
606209000033	CX	2	PL9AW1	22	Yes	Regen	800	2002	88	0	1 300	650	1 500	750		1	7
606209000036	CX	5	SW9AW1	2	Yes	Regen	800	2004	0	0	0	0	1 000	0		3	1
606210000001	CX	8	PL6SW2SB1FB1	124	No	Natural	800	2002	1 550	0	0	0	0	0		2	
606210000003	4. Non-Forested Vegetated				No	Natural	800	1980	0	0	0	0	0	0		1	
606210000004	CX	8	PL7SW2FB1	144	No	Natural	800	2002	463	0	0	0	0	0		3	
606210000006	CX	8	PL6SW2SB1FB1	124	No	Natural	800	2004	1 238	0	0	0	0	0		3	
606210000013	CX	8	PL7FB2SB1	164	No	Natural	800	2001	925	0	0	0	0	0		4	
606210000015	CX	9	PL4FB4SB2	164	No	Natural	800	2002	938	0	0	0	0	0		1	
606210000016	CX	10	PL7SB3	124	No	Natural	800	2001	1 138	0	0	0	0	0		4	
606210000019	1. Steep Slopes	2	PL10	124	No	Natural	800	1998	1 450	0	0	0	0	0		2	
606210000021	1. Steep Slopes	8	PL5SW3FB2	124	No	Natural	800	1996	538	0	0	0	0	0		2	
606210000022	CX	1	PL10	124	No	Natural	800	2002	1 750	0	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606210000024	CX	2	PL9AW1	17	Yes	Regen	800	2002	0	0	700	0	4 250	0		1	5
606210000033	CX	8	PL6SB2FB2	124	No	Natural	800	1996	1 050	0	0	0	0	0		2	
606211000001	CX	9	PL4SW4FB2	114	No	Natural	800	2001	1 613	0	0	0	0	0		2	
606211000003	CX	8	PL5SW3FB2	114	No	Natural	800	2002	1 263	0	0	0	0	0		3	
606211000004	CX	4	SW7FB2PL1	114	No	Natural	800	2001	1 200	0	0	0	0	0		2	
606211000006	CX	8	PL5SW3FB2	164	No	Natural	800	2000	2 388	0	0	0	0	0		3	
606211000013	CX	8	PL7SW2FB1	164	No	Natural	800	1992	700	0	0	0	0	0	Yes	3	
606211000016	5. 30m Buffer	8	PL7SW2FB1	164	No	Natural	800	1998	675	13	0	0	0	0	Yes	4	
606211000019	CX	8	PL7SW2FB1	154	No	Natural	800	1998	1 325	0	0	0	0	0	Yes	3	
606211000021	CX	4	SW7FB2PL1	144	No	Natural	800	2001	500	0	0	0	0	0		2	
606211000024	CX	8	PL5SW2FB2SB1	1	Yes	Nat Regen	800	1998	1 450	0	0	0	0	0		2	
606211000033	1. Steep Slopes	9	PL4SW4FB2	144	No	Natural	800	1993	413	0	0	0	0	0		1	
606211000036	CX	3	PL9SW1	144	No	Natural	800	1993	888	0	0	0	0	0		1	
606212000003	CX	9	PL4SW3FB3	124	No	Natural	800	2004	750	0	0	0	0	0		4	
606212000004	1. Steep Slopes	2	PL8SW1FB1	84	No	Natural	800	2002	625	0	0	0	0	0		3	
606212000006	CX	7	SB9PL1	124	No	Natural	400	1998	3 775	0	0	0	0	0		3	
606212000013	5. 30m Buffer	4	SW7FB2PL1	154	No	Natural	800	2004	688	0	0	0	0	0		3	
606212000019	CX	3	PL10	84	No	Natural	800	2000	1 488	0	0	0	0	0		3	
606212000024	CX	2	PL9SW1	104	No	Natural	800	1998	1 013	0	0	0	0	0		2	
606212000033	DC	16	AW6SW2PB1PL1	104	No	Natural	800	2001	1 350	788	0	0	0	0		3	
606213000003	CX	5	SW9AW1	9	Yes	Regen	800	2004	0	0	550	200	1 750	0		3	1
606213000006	1. Steep Slopes	3	PL10	84	No	Natural	800	2001	1 488	0	0	0	0	0		2	
606213000013	1. Steep Slopes	9	SW4PL3SB2AW1	94	No	Natural	800	2000	875	113	0	0	0	0		3	
606213000016	CX	2	PL10	104	No	Natural	800	2000	2 663	0	0	0	0	0		3	
606213000019	5. 30m Buffer	8	PL6SW2AW2	64	No	Natural	800	1999	1 213	0	0	0	0	0		3	
606213000021	1. Steep Slopes	17	AW7PL3	64	No	Natural	800	2001	1 075	2 775	0	0	0	0		2	
606213000022	CX	8	PL5SW2FB2SB1	114	No	Natural	800	2001	525	125	0	0	0	0		3	
606213000024	CX	1	PL9SW1	104	No	Natural	800	2000	438	13	0	0	0	0		3	
606213000033	DX	20	AW8PL2	64	No	Natural	800	2002	13	200	0	0	0	0		2	
606213000036	1. Steep Slopes	8	PL7SW2AW1	104	No	Natural	800	1995	213	200	0	0	0	0		2	
606214000013	CX	8	PL6FB2SB1SW1	84	No	Natural	800	2000	1 613	0	0	0	0	0		3	
606214000024	CX	3	PL10	64	No	Natural	400	1994	5 975	0	0	0	0	0		2	
606214000036	CX	1	PL9SW1	94	No	Natural	800	1995	1 363	0	0	0	0	0		2	
606303000004	4. A-Density DX Stands	18	AW9SW1	104	Partial Cut	Regen	800	2002	50	163	400	1 100	0	500		1	5
606303000006	xCOMP	50		1	Yes	Regen	800	2001	0	1 675	150	7 750	750	1 750		1	3
606303000016	4. A-Density DX Stands	18	AW6SW2BW1PB1	34	Partial Cut	Regen	800	2001	0	263	0	1 000	0	0		1	3
606303000019	CX	7	SB10	114	No	Natural	800	1998	763	0	0	0	0	0		3	
606303000021	DX	20	AW9PL1	114	No	Natural	800	2001	213	413	0	0	0	0		3	
606303000026	DX	19	AW7PB2SW1	124	No	Natural	800	2002	75	213	0	0	0	0		1	
606303000033	CX	5	SW9AW1	13	Yes	Regen	800	2001	0	63	200	900	2 750	6 000		2	2
606303000036	DC	16	AW5PL3SW2	94	No	Natural	800	2001	300	200	0	0	0	0		3	
606304000001	CX	1	PL8SW1AW1	124	No	Natural	800	2005	538	75	50	0	0	0		5	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606304000003	CX	4	SW5FB3PL2	37	Yes	Regen	800	2005	825	1 988	750	700	0	0			7
606304000013	CX	9	SW6PL3FB1	104	No	Natural	800	1999	275	0	0	0	0	0		2	
606304000016	CX	9	SW6PL4	21	Yes	Regen	800	2002	63	3 688	750	2 050	250	1 000			6
606304000019	CX	9	PL4SW3FB2BW1	20	Yes	Regen	800	2002	663	100	2 300	3 650	1 250	3 500			7
606304000021	CD	13	PL4SB2AW2BW1PB1	20	Yes	Regen	800	2002	300	713	700	5 000	1 000	3 000			7
606304000022	CX	7	SB10	84	No	Natural	800	1998	2 688	0	0	0	0	0		2	
606304000024	2. River Buffer	4	SW10	124	No	Natural	800	1998	450	38	0	0	0	0		2	
606304000033	CD	14	SW6AW3PL1	104	No	Natural	800	2001	188	225	0	0	0	0		3	
606304000036	5. 30m Buffer	14	SB7AW3	104	No	Natural	800	1996	2 100	38	0	0	0	0		2	
606305000001	CX	2	PL9AW1	20	Yes	Regen	800	2002	113	1 575	400	700	250	7 750			6
606305000003	CX	2	PL8SB2	104	No	Natural	800	2001	1 038	13	0	0	0	0		3	
606305000004	CX	6	SB10	184	No	Natural	800	2005	3 038	0	0	0	0	0		4	
606305000006	CX	8	PL7SW1FB1AW1	25	Yes	Regen	800	2002	1 163	13	250	250	0	0			7
606305000013	CX	9	SW6PL2AW2	124	No	Natural	800	2005	625	0	0	0	0	0		5	
606305000016	CX	7	SB10	104	No	Natural	800	2005	2 288	0	0	0	0	0		5	
606305000021	CX	8	PL6SW2AW2	124	No	Natural	800	2004	613	13	0	0	0	0		4	
606305000022	CX	8	PL7SW2AW1	124	No	Natural	800	2004	625	25	0	0	0	0		4	
606305000024	CX	8	PL6SW2PB2	20	Yes	Regen	800	2002	338	1 325	3 850	1 800	7 000	250			7
606305000033	CX	9	SW7PL2PB1	129	No	Natural	800	1996	625	175	0	0	0	0		2	
606305000036	DC	40	SW10	54	No	Natural	800	2002	738	125	0	0	0	0		3	
606306000003	CX	9	SW5PL4AW1	64	Partial Cut	Regen	800	2002	1 413	0	1 850	0	3 000	750			7
606306000004	CX	1	PL9SW1	22	Yes	Regen	800	2002	1 575	0	2 200	150	250	0			7
606306000006	CX	2	PL10	104	No	Natural	800	1998	1 188	88	0	0	0	0		2	
606306000013	3. Black Spruce	7	SB10	124	No	Natural	400	1998	2 400	0	0	0	0	0		3	
606306000016	CX	7	SB10	164	No	Natural	800	2004	500	0	0	0	0	0		4	
606306000019	DX	18	AW9SW1	94	Partial Cut	Regen	800	2005	63	500	0	0	0	0			5
606306000021	CX	8	PL7SW2AW1	21	Yes	Regen	800	2002	1 338	150	4 100	50	1 250	0			5
606306000022	CX	9	SW7AW2PL1	21	Yes	Regen	800	2005	475	350	550	0	0	0			7
606306000024	DC	17	AW6SW2PL2	64	No	Natural	800	2004	413	488	0	0	0	0		3	
606306000033	CX	2	PL9SB1	114	No	Natural	800	1999	800	0	0	0	0	0		3	
606306000036	DC	16	AW5SW2PL2BW1	74	Partial Cut	Regen	800	2005	313	550	1 450	650	0	0			7
606307000001	CX	1	PL9SW1	104	No	Natural	800	1998	525	0	0	0	0	0		3	
606307000003	CX	2	PL9AW1	29	Yes	Regen	800	2005	2 363	250	4 750	0	0	0			6
606307000004	CX	2	PL9AW1	29	Yes	Regen	800	2005	275	288	0	0	0	0			5
606307000006	CX	2	PL9AW1	27	Yes	Regen	800	2005	1 800	150	100	0	0	0			6
606307000008	CX	5	SW9AW1	25	Yes	Regen	800	2002	63	0	1 300	50	250	0	Yes		2
606307000013	CX	8	PL7SW2AW1	104	No	Natural	800	2001	400	213	0	0	0	0		4	
606307000016	CX	2	PL9AW1	29	Yes	Regen	800	2005	2 138	50	5 350	0	0	0		2	6
606307000019	DX	19	AW10	84	No	Natural	800	2001	350	1 675	0	0	0	0		2	
606307000022	5. 30m Buffer	4	SW8PL1AW1	124	No	Natural	800	2004	350	0	0	0	0	0		4	
606307000024	CX	2	PL9AW1	12	Yes	Regen	800	2001	25	0	400	1 500	1 250	500		3	2

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606307000033	CX	1	PL9SW1	104	No	Natural	800	1995	763	0	0	0	0	0		3	
606307000036	CX	5	SW9AW1	30	Yes	Regen	800	2005	1 125	563	450	250	0	0			6
606308000001	CD	13	PL6AW4	104	No	Natural	800	2001	238	275	0	0	0	0		3	
606308000003	CX	2	PL9AW1	1	Yes	Nat Regen	800	2002	363	213	0	0	0	0		4	
606308000004	1. Seismic Lines	2	PL9AW1	28	Yes	Regen	800	2005	975	838	3 200	6 400	0	0			6
606308000006	CX	5	SW9AW1	1	Yes	Nat Regen	800	2000	275	0	0	0	0	0		3	
606308000013	CX	2	PL10	104	No	Natural	800	1998	913	0	0	0	0	0		3	
606308000016	3. Disturbance Areas				No	Natural	800	1977	713	0	0	0	0	0		1	
606308000019	CX	2	PL8SW1AW1	104	No	Natural	800	2000	913	0	0	0	0	0		3	
606308000021	CX	2	PL9AW1	104	No	Natural	800	1998	563	450	0	0	0	0		3	
606308000022	CX	10	PL6SB3AW1	84	No	Natural	800	1993	1 075	0	0	0	0	0		2	
606308000024	CX	4	SW8PL1AW1	124	No	Natural	800	2001	888	63	0	0	0	0		3	
606308000026	CX	2	PL9AW1	64	No	Natural	800	2002	1 225	13	0	0	0	0		1	
606308000029	CX	10	PL7SB2SW1	154	No	Natural	800	2002	1 425	0	0	0	0	0		1	
606309000001	CX	5	SW9AW1	9	Yes	Regen	800	2001	0	0	0	0	4 500	250		2	2
606309000003	CX	8	PL7SW2AW1	104	No	Natural	800	2001	1 000	138	0	0	0	0		3	
606309000004	CX	1	PL9SB1	104	No	Natural	800	2001	1 163	0	0	0	0	0		3	
606309000006	CX	2	PL10	144	No	Natural	800	2002	2 138	0	0	0	0	0		3	
606309000013	CX	2	PL9AW1	1	Yes	Nat Regen	800	2000	313	163	0	0	0	0		3	
606309000019	CX	2	PL9SB1	94	No	Natural	800	2000	775	0	0	0	0	0		3	
606309000021	CX	2	PL9AW1	6	Yes	Regen	800	2004	0	0	0	0	6 750	0		2	3
606309000022	CX	8	PL7SW2AW1	124	No	Natural	800	2001	2 300	0	0	0	0	0		3	
606309000024	CD	13	PL7AW3	104	No	Natural	800	1998	450	38	0	0	0	0		2	
606309000033	CX	2	PL9AW1	2	Yes	Regen	800	2004	0	0	0	0	0	0		3	1
606309000036	CX	2	PL9AW1	1	Yes	Regen	800	2004	0	0	0	0	0	0		3	1
606310000003	CX	1	PL8FB2	124	No	Natural	800	1998	538	0	0	0	0	0		2	
606310000004	1. Steep Slopes	8	PL7FB2SW1	124	No	Natural	800	1998	2 625	0	0	0	0	0		2	
606310000006	1. Seismic Lines	4	SW6FB3PL1	114	No	Natural	800	1998	338	0	0	0	0	0		2	
606310000013	4. Non-Forested Vegetated				No	Natural	800	2001	150	0	0	0	0	0		2	
606310000016	CX	9	PL4SW3FB3	104	No	Natural	800	1998	550	0	0	0	0	0		2	
606310000019	CX	9	PL4SW4FB2	94	No	Natural	800	2001	1 238	0	0	0	0	0		3	
606310000021	CX	3	PL10	84	No	Natural	800	1998	1 438	0	0	0	0	0		3	
606310000024	CX	1	PL8SW2	94	No	Natural	800	2001	2 250	0	0	0	0	0		3	
606310000033	CX	9	PL4SW3FB2SB1	104	No	Natural	800	2001	1 613	0	0	0	0	0		3	
606310000036	CX	1	PL8SB1AW1	84	No	Natural	800	2001	1 050	0	0	0	0	0		3	
606311000003	1. Steep Slopes	1	PL8SW1FB1	104	No	Natural	800	1998	950	0	0	0	0	0		2	
606311000004	CX	1	PL9SB1	104	No	Natural	800	1998	1 763	0	0	0	0	0		2	
606311000006	CX	11	PL7SB3	104	No	Natural	800	2000	425	0	0	0	0	0		3	
606311000013	1. Steep Slopes	1	PL10	114	No	Natural	800	1995	450	0	0	0	0	0		2	
606311000019	CX	1	PL10	104	No	Natural	800	2000	513	0	0	0	0	0		3	
606311000021	CX	8	PL7SW3	104	No	Natural	800	1995	2 288	0	0	0	0	0		2	
606311000033	CX	1	PL9AW1	84	No	Natural	800	2001	1 050	0	0	0	0	0		2	
606312000001	CX	9	SW5PL2FB2SB1	104	No	Natural	800	2000	238	0	0	0	0	0		3	
606312000003	CX	3	PL10	94	No	Natural	800	2000	1 100	0	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606312000004	CD	13	PL4SW3AW3	104	No	Natural	800	2000	3 850	25	0	0	0	0		3	
606312000006	CX	3	PL9SB1	84	No	Natural	800	2001	2 925	113	0	0	0	0		4	
606312000013	CX	9	SW4PL3SB3	94	No	Natural	800	1999	738	0	0	0	0	0		3	
606312000016	CX	10	PL7SB2AW1	84	No	Natural	800	2000	2 750	13	0	0	0	0		3	
606312000019	1. Steep Slopes	20	AW10	54	No	Natural	800	2002	613	1 475	0	0	0	0		2	
606312000021	CX	2	PL9AW1	84	No	Natural	800	1998	2 950	0	0	0	0	0		2	
606312000022	CX	7	SB8PL2	94	No	Natural	800	2000	1 688	0	0	0	0	0		3	
606312000024	CX	1	PL8SB2	84	No	Natural	800	2001	2 013	150	0	0	0	0		3	
606312000033	CX	1	PL10	94	No	Natural	800	2000	925	0	0	0	0	0		2	
606312000036	CX	2	PL9AW1	4	Yes	Regen	800	2002	0	0	0	0	750	0	Yes	2	2
606313000001	CX	1	PL8SW1AW1	84	No	Natural	800	1995	300	38	0	0	0	0		3	
606313000003	CX	2	PL10	84	No	Natural	800	1995	1 400	0	0	0	0	0		3	
606313000004	CX	1	PL8SB2	104	No	Natural	800	1995	500	0	0	0	0	0		2	
606313000006	CX	1	PL8SW2	94	No	Natural	800	2002	813	0	0	0	0	0		3	
606313000013	CX	8	PL7AW2SW1	84	No	Natural	800	2000	613	25	0	0	0	0		3	
606313000016	5. 30m Buffer	3	PL10	84	No	Natural	800	2001	1 150	0	0	0	0	0		3	
606313000019	CX	8	PL7SW2FB1	104	No	Natural	800	2001	1 388	0	0	0	0	0		3	
606313000021	CX	11	PL7SB3	104	No	Natural	400	2001	4 025	0	0	0	0	0		3	
606313000022	CX	2	PL10	124	No	Natural	400	2001	4 150	0	0	0	0	0		3	
606313000024	CX	10	SB6PL4	94	No	Natural	800	2001	2 650	0	0	0	0	0		2	
606313000036	5. 30m Buffer	9	SW7PL2SB1	104	No	Natural	800	2004	1 113	0	0	0	0	0		3	
606314000001	CX	2	PL8SW2	84	No	Natural	800	1995	2 625	0	0	0	0	0		2	
606314000013	CX	2	PL10	104	No	Natural	800	1995	1 963	0	0	0	0	0		2	
606314000024	CX	1	PL10	144	No	Natural	800	2001	763	0	0	0	0	0		2	
606314000036	CX	2	PL8SW2	114	No	Natural	800	1993	3 025	0	0	0	0	0		2	
606403000001	CD	14	SW7AW3	74	Partial Cut	Regen	800	2005	500	1 688	2 000	500	0	0		1	5
606403000004	DX	20	BW8SW2	44	No	Natural	800	2002	675	163	0	0	0	0		3	
606403000006	CX	9	SW7PL2AW1	104	No	Natural	800	2002	388	0	0	0	0	0		3	
606403000013	DC	16	BW6SW2FB2	34	Partial Cut	Regen	800	2002	250	1 250	1 350	2 300	500	0		1	5
606403000016	5. 30m Buffer	4	SW6FB3PL1	94	No	Natural	800	2004	688	13	0	0	0	0		4	
606403000021	CX	4	SW8PL1FB1	114	No	Natural	800	2001	425	325	0	0	0	0		3	
606403000022	CD	13	PL6AW4	84	No	Natural	800	1995	538	413	0	0	0	0		2	
606403000024	CX	2	PL10	104	No	Natural	800	1999	800	0	0	0	0	0		3	
606404000001	CX	7	SB9PL1	104	No	Natural	800	2000	1 188	0	0	0	0	0		3	
606404000003	CX	1	PL10	8	Yes	Nat Regen	800	2002	175	0	0	0	0	0		3	
606404000004	CX	6	SB9LT1	114	No	Natural	800	2000	3 050	0	0	0	0	0		3	
606404000006	CX	8	PL6SW3AW1	104	No	Natural	800	2000	463	38	0	0	0	0		3	
606404000013	CD	15	SW6BW4	34	No	Natural	800	2001	1 350	1 625	0	0	0	0		2	
606404000016	CX	5	SW9AW1	10	Yes	Regen	800	2002	0	0	0	0	1 250	67 750		2	2
606404000019	2. Larch	7	SB6LT2PL2	74	No	Natural	800	2001	3 213	25	0	0	0	0		3	
606404000021	CX	5	SW9AW1	12	Yes	Regen	800	2001	0	0	200	50	7 250	11 250		2	2
606404000022	CD	15	SW5BW3PL1FB1	54	No	Natural	800	2001	1 750	400	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606404000024	CD	15	SW5BW4PL1	64	No	Natural	400	1995	1 650	700	0	0	0	0		1	
606404000033	CX	5	SW9AW1	12	Yes	Regen	800	2001	0	25	50	1 100	2 500	10 000		2	2
606405000003	CX	2	PL9AW1	13	Yes	Regen	800	2001	0	0	4 000	300	4 250	0		2	2
606405000004	CX	4	SW6FB3PL1	104	No	Natural	800	2004	688	0	0	0	0	0		4	
606405000006	CX	9	SW5PL2FB2AW1	94	No	Natural	800	1998	2 100	213	0	0	0	0		3	
606405000016	CX	5	SW9AW1	13	Yes	Regen	800	2001	63	263	0	750	0	250		2	2
606405000019	CX	5	SW9AW1	13	Yes	Regen	800	2001	25	0	50	1 400	1 000	1 000		2	2
606405000022	DC	40	SW10	54	No	Natural	800	1998	263	400	0	0	0	0		3	
606405000026	CX	2	PL9AW1	13	Yes	Regen	800	2002	0	0	6 000	2 200	2 250	8 750	Yes		2
606405000029	CX	2	PL9AW1	13	Yes	Regen	800	2002	0	38	150	400	1 000	500	Yes		2
606405000033	DX	20	AW10	104	No	Natural	800	2002	0	250	0	0	0	0		2	
606405000036	CX	5	SW9AW1	11	Yes	Regen	800	2002	0	63	0	1 450	1 500	3 250		2	4
606406000001	CX	4	SW8PL1FB1	104	No	Natural	800	1998	775	363	0	0	0	0		3	
606406000003	CX	4	SW10	104	No	Natural	800	1998	1 025	13	0	0	0	0		4	
606406000006	CX	2	PL8AW2	104	No	Natural	800	1995	1 113	0	0	0	0	0		2	
606406000013	DC	40	SW10	64	No	Natural	800	1993	713	163	0	0	0	0		1	
606406000016	DC	40	SW10	54	No	Natural	800	1998	525	238	0	0	0	0		2	
606406000022	2. River Buffer	40	SB7SW3	74	No	Natural	800	2001	1 200	363	0	0	0	0		2	
606406000024	CX	4	SW8PL1AW1	124	No	Natural	800	2004	675	0	0	0	0	0		3	
606406000033	DX	19	AW10	74	No	Natural	800	2002	50	438	0	0	0	0		2	
606407000001	1. Seismic Lines	6	SB8PL2	114	No	Natural	800	1993	713	163	0	0	0	0	Yes	3	
606407000003	CX	6	SB10	54	No	Natural	800	2000	1 213	25	0	0	0	0		3	
606407000006	CX	6	SB10	94	No	Natural	800	2001	2 438	0	0	0	0	0		3	
606407000013	2. Larch	6	SB7LT3	104	No	Natural	800	2003	1 375	0	0	0	0	0		3	
606407000016	DC	17	AW6PL4	94	No	Natural	800	2001	1 600	138	0	0	0	0		3	
606407000021	DC	40	AW7SW3	54	No	Natural	800	2002	325	1 875	0	0	0	0		4	
606407000022	DX	18	AW10	104	No	Natural	800	2003	50	950	0	0	0	0		3	
606407000024	4. Non-Forested Vegetated				No	Natural	800	2002	225	0	0	0	0	0		2	
606407000033	CX	2	PL9AW1	10	Yes	Regen	800	2002	0	25	100	2 700	2 500	24 250			3
606407000036	CX	2	PL9AW1	30	Yes	Regen	800	2005	5 025	238	3 450	450	0	0			5
606408000001	CX	8	PL6SW2AW2	84	No	Natural	800	2000	850	213	0	0	0	0		3	
606408000003	CX	2	PL10	1	Yes	Nat Regen	800	2001	363	0	0	0	0	0		3	
606408000013	CX	5	SW9AW1	20	Yes	Regen	800	2001	0	13	150	400	0	0			2
606408000016	CD	13	PL5AW4SB1	84	No	Natural	800	1995	113	263	0	0	0	0		2	
606408000019	CX	5	SW9AW1	16	Yes	Regen	800	2002	263	0	6 100	300	5 750	1 750			5
606408000021	CX	8	PL6SW3AW1	104	No	Natural	800	1998	1 100	0	0	0	0	0		3	
606408000022	2. Larch	7	SB8LT2	74	No	Natural	800	1998	2 125	0	0	0	0	0		2	
606408000024	DC	40	SW8AW2	54	No	Natural	800	1996	75	400	0	0	0	0		3	
606408000036	CX	1	PL9AW1	84	No	Natural	800	2002	3 063	88	0	0	0	0		3	
606409000003	CX	2	PL9AW1	14	Yes	Regen	800	2001	0	0	1 750	0	11 000	0		1	2
606409000004	5. 30m Buffer	11	PL6SB4	84	No	Natural	800	2001	1 025	675	0	0	0	0		2	
606409000006	5. 30m Buffer	13	PL6AW3SW1	104	No	Natural	800	1995	413	25	0	0	0	0		3	
606409000013	CX	1	PL8SB1AW1	84	No	Natural	800	1998	2 025	0	0	0	0	0		2	
606409000016	2. Naturally Non-Vegetated				No	Natural	800	1990	100	13	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606409000019	CX	1	PL9SB1	104	No	Natural	800	2000	1 838	0	0	0	0	0		3	
606409000021	CX	9	SW6PL4	104	No	Natural	800	2000	375	25	0	0	0	0		3	
606409000022	DC	16	AW5SW3SB2	74	No	Natural	800	1993	463	400	0	0	0	0		2	
606409000033	CD	13	PL6AW4	84	No	Natural	800	1998	1 300	25	0	0	0	0		2	
606409000036	CX	2	PL9AW1	14	Yes	Regen	800	2001	63	0	850	150	4 250	500		1	2
606410000001	CX	3	PL10	104	No	Natural	800	1995	850	0	0	0	0	0		2	
606410000003	2. Naturally Non-Vegetated				No	Natural	800	1980	0	0	0	0	0	0		1	
606410000004	4. 60m Buffer	4	SW7PL2FB1	104	No	Natural	800	1995	225	0	0	0	0	0		2	
606410000006	CX	5	SW9AW1	10	Yes	Regen	800	2005	0	0	0	0	0	0		2	2
606410000013	CX	8	PL7SW3	104	No	Natural	800	2000	813	0	0	0	0	0		3	
606410000016	1. Steep Slopes	2	PL10	104	No	Natural	800	2000	1 163	0	0	0	0	0		2	
606410000019	CX	8	PL5SW5	104	No	Natural	800	2000	775	0	0	0	0	0		3	
606410000021	CX	1	PL9SB1	94	No	Natural	800	2004	963	0	0	0	0	0		5	
606410000022	xCOMP	50		8	Yes	Nat Regen	800	1989	1 188	0	0	0	0	0	Yes	2	1
606410000024	CX	2	PL9AW1	7	Yes	Regen	800	2004	0	0	0	50	29 500	0		2	3
606410000033	CX	1	PL8SW2	104	No	Natural	800	2004	1 075	0	0	0	0	0		4	
606410000036	CX	3	PL10	84	No	Natural	800	2001	1 113	0	0	0	0	0		4	
606411000001	CX	2	PL10	94	No	Natural	800	2000	1 063	0	0	0	0	0		3	
606411000003	CX	3	PL10	94	No	Natural	800	2000	550	0	0	0	0	0		3	
606411000006	5. 30m Buffer	16	AW5SW3PL1FB1	114	No	Natural	800	1995	263	88	0	0	0	0	Yes	3	
606411000013	CX	3	PL8SW1FB1	94	No	Natural	800	1995	1 613	0	0	0	0	0		3	
606411000019	CX	1	PL9AW1	104	No	Natural	800	1995	588	0	0	0	0	0		2	
606411000021	CX	4	SW9PL1	104	No	Natural	800	2000	688	0	0	0	0	0		3	
606411000022	CX	2	PL9AW1	11	Yes	Regen	800	2001	0	0	0	0	98 500	0		2	2
606411000024	CX	2	PL9AW1	11	Yes	Regen	800	2001	38	0	550	0	3 750	0		2	2
606411000033	DC	16	AW6PL3SW1	94	No	Natural	800	2000	400	0	0	0	0	0		3	
606411000036	CX	8	PL7FB2SB1	104	No	Natural	800	2004	1 625	0	0	0	0	0		5	
606412000001	CX	8	PL7SW2AW1	114	No	Natural	800	1995	150	0	0	0	0	0		2	
606412000003	CX	2	PL9AW1	6	Yes	Regen	800	2004	0	63	0	1 050	0	7 750		2	3
606412000004	CX	8	PL5SW4SB1	104	No	Natural	800	2002	1 188	0	0	0	0	0		3	
606412000006	CX	11	PL7SB2AW1	84	No	Natural	800	2001	2 263	388	0	0	0	0		3	
606412000016	CX	5	SW9AW1	11	Yes	Nat Regen	800	1993	2 063	175	0	0	0	0	Yes	2	1
606412000019	CX	11	PL6SB4	94	No	Natural	800	2000	1 850	138	0	0	0	0		3	
606412000021	CX	1	PL8AW2	84	No	Natural	800	2001	200	313	0	0	0	0		3	
606412000022	DX	20	AW9SW1	114	No	Natural	800	2000	513	100	0	0	0	0		3	
606412000024	DX	20	AW8SW1PL1	114	No	Natural	800	2001	400	788	0	0	0	0		3	
606412000033	5. 30m Buffer	19	AW9PL1	104	No	Natural	800	2000	238	0	0	0	0	0		3	
606413000001	CX	1	PL10	94	No	Natural	400	2001	5 600	75	0	0	0	0		2	
606413000004	CX	10	PL5SB5	94	No	Natural	800	1995	1 150	0	0	0	0	0		2	
606413000006	3. Black Spruce	6	SB9PL1	104	No	Natural	800	2000	550	0	0	0	0	0		2	
606413000013	CX	1	PL9SW1	104	No	Natural	800	1998	3 438	0	0	0	0	0		2	
606413000016	CX	2	PL10	104	No	Natural	800	1994	3 000	0	0	0	0	0		2	
606413000019	CX	2	PL9SB1	104	No	Natural	800	1995	3 125	0	0	0	0	0		2	
606413000021	CX	1	PL9SB1	94	No	Natural	400	1995	3 725	25	0	0	0	0		1	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure	Natural Regen
606413000022	CX	10	PL7SB2SW1	104	No	Natural	800	1995	1 538	0	0	0	0	0		2	
606413000024	1. Steep Slopes	8	PL7SW1FB1AW1	104	No	Natural	800	1995	500	0	0	0	0	0		2	
606413000033	3. Black Spruce	6	SB10	104	No	Natural	800	1993	425	0	0	0	0	0		2	
606413000036	DC	16	AW7SW2FB1	104	No	Natural	800	2001	25	1 438	0	0	0	0		3	
606414000001	CX	1	PL10	94	No	Natural	800	1998	4 163	0	0	0	0	0		2	
606414000013	CX	1	PL10	84	No	Natural	400	2002	2 350	0	0	0	0	0		3	
606414000024	CX	1	PL8SB2	84	No	Natural	800	1993	1 213	0	0	0	0	0		2	
606414000036	CX	1	PL9SB1	94	No	Natural	800	2002	3 275	0	0	0	0	0		3	
606504000001	CX	4	SW9AW1	114	No	Natural	800	2001	450	63	0	0	0	0		3	
606504000003	CX	4	SW9AW1	104	No	Natural	800	1998	1 125	525	0	0	0	0		2	
606504000004	5. 30m Buffer	2	PL8SW2	104	No	Natural	800	1998	2 263	0	0	0	0	0		3	
606504000006	CX	9	SW6PL2AW2	114	No	Natural	800	1988	488	50	0	0	0	0		2	
606504000016	CX	5	SW9AW1	12	Yes	Regen	800	2001	0	0	50	2 400	3 500	2 250		2	2
606504000019	CX	8	PL7SW3	104	No	Natural	800	1998	1 425	0	0	0	0	0		3	
606504000021	DX	21	BW10	64	No	Natural	800	2001	125	475	0	0	0	0		2	
606504000033	DX	21	BW10	64	No	Natural	800	1993	188	100	0	0	0	0		2	
606505000001	DX	18	AW8SW2	64	No	Natural	800	2002	25	25	0	0	0	0		2	
606505000003	DC	40	SB9SW1	94	No	Natural	800	1998	575	138	0	0	0	0		2	
606505000013	CX	7	SB10	84	No	Natural	800	1998	3 713	0	0	0	0	0		2	
606505000019	CX	7	SB10	114	No	Natural	800	1996	2 125	0	0	0	0	0		2	
606505000021	DC	40	SW10	44	No	Natural	800	2001	263	1 000	0	0	0	0		3	
606505000024	DX	20	AW10	104	No	Natural	800	1993	88	563	0	0	0	0		1	
606505000033	DX	18	AW10	74	No	Natural	800	1998	238	163	0	0	0	0		2	
606506000001	4. A-Density DX Stands	18	AW5PB2BW1PL1SB1	64	No	Natural	800	2001	88	188	0	0	0	0		2	
606506000004	DX	20	AW10	104	No	Natural	800	1996	75	425	0	0	0	0		2	
606506000006	CD	13	PL6AW4	114	No	Natural	800	2002	1 213	438	0	0	0	0		3	
606506000019	CX	2	PL9AW1	29	Yes	Regen	800	2005	2 138	488	5 000	1 300	0	0			7
606506000021	CD	15	SW6AW3PL1	84	No	Natural	800	1996	1 875	488	0	0	0	0		2	
606506000022	CX	1	PL8SB2	104	No	Natural	800	1996	3 500	25	0	0	0	0		2	
606506000024	CD	13	PL5AW3SB1LT1	94	No	Natural	800	1993	2 663	100	0	0	0	0		2	
606506000029	CX	5	SW9AW1	30	Yes	Regen	800	2002	1 913	713	5 150	1 350	2 000	0	Yes		2
606506000033	CX	4	SW8FB1AW1	84	No	Natural	800	2001	438	500	0	0	0	0		3	
606506000036	CX	2	PL9AW1	29	Yes	Regen	800	2005	163	475	200	200	0	0			5
606507000001	CX	1	PL9AW1	104	No	Natural	800	1998	450	363	0	0	0	0		3	
606507000003	CX	1	PL8SB2	114	No	Natural	800	1998	1 438	50	0	0	0	0		2	
606507000004	CD	13	PL6AW4	104	No	Natural	800	1995	100	525	0	0	0	0		2	
606507000006	DC	40	AW7PB2PL1	29	Yes	Nat Regen	800	2000	138	1 488	0	0	0	0		2	
606507000013	DC	40	AW5BW2PL1SW1SB1	64	No	Natural	800	2001	288	450	0	0	0	0		2	
606507000016	5. 30m Buffer	8	PL7SW2SB1	114	No	Natural	800	1998	1 013	0	0	0	0	0		3	
606507000019	CX	1	PL8SB2	104	No	Natural	800	1998	1 938	50	0	0	0	0		3	
606507000021	CX	5	SW9AW1	25	Yes	Regen	800	2005	763	100	400	800	0	0			6
606507000022	CX	2	PL9AW1	4	Yes	Regen	800	2002	0	0	0	0	1 500	0	Yes	3	2
606507000024	CX	8	PL7SW2AW1	64	No	Natural	800	2000	2 188	13	0	0	0	0		2	
606507000033	CX	2	PL10	114	No	Natural	800	1998	925	0	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606507000036	CX	2	PL9AW1	30	Yes	Regen	800	2002	350	238	1 700	250	1 750	0			6
606508000001	CX	6	SB8PL2	134	No	Natural	800	1998	2 900	0	0	0	0	0		2	
606508000003	CX	5	SW9AW1	22	Yes	Regen	800	2002	2 850	0	14 650	150	750	0			7
606508000004	CX	2	PL9AW1	19	Yes	Regen	800	2002	638	50	12 050	350	250	0			6
606508000006	CX	2	PL9AW1	22	Yes	Regen	800	2002	88	13	950	1 100	1 000	1 250			7
606508000013	CX	2	PL8AW2	104	No	Natural	800	2001	400	138	0	0	0	0		3	
606508000016	CX	10	PL6SB4	84	No	Natural	800	1995	1 913	0	0	0	0	0		2	
606508000018	CX	2	PL9AW1	20	Yes	Regen	800	2002	475	0	8 100	150	6 250	1 500	Yes		2
606508000019	CX	2	PL9AW1	17	Yes	Regen	800	2002	25	0	8 100	250	13 750	0		1	6
606508000021	CX	2	PL9AW1	25	Yes	Regen	800	2005	713	25	1 350	0	0	0			6
606508000022	CX	2	PL10	104	No	Natural	800	1998	488	0	0	0	0	0		3	
606508000024	CX	3	PL10	104	No	Natural	800	2000	1 538	0	0	0	0	0		3	
606508000033	CX	8	PL6SW2AW2	44	No	Natural	800	1998	1 588	138	0	0	0	0		2	
606508000036	DX	18	AW10	54	No	Natural	800	2002	13	388	0	0	0	0		2	
606509000001	CX	1	PL8SB2	104	No	Natural	800	2000	1 650	0	0	0	0	0		2	
606509000003	CX	5	SW9AW1	16	Yes	Regen	800	2001	0	0	0	0	1 000	0		2	2
606509000004	CX	2	PL9AW1	30	Yes	Regen	800	2005	2 225	88	550	0	0	0			6
606509000006	CX	2	PL9AW1	30	Yes	Regen	800	2005	1 013	25	400	0	0	0			6
606509000013	CX	10	PL5SB4AW1	104	No	Natural	800	1993	1 363	13	0	0	0	0		2	
606509000016	CX	1	PL8SW1SB1	64	No	Natural	800	1993	738	2 600	0	0	0	0		2	
606509000022	CX	2	PL9AW1	21	Yes	Regen	800	2002	1 063	0	2 450	50	4 000	0			7
606509000024	CX	2	PL10	104	No	Natural	800	2000	850	0	0	0	0	0		2	
606509000026	CX	5	SW9AW1	21	Yes	Regen	800	2002	288	988	2 550	950	2 250	0	Yes		2
606509000033	CX	5	SW9AW1	21	Yes	Regen	800	2002	1 438	525	1 350	600	250	0			7
606509000036	CX	2	PL8SW1AW1	114	No	Natural	800	1998	1 213	13	0	0	0	0		2	
606510000001	CX	8	PL6SW3SB1	114	No	Natural	800	1998	600	25	0	0	0	0		2	
606510000004	CX	2	PL9SW1	104	No	Natural	800	1995	400	13	0	0	0	0		2	
606510000006	DC	16	AW6PL2SW1SB1	74	No	Natural	800	1995	650	1 700	0	0	0	0		2	
606510000013	DC	40	SW9AW1	54	No	Natural	800	2002	50	250	0	0	0	0		2	
606510000016	DX	18	AW8PB2	104	No	Natural	800	1995	13	2 613	0	0	0	0		2	
606510000024	CX	1	PL8AW2	104	No	Natural	800	2001	150	300	0	0	0	0		3	
606510000033	CD	14	SW5AW4PB1	94	Partial Cut	Regen	800	2004	0	0	0	1 100	0	0		3	1
606510000036	2. River Buffer	40	SB7PB2AW1	84	No	Natural	800	1994	1 738	188	0	0	0	0		2	
606511000001	DX	21	AW8PB2	44	No	Natural	800	1982	0	0	0	0	0	0		1	
606511000003	DX	18	AW7PB3	84	No	Natural	800	2002	13	63	0	0	0	0		2	
606511000004	5. 30m Buffer	4	SW9SB1	104	No	Natural	800	1995	600	0	0	0	0	0		2	
606511000006	DX	19	AW10	84	No	Natural	800	1995	0	913	0	0	0	0		2	
606511000013	5. 30m Buffer	19	AW9PB1	64	No	Natural	800	1995	25	375	0	0	0	0		2	
606511000016	1. Steep Slopes	18	AW6PB3SW1	74	No	Natural	800	1982	0	0	0	0	0	0		1	
606511000019	2. River Buffer	40	SB7SW1AW1PB1	84	No	Natural	800	1995	613	75	0	0	0	0		2	
606511000021	DX	19	AW7PB2SW1	64	No	Natural	800	2004	0	0	0	0	0	0		2	
606511000022	CX	4	SW8AW1PB1	84	No	Natural	800	2002	0	1 713	0	0	0	0		3	
606511000024	DX	18	AW8PB2	104	No	Natural	800	1995	38	813	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606511000033	DC	40	SW8AW2	74	No	Natural	800	1995	588	275	0	0	0	0		2	
606511000036	DX	20	AW9PB1	104	No	Natural	800	2002	0	938	0	0	0	0		3	
606512000001	CD	13	PL7AW3	84	No	Natural	800	2001	425	138	0	0	0	0		3	
606512000003	CX	9	SW7AW2PL1	84	No	Natural	800	1995	563	0	0	0	0	0		2	
606512000004	CX	12	SW7SB2PL1	84	No	Natural	800	2001	550	0	0	0	0	0		3	
606512000006	CX	11	PL6SB4	84	No	Natural	800	2002	3 038	0	0	0	0	0		2	
606512000016	DX	18	AW9PB1	84	No	Natural	800	1996	0	713	0	0	0	0		2	
606512000019	CX	6	SB9PL1	124	No	Natural	800	2005	1 975	0	0	0	0	0		4	
606512000021	CD	13	PL5AW4SW1	104	No	Natural	800	1993	413	63	0	0	0	0		2	
606512000022	4. 60m Buffer	9	SW7AW2PL1	114	No	Natural	800	2000	275	0	0	0	0	0		3	
606512000024	CX	9	SW6PL3AW1	104	No	Natural	800	2001	213	75	0	0	0	0		3	
606512000033	DC	17	AW7SW2PL1	104	No	Natural	800	1992	363	100	0	0	0	0		2	
606512000036	DX	20	AW9SW1	114	No	Natural	800	1996	25	525	0	0	0	0		2	
606513000001	CX	2	PL9SB1	114	No	Natural	800	2000	1 600	0	0	0	0	0		3	
606513000003	CX	2	PL9AW1	1	Yes	Regen	800	2004	0	0	550	200	1 750	0		3	1
606513000004	CX	5	SW9AW1	2	Yes	Regen	800	2004	0	0	0	0	0	0		1	1
606513000006	6. Linear and Landuse Disposit	6	SB7LT2PL1	154	No	Natural	800	2000	1 788	0	0	0	0	0		4	
606513000016	CX	2	PL9SB1	104	No	Natural	800	1993	500	0	0	0	0	0		2	
606513000019	3. Black Spruce	6	SB9LT1	104	No	Natural	800	1998	1 463	0	0	0	0	0		3	
606513000021	CX	9	SW5PL4AW1	74	No	Natural	800	1993	838	0	0	0	0	0		2	
606513000024	CX	6	SB9PL1	124	No	Natural	800	2000	1 113	25	0	0	0	0		3	
606513000033	CX	2	PL9AW1	1	Yes	Nat Regen	800	1998	663	13	0	0	0	0		3	
606513000036	CX	10	PL7SB2SW1	1	Yes	Nat Regen	800	2002	675	0	0	0	0	0		3	
606514000001	2. Larch	6	LT6SB3PL1	154	No	Natural	800	1998	1 788	0	0	0	0	0	Yes	4	
606514000013	2. Larch	6	LT9SB1	154	No	Natural	800	1995	1 350	0	0	0	0	0	Yes	4	
606514000024	CX	2	PL9AW1	1	Yes	Nat Regen	800	2001	1 250	0	0	0	0	0		3	
606514000036	CX	10	PL7SB2AW1	104	No	Natural	800	1998	1 488	200	0	0	0	0		3	
606604000016	DX	20	AW10	104	No	Natural	800	2001	0	500	0	0	0	0		2	
606604000019	CX	5	SW9AW1	15	Yes	Regen	800	2001	175	125	850	3 100	500	250		2	2
606604000021	DX	20	AW9PB1	104	No	Natural	800	1996	25	225	0	0	0	0		2	
606604000022	3. Disturbance Areas	20	AW9PB1	104	No	Natural	800	1998	113	888	0	0	0	0		2	
606604000033	DX	20	AW9PB1	104	No	Natural	800	1996	25	413	0	0	0	0		2	
606605000001	DC	40	SW9AW1	74	No	Natural	800	2002	1 088	788	0	0	0	0		2	
606605000003	CX	4	SW7FB3	104	No	Natural	800	2004	638	38	0	0	0	0		3	
606605000004	CX	5	SW9AW1	15	Yes	Regen	800	2002	0	13	150	350	500	3 500		1	2
606605000006	DX	19	AW7PB3	104	No	Natural	800	1996	0	500	0	0	0	0		2	
606605000013	CX	5	SW9AW1	15	Yes	Regen	800	2001	113	338	650	1 200	10 750	250		1	3
606605000016	CX	4	SW7FB2AW1	104	No	Natural	800	2001	1 100	250	0	0	0	0		3	
606605000019	DC	40	SW9AW1	54	No	Natural	800	1998	2 325	813	0	0	0	0		2	
606605000022	DC	16	AW5SW4FB1	114	No	Natural	800	1998	875	113	0	0	0	0		2	
606605000024	CX	4	SW7FB2AW1	114	No	Natural	800	1998	775	538	0	0	0	0		2	
606605000033	DX	20	AW9PB1	74	No	Natural	800	1996	0	913	0	0	0	0		2	
606605000036	DX	18	AW9PB1	104	No	Natural	800	2002	0	13	0	0	0	0		2	
606606000001	CX	2	PL9AW1	6	Yes	Regen	800	2004	13	0	0	4 750	2 500	15 750		3	2

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606606000004	DC	40	SW9AW1	74	No	Natural	800	2001	500	375	0	0	0	0		3	
606606000006	CX	4	SW7PL1FB1AW1	84	No	Natural	800	1998	1 938	50	0	0	0	0		2	
606606000013	CX	2	PL9AW1	25	Yes	Regen	800	2005	2 163	575	4 350	150	0	0		1	6
606606000016	DX	19	AW9SW1	94	No	Natural	800	2001	200	350	0	0	0	0		2	
606606000019	DC	40	SW8AW2	54	Partial Cut	Regen	800	2005	950	1 263	900	350	0	0			5
606606000021	DC	16	AW5SW2PL2SB1	104	No	Natural	800	1998	1 638	13	0	0	0	0		3	
606606000022	DX	18	AW8SW2	64	No	Natural	800	1998	288	163	0	0	0	0		3	
606606000024	1. Anthropogenic Non-Vegetated				No	Natural	800	1998	50	513	0	0	0	0		4	
606606000033	CX	5	SW9AW1	17	Yes	Regen	800	2001	0	113	600	450	0	1 500		1	2
606606000036	CX	4	SW9AW1	54	No	Natural	800	2001	713	175	0	0	0	0		4	
606607000001	DC	16	AW6SW3PL1	114	No	Natural	800	2001	425	438	0	0	0	0		3	
606607000003	CX	2	PL9AW1	114	No	Natural	800	2001	1 188	13	0	0	0	0		3	
606607000004	CX	2	PL9AW1	4	Yes	Regen	800	2002	0	0	0	0	1 250	3 500	Yes	3	2
606607000006	5. 30m Buffer	1	PL8SW2	114	No	Natural	800	1996	563	0	0	0	0	0		2	
606607000013	DX	18	AW6PB2PL1SW1	94	No	Natural	800	2001	113	788	0	0	0	0		3	
606607000016	CX	3	PL9AW1	104	No	Natural	800	1996	600	88	0	0	0	0		2	
606607000019	DC	17	AW7PL3	104	No	Natural	800	1996	63	163	0	0	0	0		2	
606607000021	DX	20	AW8PL1PB1	104	No	Natural	800	2001	438	350	0	0	0	0		3	
606607000022	CX	5	SW9AW1	4	Yes	Regen	800	2002	13	13	700	0	8 750	0	Yes	3	2
606607000024	CX	2	PL9AW1	28	Yes	Regen	800	2005	863	1 438	150	150	0	0			6
606607000036	DX	20	AW9PL1	1	Yes	Nat Regen	800	1996	25	838	0	0	0	0		2	
606608000001	CX	2	PL9AW1	18	Yes	Regen	800	2002	613	800	950	150	1 000	750			6
606608000003	CX	5	SW9AW1	11	Yes	Regen	800	2002	0	0	550	1 500	2 000	0	Yes	1	2
606608000004	DX	19	AW9PB1	94	No	Natural	800	1995	13	775	0	0	0	0		2	
606608000006	CD	14	SW7AW2PB1	84	No	Natural	800	2004	25	0	0	0	0	0		3	
606608000013	CX	2	PL9AW1	18	Yes	Regen	800	2002	250	725	250	10 100	750	1 500			6
606608000016	CX	2	PL9AW1	12	Yes	Regen	800	2001	0	0	50	0	11 000	0		1	3
606608000019	CD	13	PL6AW3PB1	84	No	Natural	800	2001	313	725	0	0	0	0		2	
606608000021	DX	19	AW9PB1	94	No	Natural	800	2002	38	588	0	0	0	0		2	
606608000022	DX	18	AW7PB2PL1	84	No	Natural	800	1996	225	763	0	0	0	0		2	
606608000024	DX	18	AW9PB1	84	No	Natural	800	2002	0	1 063	0	0	0	0		2	
606608000033	DX	20	AW9SW1	104	No	Natural	800	1995	13	750	0	0	0	0		2	
606608000036	DX	20	AW9PL1	5	Yes	Regen	800	2001	0	0	0	0	0	37 250		2	2
606609000001	DX	20	AW9PB1	84	No	Natural	800	2001	0	850	0	0	0	0		3	
606609000003	DC	40	SW10	64	No	Natural	800	2001	213	238	0	0	0	0		3	
606609000004	DX	20	AW8PB2	94	No	Natural	800	2001	0	763	0	0	0	0		2	
606609000013	CX	12	SB7PB2SW1	134	No	Natural	800	2001	1 938	288	0	0	0	0		3	
606609000019	DX	19	AW9PB1	84	No	Natural	800	2001	13	513	0	0	0	0		3	
606609000021	DX	19	AW8PB2	94	No	Natural	800	2001	25	400	0	0	0	0		3	
606609000022	CX	5	SW8AW2	84	No	Natural	800	2001	688	838	0	0	0	0		3	
606609000024	5. 30m Buffer	40	SW6AW3PB1	64	No	Natural	800	2001	125	888	0	0	0	0		3	
606609000033	DC	40	SW6SB3BW1	54	No	Natural	800	2001	1 288	750	0	0	0	0		3	
606609000036	DC	40	SW10	64	No	Natural	800	2001	275	325	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
606610000001	DX	18	AW8SW2	64	No	Natural	800	1995	0	188	0	0	0	0		2	
606610000003	2. River Buffer	4	SW9PL1	134	No	Natural	800	2001	388	25	0	0	0	0		3	
606610000004	DX	20	AW10	94	No	Natural	800	1996	0	888	0	0	0	0		2	
606610000006	DX	20	AW10	84	No	Natural	800	1996	50	688	0	0	0	0		3	
606610000013	DX	19	AW10	84	No	Natural	800	2002	225	975	0	0	0	0		3	
606610000016	4. Non-Forested Vegetated				No	Natural	800	2001	263	175	0	0	0	0		2	
606610000019	CX	4	SW9AW1	114	No	Natural	800	2001	863	0	0	0	0	0		3	
606610000021	DC	40	SW8AW2	64	No	Natural	800	2001	1 138	113	0	0	0	0		3	
606610000024	DC	40	SB8SW1AW1	84	No	Natural	800	2001	625	188	0	0	0	0		3	
606610000036	CX	8	PL5SW4SB1	124	No	Natural	800	1995	175	150	0	0	0	0		2	
606611000001	CX	4	SW9AW1	84	No	Natural	800	2001	263	238	0	0	0	0		3	
606611000003	CX	4	SW8PL1AW1	84	No	Natural	800	2001	925	0	0	0	0	0		4	
606611000004	DC	40	SW8PL1AW1	74	No	Natural	800	2001	575	188	0	0	0	0		2	
606611000006	DX	21	AW10	84	No	Natural	800	2001	25	775	0	0	0	0		2	
606611000013	DX	18	AW10	84	No	Natural	800	1995	25	663	0	0	0	0		2	
606611000016	2. River Buffer	40	SW9AW1	64	No	Natural	800	2001	163	63	0	0	0	0		2	
606611000019	CX	5	SW9AW1	5	Yes	Regen	800	2003	0	0	0	550	4 500	0		3	1
606611000021	DC	16	AW6SB3PL1	114	No	Natural	800	1995	688	63	0	0	0	0		2	
606611000022	CX	5	SW9AW1	4	Yes	Regen	800	2003	0	0	0	0	2 750	4 250		2	1
606611000024	2. River Buffer	20	AW10	104	No	Natural	800	1998	388	350	0	0	0	0		3	
606611000033	CX	10	PL7SB2PB1	104	No	Natural	800	2000	3 488	63	0	0	0	0		3	
606611000036	DX	19	AW9PB1	84	No	Natural	800	2003	0	538	0	0	0	0		4	
606612000001	CX	12	SW6SB2PL1FB1	84	No	Natural	800	2004	1 675	0	0	0	0	0		4	
606612000003	DX	20	AW9PL1	2	Yes	Regen	800	2004	0	0	0	0	0	2 000		3	1
606612000004	CX	2	PL8SB2	84	No	Natural	800	1993	5 500	50	0	0	0	0		3	
606612000006	CX	10	SB6PL4	114	No	Natural	800	2000	2 313	0	0	0	0	0		5	
606612000013	CX	2	PL9AW1	11	Yes	Regen	800	2002	0	0	250	1 700	4 500	1 000		2	4
606612000016	DX	18	AW8PL2	84	No	Natural	800	2001	1 000	325	0	0	0	0		3	
606612000019	DX	20	AW9PL1	104	No	Natural	800	2002	63	750	0	0	0	0		3	
606612000021	CX	1	PL8SB2	104	No	Natural	800	2001	825	0	0	0	0	0		3	
606612000022	CX	2	PL8SW1SB1	104	No	Natural	800	1993	2 238	0	0	0	0	0		3	
606612000024	CX	5	SW9AW1	2	Yes	Regen	800	2003	0	0	0	0	3 000	0		3	1
606612000026	CX	4	SW10	134	No	Natural	800	2002	450	100	0	0	0	0		1	
606612000033	DC	17	AW7PL3	104	No	Natural	800	1993	350	575	0	0	0	0		2	
606612000036	2. Larch	6	LT9SB1	114	No	Natural	800	1993	1 225	0	0	0	0	0	Yes	3	
606613000001	CX	1	PL8SB2	144	No	Natural	800	2001	2 588	0	0	0	0	0		2	
606613000003	2. River Buffer	4	SW9AW1	104	No	Natural	800	1995	825	388	0	0	0	0		2	
606613000004	CX	5	SW9AW1	1	Yes	Nat Regen	800	1995	575	0	0	0	0	0		2	
606613000006	5. 30m Buffer	10	PL7SB3	114	No	Natural	800	1998	2 175	0	0	0	0	0		3	
606613000013	CX	1	PL8SB2	104	No	Natural	800	2001	675	375	0	0	0	0		3	
606613000016	1. Steep Slopes	8	PL6SW3AW1	104	No	Natural	800	1998	675	88	0	0	0	0		3	
606613000021	1. Steep Slopes	20	AW9SW1	94	No	Natural	800	1995	325	475	0	0	0	0		2	
606613000022	CX	2	PL9SB1	104	No	Natural	800	2001	1 438	38	0	0	0	0		2	
606613000024	CX	2	PL8SB1AW1	104	No	Natural	800	2001	1 538	63	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606613000033	4. 60m Buffer	16	AW6SW4	114	No	Natural	800	2002	250	75	0	0	0	0		2	
606613000036	CX	2	PL8SB2	74	No	Natural	800	1993	3 438	175	0	0	0	0		2	
606614000001	CX	1	PL9SW1	104	No	Natural	800	2000	1 975	13	0	0	0	0		3	
606614000013	CX	2	PL10	104	No	Natural	800	1994	2 375	38	0	0	0	0		2	
606614000024	CX	1	PL8SW2	114	No	Natural	800	1993	413	63	0	0	0	0		2	
606614000036	1. Steep Slopes	20	AW9SW1	64	No	Natural	800	1995	100	2 000	0	0	0	0		2	
606704000004	DX	20	AW10	104	No	Natural	800	2001	0	513	0	0	0	0		2	
606704000006	4. Non-Forested Vegetated				No	Natural	800	1980	0	0	0	0	0	0		1	
606704000016	DX	20	AW7PB3	104	No	Natural	800	2001	38	500	0	0	0	0		2	
606704000019	CX	4	SW7FB1AW1PB1	144	No	Natural	800	2000	613	625	0	0	0	0		3	
606705000001	DC	40	AW6SW3PB1	44	No	Natural	800	1993	400	488	0	0	0	0		3	
606705000003	DX	18	PB6AW4	74	No	Natural	800	1996	75	1 288	0	0	0	0		2	
606705000004	DX	20	AW8PB2	74	No	Natural	800	2001	0	1 700	0	0	0	0		2	
606705000006	DX	20	AW9PB1	104	No	Natural	800	2001	200	263	0	0	0	0		3	
606705000013	DC	40	SW10	64	No	Natural	800	2001	1 000	525	0	0	0	0		4	
606705000016	CD	14	SW5AW5	54	No	Natural	800	2001	100	213	0	0	0	0		2	
606705000021	DX	20	AW8PB2	94	No	Natural	800	2001	488	613	0	0	0	0		4	
606705000022	DC	40	SW6AW2PB2	64	No	Natural	800	2001	113	275	0	0	0	0		3	
606705000024	DX	18	AW8PB2	104	No	Natural	800	1998	275	200	0	0	0	0		3	
606705000033	DC	40	SW10	64	No	Natural	800	1995	150	913	0	0	0	0		2	
606705000036	DX	21	AW9PB1	94	No	Natural	800	2002	63	2 150	0	0	0	0		3	
606706000001	CX	2	PL9AW1	26	Yes	Regen	800	2005	538	3 625	1 450	2 000	0	0		1	4
606706000003	DC	17	AW5SW2PL2BW1	74	No	Natural	800	2000	1 363	150	0	0	0	0		2	
606706000006	DX	19	PB8AW2	94	No	Natural	800	2002	0	500	0	0	0	0		2	
606706000013	4. A-Density DX Stands	18	PB9SW1	114	No	Natural	800	1993	150	650	0	0	0	0		3	
606706000019	DC	40	SW8AW1PB1	54	No	Natural	800	2001	825	1 188	0	0	0	0		2	
606706000021	DX	18	AW5PB4SW1	94	No	Natural	800	2001	263	300	0	0	0	0		2	
606706000022	DX	20	AW9PB1	94	No	Natural	800	1998	225	675	0	0	0	0		2	
606706000024	DC	40	SW7AW2PB1	64	No	Natural	800	1996	538	675	0	0	0	0		3	
606706000031	CD	14	SW7AW3	114	No	Natural	800	2002	488	675	0	0	0	0		1	
606706000033	CX	2	PL9AW1	1	Yes	Regen	800	2004	0	0	0	0	0	0		3	1
606706000036	CD	14	SW6AW2PB2	114	No	Natural	800	1996	938	463	0	0	0	0		2	
606707000001	DX	21	AW10	54	No	Natural	800	1995	0	1 513	0	0	0	0		3	
606707000003	CX	4	SW10	104	No	Natural	800	1993	338	238	0	0	0	0		3	
606707000004	CX	9	SW7AW2PL1	114	No	Natural	800	2000	350	0	0	0	0	0		4	
606707000006	DX	20	AW10	94	No	Natural	800	2002	0	650	0	0	0	0		3	
606707000013	DC	16	AW7SW3	74	No	Natural	800	2001	1 700	1 663	0	0	0	0		4	
606707000016	DC	40	SW9AW1	64	No	Natural	800	1995	200	413	0	0	0	0		2	
606707000019	4. Non-Forested Vegetated				No	Natural	800	1995	50	313	0	0	0	0		3	
606707000021	DC	40	SW9AW1	64	No	Natural	800	2001	1 738	363	0	0	0	0		2	
606707000022	DX	20	AW9PL1	2	Yes	Nat Regen	800	1995	838	400	0	0	0	0		2	
606707000033	DC	40	SW9AW1	54	No	Natural	800	1995	500	538	0	0	0	0	Yes	3	
606707000036	DX	21	AW9SW1	54	No	Natural	800	1995	163	1 538	0	0	0	0		2	
606708000001	CX	7	SB10	94	No	Natural	800	1996	2 013	0	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606708000003	DC	17	AW7SW2PL1	64	No	Natural	800	2001	363	250	0	0	0	0		3	
606708000004	DC	40	SW10	44	No	Natural	800	2001	125	750	0	0	0	0		1	
606708000006	6. Linear and Landuse Disposit				No	Natural	800	1984	25	0	0	0	0	0		1	
606708000013	6. Linear and Landuse Disposit	20	AW10	94	No	Natural	800	2002	13	838	0	0	0	0		4	
606708000016	3. Black Spruce	6	SB9SW1	114	No	Natural	800	2001	138	0	0	0	0	0		3	
606708000019	CX	1	PL8SB1AW1	84	No	Natural	800	1994	663	25	0	0	0	0		2	
606708000021	CX	12	SW7SB2AW1	64	No	Natural	800	2000	1 388	50	0	0	0	0		3	
606708000022	DX	19	AW8PB2	94	No	Natural	800	1995	0	313	0	0	0	0		2	
606708000024	4. A-Density DX Stands	18	AW7PB3	74	No	Natural	800	1996	75	500	0	0	0	0		3	
606708000033	DX	20	AW8PB2	94	No	Natural	800	2002	0	638	0	0	0	0		2	
606708000034	DX	20	AW9PL1	7	Yes	Nat Regen	800	2002	438	288	0	0	0	0		1	
606708000036	2. Larch	6	SB7LT2PB1	104	No	Natural	800	2003	1 775	38	0	0	0	0		3	
606709000001	4. Non-Forested Vegetated				No	Natural	800	2003	25	0	0	0	0	0		2	
606709000004	DX	20	AW8PB2	84	No	Natural	800	2001	438	150	0	0	0	0		3	
606709000006	DX	20	BW9SW1	54	No	Natural	800	1996	0	800	0	0	0	0		2	
606709000013	DX	19	AW8PB2	94	No	Natural	800	2002	25	388	0	0	0	0		3	
606709000016	DX	20	AW10	104	No	Natural	800	2002	725	663	0	0	0	0		3	
606709000019	DC	40	SW8SB2	64	No	Natural	800	1996	75	1 450	0	0	0	0		2	
606709000021	CX	6	SB9PB1	144	No	Natural	800	2001	2 313	0	0	0	0	0		2	
606709000022	2. Larch	6	LT10	134	No	Natural	800	2002	2 350	0	0	0	0	0		3	
606709000024	4. Non-Forested Vegetated				No	Natural	800	1984	0	0	0	0	0	0		1	
606709000033	CX	6	SB7LT1PL1PB1	144	No	Natural	800	2002	288	1 213	0	0	0	0		3	
606709000036	DX	20	AW9PL1	114	No	Natural	800	2002	63	250	0	0	0	0		2	
606710000001	CX	2	PL9AW1	15	Yes	Regen	800	2002	13	113	400	400	500	0		2	4
606710000003	CX	4	SW8SB1AW1	84	No	Natural	800	2002	1 525	0	0	0	0	0		2	
606710000004	DC	16	PB6SB3LT1	94	No	Natural	800	2001	1 525	0	0	0	0	0		2	
606710000006	5. 30m Buffer	21	AW10	84	No	Natural	800	1996	75	663	0	0	0	0		2	
606710000013	1. Seismic Lines	5	SW9AW1	15	Yes	Regen	800	2002	0	113	250	900	0	12 000		2	4
606710000016	xCOMP	50		5	Yes	Nat Regen	800	1995	113	863	0	0	0	0	Yes	3	1
606710000019	6. Linear and Landuse Disposit				No	Natural	800	1995	0	25	0	0	0	0		3	
606710000021	CX	2	PL9AW1	15	Yes	Nat Regen	800	1995	350	338	0	0	0	0	Yes	3	1
606710000022	CX	8	PL6SW3AW1	104	No	Natural	800	2001	1 000	163	0	0	0	0		4	
606710000024	DX	20	AW9PL1	2	Yes	Nat Regen	800	2002	63	513	0	0	0	0		3	
606710000033	DX	20	AW10	74	No	Natural	800	1995	350	913	0	0	0	0		3	
606710000036	CX	10	PL7AW2SB1	84	No	Natural	800	1995	1 788	0	0	0	0	0		3	
606711000001	DX	20	AW10	104	No	Natural	800	2001	100	963	0	0	0	0		3	
606711000003	CX	4	SW9AW1	104	No	Natural	800	2001	538	200	0	0	0	0		3	
606711000004	CX	1	PL9AW1	104	No	Natural	800	2000	1 763	0	0	0	0	0		3	
606711000006	CX	10	PL7SB2LT1	104	No	Natural	800	1993	2 450	0	0	0	0	0		2	
606711000013	CX	12	SW5SB4LT1	104	No	Natural	800	1995	1 675	138	0	0	0	0		2	
606711000016	CX	9	SW7AW2PL1	124	No	Natural	800	2000	650	38	0	0	0	0		3	
606711000019	CX	1	PL9AW1	104	No	Natural	800	2000	513	25	0	0	0	0		3	
606711000021	CX	5	SW8AW2	104	No	Natural	800	2001	863	75	0	0	0	0		3	
606711000022	2. Larch	6	SB7LT2PL1	104	No	Natural	800	1993	2 313	0	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
606711000024	DX	18	AW10	94	No	Natural	800	2002	13	513	0	0	0	0		2	
606711000033	DC	16	AW7SW3	74	No	Natural	800	2001	975	638	0	0	0	0		3	
606711000036	DX	20	AW9PL1	114	No	Natural	800	2001	88	400	0	0	0	0		3	
606712000001	2. Larch	6	SB7LT2PL1	134	No	Natural	800	2002	1 325	0	0	0	0	0		3	
606712000003	2. Larch	16	PB5LT3SB2	84	No	Natural	800	2002	50	0	0	0	0	0		3	
606712000004	CX	2	PL9AW1	104	No	Natural	800	2001	1 213	88	0	0	0	0		3	
606712000006	CX	8	PL7SW3	104	No	Natural	800	1995	1 200	13	0	0	0	0		2	
606712000013	CX	2	PL10	104	No	Natural	800	2000	850	0	0	0	0	0		3	
606712000016	6. Linear and Landuse Disposit				No	Natural	800	1996	3 038	38	0	0	0	0		3	
606712000019	CX	9	SW6PL2AW2	114	No	Natural	800	2002	663	13	0	0	0	0		3	
606712000021	CX	3	PL9AW1	104	No	Natural	400	2001	1 850	0	0	0	0	0		3	
606712000022	CX	6	SB8LT1PL1	114	No	Natural	800	2000	2 088	25	0	0	0	0		3	
606712000024	CX	2	PL9AW1	104	No	Natural	400	2001	1 950	0	0	0	0	0		3	
606712000033	1. Steep Slopes	17	AW7SW2PL1	94	No	Natural	800	2001	125	263	0	0	0	0		3	
606712000036	DX	18	AW9PL1	64	No	Natural	800	2000	488	263	0	0	0	0		3	
606713000001	1. Steep Slopes	8	PL6SW4	84	No	Natural	800	2001	525	63	0	0	0	0		3	
606713000003	CX	8	PL6SW3AW1	104	No	Natural	800	2001	600	350	0	0	0	0		3	
606713000004	CX	3	PL10	104	No	Natural	800	2000	2 913	13	0	0	0	0		3	
606713000006	2. Larch	7	SB8LT2	124	No	Natural	800	2000	2 438	13	0	0	0	0		3	
606713000013	DC	16	AW6SW4	104	No	Natural	800	2002	338	238	0	0	0	0		3	
606713000016	CX	4	SW9PL1	1	Yes	Nat Regen	800	2002	1 463	0	0	0	0	0		2	
606713000019	CX	9	SW6PL4	114	No	Natural	800	2000	1 113	0	0	0	0	0		3	
606713000021	DC	40	SB6SW2FB1AW1	94	No	Natural	800	2000	1 225	113	0	0	0	0		3	
606713000022	DX	18	AW8PL2	114	No	Natural	800	2001	63	438	0	0	0	0		3	
606713000033	CX	6	SB9LT1	104	No	Natural	800	2001	1 638	0	0	0	0	0		2	
606713000036	DX	18	AW10	94	No	Natural	800	2002	138	513	0	0	0	0		3	
606805000003	CX	5	SW9AW1	12	Yes	Regen	800	2001	0	0	450	150	3 250	0		2	2
606805000004	2. River Buffer	21	AW10	94	No	Natural	800	2001	625	163	0	0	0	0		4	
606805000006	DX	19	AW9PB1	104	No	Natural	800	2002	38	650	0	0	0	0		3	
606805000016	2. River Buffer	5	SW8AW1PB1	104	No	Natural	800	2001	200	63	0	0	0	0		2	
606805000019	DX	20	AW10	94	No	Natural	800	2002	0	888	0	0	0	0		3	
606805000021	2. River Buffer	20	AW8PB2	94	No	Natural	800	1995	0	525	0	0	0	0		3	
606805000022	DX	20	AW9PL1	18	Yes	Regen	800	2001	0	113	50	5 700	1 000	8 000		2	2
606805000033	4. Non-Forested Vegetated				No	Natural	800	2002	0	75	0	0	0	0		3	
606805000036	CX	1	PL10	104	No	Natural	800	1996	1 925	88	0	0	0	0		3	
606806000001	DC	16	BW5PB2SB2LT1	74	No	Natural	800	2001	250	125	0	0	0	0		4	
606806000003	DX	20	AW9PL1	21	Yes	Regen	800	2002	13	613	600	1 000	0	2 750		2	1
606806000004	DX	20	AW9PL1	19	Yes	Regen	800	2002	13	2 213	100	12 450	0	0		1	6
606806000006	DX	20	AW9PL1	19	Yes	Regen	800	2003	0	0	0	3 650	500	7 000		2	1
606806000016	3. Disturbance Areas				No	Natural	800	1986	25	750	0	0	0	0		2	
606806000019	CX	6	SB9LT1	104	No	Natural	800	1995	2 213	0	0	0	0	0		2	
606806000021	DX	21	AW10	94	No	Natural	800	1986	0	675	0	0	0	0		2	
606806000036	DX	21	AW9PL1	104	No	Natural	800	2002	38	863	0	0	0	0		3	
606807000001	DC	40	SW7AW3	74	No	Natural	800	1996	100	488	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606807000003	DX	20	AW9PL1	7	Yes	Nat Regen	800	1996	38	800	0	0	0	0	Yes	2	1
606807000004	DC	16	BW6SB3PB1	74	No	Natural	800	1995	163	25	0	0	0	0		3	
606807000006	DX	20	AW10	94	No	Natural	800	1996	25	525	0	0	0	0		3	
606807000013	3. Black Spruce	6	SB10	74	No	Natural	800	2000	75	0	0	0	0	0		3	
606807000016	4. Non-Forested Vegetated				No	Natural	800	2001	38	1 050	0	0	0	0		2	
606807000019	DX	20	AW9PB1	94	No	Natural	800	1995	0	600	0	0	0	0		3	
606807000021	3. Black Spruce	6	SB10	124	No	Natural	800	2003	688	0	0	0	0	0		3	
606807000022	DX	20	AW9PL1	15	Yes	Regen	800	2002	0	2 025	50	12 700	0	0		1	5
606807000024	DX	19	AW9PB1	94	No	Natural	800	1995	0	388	0	0	0	0		3	
606807000033	DX	19	AW6PB3SB1	84	No	Natural	800	1995	163	513	0	0	0	0		3	
606807000036	DX	19	AW8PB2	84	No	Natural	800	1996	0	450	0	0	0	0		3	
606808000001	DX	20	AW9PL1	4	Yes	Nat Regen	800	1995	50	538	0	0	0	0	Yes	2	1
606808000003	DX	20	AW9SW1	104	No	Natural	800	1995	0	575	0	0	0	0		2	
606808000004	DX	20	AW9PL1	6	Yes	Regen	800	2004	0	0	0	0	2 000	0		2	3
606808000006	3. Disturbance Areas				No	Natural	800	1980	13	88	0	0	0	0		1	
606808000013	DX	20	AW9PL1	7	Yes	Regen	800	2005	0	75	0	21 650	0	0		2	2
606808000016	3. Anthropogenic Vegetated				No	Natural	800	1980	0	538	0	0	0	0		1	
606808000022	DX	19	AW8SW2	84	No	Natural	800	1996	413	788	0	0	0	0		2	
606808000024	DX	18	AW9PB1	94	No	Natural	800	1980	0	150	0	0	0	0		1	
606808000033	DX	20	AW6PB4	94	No	Natural	800	2002	0	463	0	0	0	0		2	
606808000036	DX	21	AW10	74	No	Natural	800	1995	0	1 013	0	0	0	0		2	
606809000001	DX	20	AW9PL1	5	Yes	Nat Regen	800	2001	75	213	0	0	0	0		3	
606809000003	DX	20	AW8PB1PL1	104	No	Natural	800	2003	400	413	0	0	0	0		3	
606809000004	DX	20	AW10	104	No	Natural	800	2002	0	700	0	0	0	0		3	
606809000006	DX	20	AW10	94	No	Natural	800	2001	0	750	0	0	0	0		3	
606809000013	DX	18	PB7AW3	94	No	Natural	800	2002	38	550	0	0	0	0		3	
606809000019	CX	1	PL10	94	No	Natural	800	2002	1 338	0	0	0	0	0		2	
606809000021	DX	21	AW7PB2SW1	54	No	Natural	800	2004	0	0	0	0	0	0		2	
606809000022	1. Anthropogenic Non-Vegetated				No	Natural	800	1978	38	13	0	0	0	0		1	
606809000024	DX	20	AW7PB3	94	No	Natural	800	2002	13	475	0	0	0	0		3	
606809000033	CX	1	PL8SB2	94	No	Natural	800	1993	4 050	0	0	0	0	0		2	
606809000036	4. Non-Forested Vegetated				No	Natural	800	2000	975	0	0	0	0	0		2	
606810000001	DX	19	AW7PB3	104	No	Natural	800	2001	25	638	0	0	0	0		2	
606810000003	CX	1	PL9SB1	104	No	Natural	800	2000	1 638	50	0	0	0	0		3	
606810000004	4. Non-Forested Vegetated				No	Natural	800	2003	650	325	0	0	0	0		4	
606810000006	DX	18	AW8PB2	94	No	Natural	800	1993	725	550	0	0	0	0		3	
606810000013	CX	1	PL8SB1AW1	104	No	Natural	800	1998	650	0	0	0	0	0		3	
606810000016	2. Larch	6	LT9SB1	104	No	Natural	800	2002	388	0	0	0	0	0		3	
606810000019	2. Larch	6	LT10	144	No	Natural	800	2002	1 575	13	0	0	0	0		4	
606810000021	2. Larch	6	LT10	154	No	Natural	800	2000	1 050	0	0	0	0	0		3	
606810000022	CX	2	PL9AW1	6	Yes	Regen	800	2004	0	0	0	0	0	0		3	2
606810000024	CX	1	PL10	84	No	Natural	800	1993	2 300	250	0	0	0	0		2	
606810000033	2. Larch	6	LT6SB3PB1	94	No	Natural	800	1995	200	0	0	0	0	0		3	
606810000036	DX	20	AW9PL1	104	No	Natural	800	2003	175	413	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
606811000001	DX	20	AW10	84	No	Natural	800	2002	250	675	0	0	0	0		3	
606811000003	DX	19	AW7BW2SW1	84	No	Natural	800	2002	1 350	475	0	0	0	0		2	
606811000004	DC	17	AW6SW4	114	No	Natural	800	2002	250	213	0	0	0	0		3	
606811000006	CX	5	SW9AW1	3	Yes	Regen	800	2003	0	0	0	0	1 500	1 000		2	1
606811000013	DC	40	SW9AW1	64	No	Natural	800	2002	1 488	813	0	0	0	0		3	
606811000016	DX	20	AW9PL1	104	No	Natural	800	1995	350	213	0	0	0	0		3	
606811000019	CX	2	PL8AW2	104	No	Natural	800	1995	688	50	0	0	0	0		2	
606811000021	DX	19	AW10	114	No	Natural	800	2002	300	513	0	0	0	0		2	
606811000022	2. Larch	6	LT8SB1PB1	134	No	Natural	800	2002	1 100	63	0	0	0	0		2	
606811000024	CX	2	PL8SB1AW1	1	Yes	Nat Regen	800	2002	663	338	0	0	0	0		3	
606811000033	CX	1	PL10	94	No	Natural	800	2002	1 825	100	0	0	0	0		3	
606811000036	2. Larch	6	LT6SB4	114	No	Natural	800	1995	550	0	0	0	0	0		2	
606812000001	CX	2	PL9AW1	14	Yes	Nat Regen	800	1981	2 163	38	0	0	0	0		1	
606812000003	CX	2	PL9AW1	1	Yes	Nat Regen	800	2000	700	50	0	0	0	0		3	
606812000004	CX	3	PL10	104	No	Natural	800	2000	1 150	0	0	0	0	0		3	
606812000006	CX	2	PL10	104	No	Natural	800	2000	463	88	0	0	0	0		3	
606812000013	DX	19	AW7PB2SW1	104	No	Natural	800	2002	25	800	0	0	0	0		2	
606812000016	4. Non-Forested Vegetated				No	Natural	800	2000	63	0	0	0	0	0		2	
606812000019	CX	4	SW10	84	No	Natural	800	2002	25	950	0	0	0	0		3	
606812000021	5. 30m Buffer	6	LT8SB2	124	No	Natural	800	2001	700	250	0	0	0	0		3	
606812000022	CD	13	PL6AW3SW1	84	No	Natural	800	2001	1 550	125	0	0	0	0		3	
606812000024	DX	20	AW10	104	No	Natural	800	1993	13	538	0	0	0	0		2	
606812000033	DX	20	AW9PB1	94	No	Natural	800	2002	13	688	0	0	0	0		3	
606812000036	DX	21	AW10	64	No	Natural	800	2002	25	1 275	0	0	0	0		2	
606813000001	DX	20	AW8PB1PL1	104	No	Natural	800	2002	88	663	0	0	0	0		3	
606813000003	CX	4	SW9AW1	114	No	Natural	800	2000	250	13	0	0	0	0		3	
606813000004	CX	2	PL10	94	No	Natural	800	2002	3 425	0	0	0	0	0		3	
606813000006	5. Trumpeter Swan Areas	6	SB9PL1	124	No	Natural	800	2002	4 313	13	0	0	0	0		3	
606813000013	CX	8	PL4SW4AW2	104	No	Natural	800	2002	475	238	0	0	0	0		3	
606813000016	CX	2	PL10	64	No	Natural	800	2002	4 688	13	0	0	0	0		3	
606813000019	CX	5	SW9PL1	104	No	Natural	800	2002	575	0	0	0	0	0		3	
606813000021	CX	4	SW9PB1	104	No	Natural	800	2000	1 988	0	0	0	0	0		3	
606813000022	CX	2	PL9AW1	7	Yes	Regen	800	2004	0	0	450	13 900	0	17 750		2	3
606813000024	CX	4	SW9AW1	74	No	Natural	800	2000	1 413	125	0	0	0	0		2	
606813000033	DC	40	SW10	64	No	Natural	800	1999	150	413	0	0	0	0		3	
606813000036	DX	20	AW9SW1	104	No	Natural	800	2002	25	875	0	0	0	0		3	
606904000006	DC	40	SW7AW2PB1	74	No	Natural	800	1998	388	675	0	0	0	0		3	
606904000016	CD	13	PL5AW3SW2	84	No	Natural	800	2002	150	463	0	0	0	0		3	
606904000019	2. Larch	6	LT8SB2	114	No	Natural	800	1995	3 625	363	0	0	0	0		2	
606904000021	3. Anthropogenic Vegetated				No	Natural	800	1977	0	4 213	0	0	0	0		1	
606904000033	2. Larch	6	SB7LT2AW1	104	No	Natural	800	1998	1 688	250	0	0	0	0		2	
606905000001	CX	10	PL6SB2SW1AW1	84	No	Natural	800	1998	863	0	0	0	0	0		3	
606905000003	DX	19	AW9SW1	94	No	Natural	800	2002	425	1 838	0	0	0	0		2	
606905000004	1. Seismic Lines	18	AW9SW1	84	No	Natural	800	2002	213	800	0	0	0	0		2	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
606905000006	DX	20	AW10	74	No	Natural	800	2002	13	2 513	0	0	0	0		2	
606905000013	2. Larch	6	LT10	104	No	Natural	800	1998	313	0	0	0	0	0		3	
606905000016	4. Non-Forested Vegetated				No	Natural	800	1998	1 063	0	0	0	0	0		3	
606905000019	3. Black Spruce	6	SB10	104	No	Natural	800	1998	925	0	0	0	0	0		2	
606905000021	2. Larch	6	LT10	104	No	Natural	800	1998	238	0	0	0	0	0		3	
606905000022	DX	19	AW7PB2SW1	64	No	Natural	800	1998	88	288	0	0	0	0		3	
606905000024	CX	9	SW7AW2PL1	64	No	Natural	800	1998	600	913	0	0	0	0		3	
606905000033	DX	19	AW9SW1	84	No	Natural	800	1998	425	300	0	0	0	0		3	
606905000036	DX	20	AW10	64	No	Natural	800	2001	0	1 075	0	0	0	0		3	
607003000019	DX	19	AW8PB2	64	No	Natural	800	1982	0	400	0	0	0	0		1	
607003000021	DX	20	AW9PB1	64	No	Natural	800	1995	75	463	0	0	0	0		2	
607004000001	2. Larch	10	PL5SB3LT2	84	No	Natural	800	2000	2 288	0	0	0	0	0		2	
607004000003	CX	7	SB9LT1	64	No	Natural	800	1995	1 200	0	0	0	0	0		2	
607004000006	2. Larch	6	LT7SB2BW1	104	No	Natural	800	2000	1 025	13	0	0	0	0		2	
607004000022	CX	4	SW9AW1	114	No	Natural	800	2001	475	325	0	0	0	0		2	
607004000024	DX	20	AW9SW1	84	No	Natural	800	1995	0	1 063	0	0	0	0		2	
607005000003	4. Non-Forested Vegetated				No	Natural	800	1983	0	0	0	0	0	0		1	
607005000006	DX	20	AW9SW1	84	No	Natural	800	2001	188	100	0	0	0	0		3	
607404000033	1. Seismic Lines	40	SW10	34	No	Natural	800	2002	638	863	0	0	0	0		2	
607503000003	DX	21	AW10	54	No	Natural	800	2002	0	1 463	0	0	0	0		2	
607503000004	DX	21	AW9PB1	54	No	Natural	800	2002	0	2 050	0	0	0	0		3	
607503000006	DX	21	AW10	54	No	Natural	800	2002	0	1 563	0	0	0	0		2	
607503000016	DX	20	AW10	54	No	Natural	800	2002	125	1 713	0	0	0	0		2	
607503000019	5. 30m Buffer	21	AW10	44	No	Natural	800	2002	0	1 300	0	0	0	0		2	
607504000001	DX	19	BW8AW2	64	No	Natural	800	2002	0	1 138	0	0	0	0		2	
607504000003	5. 30m Buffer	21	AW10	64	No	Natural	800	2002	13	1 775	0	0	0	0		3	
607504000004	DX	21	AW10	64	No	Natural	800	2002	0	1 513	0	0	0	0		2	
607504000006	DX	20	AW10	64	No	Natural	800	2002	388	1 688	0	0	0	0		3	
607504000013	DX	20	AW8PB2	64	No	Natural	800	2002	38	2 475	0	0	0	0		2	
607504000019	DX	21	AW10	44	No	Natural	800	2002	0	3 138	0	0	0	0		3	
607504000021	4. Non-Forested Vegetated				No	Natural	800	2001	975	563	0	0	0	0		3	
607504000022	DX	21	AW10	54	No	Natural	800	2002	0	2 500	0	0	0	0		3	
607504000024	DX	20	AW10	54	No	Natural	800	2002	38	1 563	0	0	0	0		3	
607504000033	DX	21	AW10	54	No	Natural	800	2002	0	1 775	0	0	0	0		2	
607504000036	DX	21	AW10	54	No	Natural	400	2002	250	3 300	0	0	0	0		2	
607505000001	1. Anthropogenic Non-Vegetated				No	Natural	800	2002	113	113	0	0	0	0		3	
607505000003	DX	21	AW10	64	No	Natural	800	2002	25	1 163	0	0	0	0		3	
607505000004	CX	8	PL7AW2SW1	114	No	Natural	800	2001	163	363	0	0	0	0		3	
607505000006	DX	20	AW9PL1	2	Yes	Regen	800	2004	0	0	0	0	0	84 000		2	1
607505000013	CD	15	SW7AW3	114	No	Natural	800	2002	13	1 863	0	0	0	0		2	
607505000016	DX	21	AW8PB2	64	No	Natural	400	2002	25	1 125	0	0	0	0		2	
607505000019	DX	20	AW10	64	No	Natural	800	1983	13	2 725	0	0	0	0		2	
607505000021	DX	18	AW9PB1	64	No	Natural	800	2001	0	2 463	0	0	0	0		3	
607505000022	DX	20	AW7PB3	64	No	Natural	800	2002	13	700	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
607505000024	DX	19	AW7PB2BW1	64	No	Natural	800	2002	0	1 313	0	0	0	0		3	
607505000033	DX	21	AW10	74	No	Natural	800	2001	513	2 075	0	0	0	0		3	
607505000036	DX	21	AW9PB1	54	No	Natural	800	2002	0	1 613	0	0	0	0		2	
607506000001	DX	20	AW8SW2	94	No	Natural	800	2002	0	250	0	0	0	0		2	
607506000003	DX	20	AW10	74	No	Natural	800	2002	188	913	0	0	0	0		3	
607506000004	DC	16	AW7PL2SW1	64	No	Natural	800	2001	413	788	0	0	0	0		3	
607506000006	DX	20	AW9SW1	64	No	Natural	800	2001	1 188	275	0	0	0	0		2	
607506000013	DX	21	AW10	64	No	Natural	800	2002	300	1 525	0	0	0	0		3	
607506000016	1. Seismic Lines	5	SW9AW1	114	No	Natural	800	2002	0	338	0	0	0	0		2	
607506000019	DX	21	AW10	64	No	Natural	800	2002	0	475	0	0	0	0		2	
607506000021	4. Non-Forested Vegetated				No	Natural	800	2003	0	13	0	0	0	0		2	
607506000022	DX	21	AW10	74	No	Natural	800	2002	0	563	0	0	0	0		2	
607506000024	CX	5	SW9AW1	114	No	Natural	800	2001	350	225	0	0	0	0		3	
607506000033	DX	21	AW10	64	No	Natural	800	2002	0	1 600	0	0	0	0		2	
607506000036	DX	21	AW10	64	No	Natural	800	2002	188	763	0	0	0	0		3	
607507000001	3. Disturbance Areas				No	Natural	800	1982	25	875	0	0	0	0		1	
607507000003	DX	21	AW10	54	No	Natural	800	2002	0	1 325	0	0	0	0		2	
607507000004	DX	21	AW10	54	No	Natural	800	2002	63	2 038	0	0	0	0		2	
607507000013	DC	17	AW7SW3	64	No	Natural	400	2002	100	1 400	0	0	0	0		2	
607507000016	DC	40	SW7AW2PB1	44	No	Natural	800	2002	113	763	0	0	0	0		3	
607507000019	CX	4	SW8AW2	64	No	Natural	800	2002	63	0	0	0	0	0		2	
607507000021	DX	20	AW10	94	No	Natural	800	2002	13	1 188	0	0	0	0		2	
607507000022	DX	20	AW9PB1	64	No	Natural	800	2000	88	0	0	0	0	0		2	
607507000036	DX	20	AW9PB1	64	No	Natural	800	2002	0	850	0	0	0	0		2	
607510000019	DC	17	SW3PB3PL2AW2	64	No	Natural	800	2002	0	438	0	0	0	0		3	
607511000001	CD	15	SW7AW2PB1	64	No	Natural	800	2001	813	1 275	0	0	0	0		3	
607511000003	DX	20	AW9PB1	94	No	Natural	800	2002	13	425	0	0	0	0		2	
607511000013	CX	7	SB8SW2	64	No	Natural	800	2000	2 225	363	0	0	0	0		3	
607511000018	CX	5	SW9AW1	17	Yes	Regen	800	2002	0	275	500	900	3 500	28 250	Yes		2
607511000019	CX	4	SW10	114	No	Natural	800	2001	275	38	0	0	0	0		3	
607511000021	4. 60m Buffer	4	SW9PB1	114	No	Natural	800	1994	50	13	0	0	0	0		2	
607511000022	DX	20	AW10	2	Yes	Nat Regen	800	2002	13	575	0	0	0	0		2	
607511000024	DX	21	AW10	94	No	Natural	800	2002	13	500	0	0	0	0		2	
607511000033	CX	9	SW6PL3AW1	114	No	Natural	800	1994	125	425	0	0	0	0		2	
607511000036	5. 30m Buffer	20	AW10	84	No	Natural	800	2002	63	813	0	0	0	0		3	
607512000001	DX	20	AW10	84	No	Natural	800	2002	25	488	0	0	0	0		2	
607512000013	DX	18	AW5PB3SW2	94	No	Natural	800	2002	0	250	0	0	0	0		2	
607512000019	CX	5	SW9AW1	13	Yes	Regen	800	2001	13	388	150	500	1 500	1 000		2	2
607512000021	4. Non-Forested Vegetated				No	Natural	800	1978	0	13	0	0	0	0		1	
607512000022	4. Non-Forested Vegetated				No	Natural	800	1978	0	0	0	0	0	0		1	
607512000024	CX	5	SW9AW1	17	Yes	Regen	800	2001	25	350	1 150	11 650	5 000	16 500	Yes	1	2
607513000021	DX	20	AW10	94	No	Natural	800	2002	150	750	0	0	0	0		2	
607513000022	DX	21	AW10	94	No	Natural	800	2002	0	463	0	0	0	0		2	
607513000036	4. Non-Forested Vegetated				No	Natural	800	1983	0	0	0	0	0	0		1	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen	
607604000001	DX	20	AW8PL2	54	No	Natural	800	2002	25	938	0	0	0	0		2	
607604000003	DC	40	SW10	44	No	Natural	800	2002	213	1 250	0	0	0	0		2	
607604000004	DX	19	AW9PB1	54	No	Natural	800	2002	0	550	0	0	0	0		2	
607604000006	DX	18	AW7PB2BW1	54	No	Natural	800	2002	0	1 513	0	0	0	0		2	
607605000001	DX	21	AW10	54	No	Natural	800	2002	0	2 188	0	0	0	0		2	
607608000001	DX	19	AW8PB2	74	No	Natural	800	2002	0	213	0	0	0	0		2	
607608000003	DX	21	AW10	74	No	Natural	800	2002	0	238	0	0	0	0		2	
607608000004	DX	21	AW10	74	No	Natural	800	2004	238	88	0	0	0	0		3	
607608000016	DX	20	AW8PB2	64	No	Natural	800	2002	0	1 938	0	0	0	0		2	
607608000019	CX	5	SW8AW2	104	No	Natural	800	1998	1 275	225	0	0	0	0		3	
607608000021	CX	5	SW8AW2	104	No	Natural	800	2000	425	0	0	0	0	0		2	
607608000022	CD	15	SW7AW3	104	No	Natural	800	2000	600	875	0	0	0	0		3	
607608000033	5. 30m Buffer	18	AW6BW2PB2	64	No	Natural	800	2002	50	113	0	0	0	0		2	
607608000036	DX	21	AW10	44	No	Natural	800	2002	0	2 975	0	0	0	0		3	
607609000006	DC	17	AW5SW4PB1	104	No	Natural	800	2001	150	425	0	0	0	0		3	
607609000013	DX	20	AW9PB1	94	No	Natural	800	2002	0	250	0	0	0	0		2	
607609000016	CX	5	SW9AW1	64	No	Natural	800	1998	2 475	63	0	0	0	0		3	
607609000019	CD	13	PL6AW3SW1	94	No	Natural	800	2002	88	363	0	0	0	0		3	
607609000021	DX	19	AW8PB2	94	No	Natural	800	2002	188	25	0	0	0	0		2	
607609000022	DX	19	AW9PB1	74	No	Natural	800	2002	413	588	0	0	0	0		3	
607609000024	CX	2	PL9AW1	104	No	Natural	800	1994	1 063	63	0	0	0	0		2	
607609000033	DX	20	AW8PB2	94	No	Natural	800	2002	0	538	0	0	0	0		2	
607609000036	DX	20	AW8PL2	104	No	Natural	800	2002	50	863	0	0	0	0		2	
607610000001	DC	40	SW10	34	No	Natural	800	1994	513	738	0	0	0	0		2	
607610000004	CX	7	SB9LT1	104	No	Natural	800	2001	2 775	0	0	0	0	0		2	
607610000006	DX	19	AW9PB1	94	No	Natural	800	2002	13	663	0	0	0	0		2	
607610000013	CX	6	SB10	104	No	Natural	800	1998	3 100	0	0	0	0	0		3	
607610000016	3. Disturbance Areas				No	Natural	800	1988	350	113	0	0	0	0		2	
607610000019	CX	5	SW9AW1	29	Yes	Regen	800	2005	638	138	450	0	0	0			7
607610000021	CX	5	SW9AW1	1	Yes	Nat Regen	800	1998	150	313	0	0	0	0		3	
607610000024	CX	4	SW6FB2PB2	23	Yes	Regen	800	1993	13	825	250	23 550	12 000	33 750			1
607610000033	DX	19	AW8PB2	84	No	Natural	800	2002	13	438	0	0	0	0		2	
607610000036	DC	40	SW10	44	No	Natural	800	1998	4 300	25	0	0	0	0		3	
607611000001	2. Larch	6	LT10	104	No	Natural	800	2000	950	125	0	0	0	0		3	
607611000004	DC	40	SW10	64	No	Natural	800	2001	275	875	0	0	0	0		2	
607611000008	CX	5	SW9AW1	19	Yes	Regen	800	2002	100	388	150	0	1 000	0	Yes		2
607611000013	CX	4	SW10	104	No	Natural	800	2005	663	0	0	0	0	0		5	
607611000021	CX	4	SW10	124	No	Natural	800	2001	988	588	0	0	0	0		3	
607611000022	CX	5	SW8AW2	104	No	Natural	800	2001	813	450	0	0	0	0		2	
607611000024	CX	5	SW9AW1	31	Yes	Regen	800	2005	513	1 888	850	400	0	0			7
607611000036	1. Seismic Lines	19	AW7PB2SW1	94	No	Natural	800	2002	13	150	0	0	0	0		2	
607612000001	CX	5	SW9AW1	18	Yes	Regen	800	2002	50	1 400	650	2 850	6 000	1 250			6
607612000011	CX	5	SW9AW1	18	Yes	Regen	800	2002	0	2 300	750	11 900	1 000	11 250	Yes		2
607612000013	CX	5	SW9AW1	18	Yes	Regen	800	2002	63	713	1 500	5 350	7 250	2 750			6

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural	# Measure Regen
607612000022	CX	9	SW6PL2AW1PB1	104	No	Natural	800	2001	1 675	638	0	0	0	0		2	
607613000001	CX	5	SW9AW1	14	Yes	Regen	800	2004	0	63	550	7 250	0	0		2	6
607613000004	DX	20	AW9PB1	84	No	Natural	800	2002	250	1 438	0	0	0	0		3	
607613000006	1. Steep Slopes	17	AW4SW4PB2	84	No	Natural	800	2002	250	275	0	0	0	0		3	
607613000013	CD	15	SW7AW2PB1	104	No	Natural	800	2001	950	350	0	0	0	0		3	
607613000015	CX	5	SW9AW1	15	Yes	Regen	800	2002	13	113	350	350	1 000	6 750	Yes		2
607613000016	1. Seismic Lines	18	AW8PB2	84	No	Natural	800	2002	75	475	0	0	0	0		2	
607613000022	4. Non-Forested Vegetated				No	Natural	800	2002	0	100	0	0	0	0		2	
607613000024	CX	5	SW9AW1	14	Yes	Regen	800	2001	0	0	50	0	750	250			2
607613000036	DC	40	SW10	44	No	Natural	800	2002	275	550	0	0	0	0		3	
607708000003	DX	20	AW9PB1	114	No	Natural	800	2001	0	525	0	0	0	0		2	
607708000004	1. Seismic Lines	20	AW9PB1	74	No	Natural	800	2002	25	325	0	0	0	0		2	
607708000006	CD	13	PL7AW3	104	No	Natural	800	2001	150	138	0	0	0	0		2	
607708000016	DX	19	AW9PB1	84	No	Natural	800	1987	0	0	0	0	0	0		1	
607708000019	CX	8	PL6SW3AW1	114	No	Natural	800	1996	838	25	0	0	0	0		2	
607708000021	DX	20	AW9SW1	114	No	Natural	800	2002	0	75	0	0	0	0		2	
607708000022	CD	13	PL6AW3SW1	114	No	Natural	800	2001	213	100	0	0	0	0		2	
607708000024	DX	20	AW8PB2	84	No	Natural	800	2002	0	338	0	0	0	0		2	
607708000033	DX	20	AW7PL2PB1	94	No	Natural	800	2002	0	400	0	0	0	0		2	
607708000036	DX	18	AW9PB1	74	No	Natural	800	2002	0	2 150	0	0	0	0		2	
607709000004	CX	5	SW9AW1	4	Yes	Regen	800	2003	0	0	0	0	1 750	0		2	1
607709000006	DC	16	AW6PL3PB1	94	No	Natural	800	2001	475	350	0	0	0	0		2	
607709000019	CD	15	SW6AW3PL1	104	No	Natural	800	2004	1 113	113	0	0	0	0		4	
607709000021	CX	5	SW9AW1	144	No	Natural	800	2001	625	63	0	0	0	0		3	
607709000022	CX	8	PL7SW2AW1	104	No	Natural	800	2001	538	75	0	0	0	0		3	
607709000024	DX	19	AW9SW1	94	No	Natural	800	1982	0	0	0	0	0	0		1	
607709000033	CD	14	SW6AW3PB1	144	No	Natural	800	2002	100	413	0	0	0	0		2	
607709000036	DX	19	AW8PB2	94	No	Natural	800	1982	0	0	0	0	0	0		1	
607710000001	3. Anthropogenic Vegetated				No	Natural	800	1989	1 325	150	0	0	0	0		1	
607710000003	CX	9	SW7PL1AW1PB1	144	No	Natural	800	2001	175	138	0	0	0	0		2	
607710000004	CX	5	SW9AW1	104	No	Natural	400	2000	2 350	1 025	0	0	0	0		3	
607710000006	DC	40	PL7SW1SB1AW1	74	No	Natural	800	2000	3 463	1 013	0	0	0	0		3	
607710000013	CX	5	SW9AW1	104	No	Natural	800	2001	1 813	13	0	0	0	0		2	
607710000016	DX	19	AW8PB1SW1	94	No	Natural	800	2002	13	800	0	0	0	0		3	
607710000019	CX	5	SW8AW1PB1	144	No	Natural	800	1977	13	1 575	0	0	0	0		1	
607710000021	6. Linear and Landuse Disposit				No	Natural	800	1988	125	38	0	0	0	0		2	
607710000022	4. Non-Forested Vegetated				No	Natural	800	1977	0	0	0	0	0	0		1	
607710000024	CX	5	SW9AW1	7	Yes	Regen	800	2004	25	0	0	250	0	3 500		3	2
607711000001	CX	5	SW9AW1	23	Yes	Regen	800	2002	13	4 788	2 700	2 650	5 750	0			7
607711000019	DX	20	AW10	104	No	Natural	800	2002	613	500	0	0	0	0		3	
607711000021	5. Trumpeter Swan Areas				No	Natural	800	1978	0	0	0	0	0	0		1	
607711000022	4. Non-Forested Vegetated				No	Natural	800	1978	0	0	0	0	0	0		1	
607711000024	DX	20	AW10	104	No	Natural	800	2002	175	675	0	0	0	0		3	
607711000033	DX	20	AW10	104	No	Natural	800	2002	0	963	0	0	0	0		3	

Plot number	Net landbase label	Yield Group	Species Composition	Stand Age	Cut Block	PSP Type	Main Plot Size (m2)	Last Compiled	Large Trees Conifer	Large Trees Decid	Saplings Conifer	Saplings Decid	Regen Conifer	Regen Decid	Meas 2006	# Measure Natural Regen
607711000036	DX	20	AW9PB1	104	No	Natural	800	2002	13	1 338	0	0	0	0		3
607712000001	CX	4	SW10	134	No	Natural	800	2002	50	388	0	0	0	0		2
607712000003	CD	14	SW5AW4PB1	84	No	Natural	800	2004	100	250	0	0	0	0		4
607712000004	DX	20	AW10	94	No	Natural	800	2002	0	213	0	0	0	0		2
607712000006	DX	21	AW10	94	No	Natural	800	2002	25	488	0	0	0	0		3
607712000016	4. Non-Forested Vegetated				No	Natural	800	1978	0	13	0	0	0	0		1
607712000024	DC	17	AW7SW3	104	No	Natural	800	2002	50	450	0	0	0	0		3
607712000033	DX	20	AW9SW1	104	No	Natural	800	2002	113	563	0	0	0	0		3
607712000036	3. Black Spruce	6	SB10	74	No	Natural	800	2002	63	413	0	0	0	0		3
607713000001	DC	40	SW9AW1	34	No	Natural	800	1989	188	1 763	0	0	0	0		2
607713000004	4. Non-Forested Vegetated				No	Natural	800	2002	25	1 163	0	0	0	0		2
607809000006	CX	4	SW10	114	No	Natural	800	2001	250	613	0	0	0	0		3
607810000001	DC	40	SW10	44	No	Natural	800	1978	0	513	0	0	0	0		1
607810000003	4. A-Density DX Stands	18	AW5PB5	64	No	Natural	800	1998	63	63	0	0	0	0		3
607810000004	DC	40	SW10	34	No	Natural	800	1978	88	75	0	0	0	0		1
607810000006	DX	19	PB6AW2SW2	94	No	Natural	800	1998	350	950	0	0	0	0		3
607811000001	DX	20	PB8AW2	104	No	Natural	800	2002	0	1 000	0	0	0	0		3
607811000003	DX	19	AW7PB2SW1	94	No	Natural	800	2002	450	800	0	0	0	0		4
607811000004	4. A-Density DX Stands	18	PB7AW3	94	No	Natural	800	2001	38	13	0	0	0	0		2
607811000006	2. Larch	6	LT6SB4	94	No	Natural	800	2005	2 513	0	0	0	0	0		3
607811000019	DC	16	AW6SW4	104	No	Natural	800	2002	125	588	0	0	0	0		3
607811000033	CX	9	SW4PL2SB2AW2	104	No	Natural	800	2002	250	250	0	0	0	0		3
607811000036	CD	14	SW7AW3	104	No	Natural	800	1998	2 688	88	0	0	0	0		3
607812000001	DC	40	SW10	74	No	Natural	800	2002	438	1 375	0	0	0	0		3
607812000003	DX	19	PB8AW2	94	No	Natural	800	2002	0	250	0	0	0	0		3
607812000004	DX	20	PB7AW3	74	No	Natural	800	2002	38	463	0	0	0	0		3
607812000006	DX	19	AW7PB2SW1	74	No	Natural	800	2002	13	350	0	0	0	0		3
607812000013	5. Trumpeter Swan Areas	18	AW5PB5	94	No	Natural	800	2002	350	1 200	0	0	0	0		2
607812000016	5. 30m Buffer	4	SW9SB1	94	No	Natural	800	1998	1 025	88	0	0	0	0		3
607812000024	3. Black Spruce	7	SB10	124	No	Natural	800	1998	1 900	0	0	0	0	0		2
607812000036	DC	17	AW7SW3	64	No	Natural	800	2001	175	288	0	0	0	0		3
607813000001	DX	20	AW7PB2SW1	84	No	Natural	800	2002	938	338	0	0	0	0		2
607813000003	4. Unique Areas	20	AW8PB2	84	No	Natural	800	2002	0	50	0	0	0	0		3
607813000004	DX	20	AW8PB2	84	No	Natural	800	2002	0	425	0	0	0	0		2
607813000006	DX	18	AW6PB4	84	No	Natural	800	2002	38	525	0	0	0	0		3
607813000013	CX	5	SW8AW2	104	No	Natural	800	1998	450	238	0	0	0	0		3
607813000016	DC	40	SW10	54	No	Natural	800	2002	288	325	0	0	0	0		3
607813000024	DC	40	SW10	104	No	Natural	800	1998	263	363	0	0	0	0		3
607813000036	CD	15	SW7AW3	84	No	Natural	800	1998	713	913	0	0	0	0		3
607911000001	DX	21	AW9PB1	104	No	Natural	800	2002	0	500	0	0	0	0		3
607911000003	DX	20	AW7PB2SW1	104	No	Natural	800	2002	63	438	0	0	0	0		3
607911000004	DX	20	AW9PB1	84	No	Natural	800	2002	50	725	0	0	0	0		3
607911000006	CX	4	SW10	114	No	Natural	800	2001	63	450	0	0	0	0		3

APPENDIX II – CURRENT NATURAL STAND PSP FIELD MANUAL

Natural Stand PSPs

I. INTRODUCTION ***2000/01/12***

The Permanent Sample Plot system is designed to provide up-to-date volume and growth information for the Management Area. To accomplish this, each plot will be measured, on average, every ten years. The difference between volume estimates at the measurement times will provide an estimate of both past and future growth.

Since this is an ongoing system, it is extremely important that all measurements are taken very accurately and that plots are marked and recorded in such a way that they can be relocated in the future. Because of this emphasis on accuracy and permanence, check cruising will be carried out as an integral part of this system.

II. EQUIPMENT

A. **Mensurational**

Each crew of two people should carry the following mensurational tools:

- two compasses adjusted for declination
- one metric scale
- Aerial photographs and or maps of the plot vicinity, and access to the plot
- one 30-meter tape
- one 50-meter chain
- five cans of orange paint (more if long distance into the plot)
- two cans of blue paint (for plot buffer)
- one ax and case
- nails
- tree tags
- pencils
- tally sheets
- increment borer
- one Vertex Hypsometer, and Clinometer
- one tally board
- one cross head (if Establishing PSPs)
- two hammers and nail pouches
- wedge prism: 5 square meters per hectare
- one navigational protractor
- flagging tape
- metric calipers
- one metric diameter tape - cloth
- one pocket stereoscope
- one Global Positioning System -(GPS)

B. **Safety & Survival**

A crew will ensure they have the following equipment:

1) For All Plots:
   - CSA approved hardhats and all other required PPE.
   - first aid kit (pocket variety)
   - one portable radio
   - safety glasses
   - gloves
   - CSA approved ATV helmets

2) For helicopter plots:(winter season)
   - two sleeping bags
   - one tent
   - freeze dried food
   - cooking utensils
   - one orange helicopter location market
   - one inflatable splint
   - water-proof matches
   - canned fuel
   - stove
   - first aid kit

In addition, each person is required to provide his/her own Personal Protective Equipment, and rain gear.

III. OFFICE PREPARATION

Permanent Sample Plots are to be located throughout the Management Area on a pre-determined systematic fixed grid basis. This grid is the same for every township and consists of twelve plots per township. The locations of the plots in each township are:

center of northwest quarter, section 1
center of northeast quarter, section 3
center of northwest quarter, section 4
center of northeast quarter, section 6
center of southwest quarter, section 13
center of southwest quarter, section 16
center of northeast quarter, section 19
center of northwest quarter, section 21
center of northeast quarter, section 22
center of northwest quarter, section 24
center of southwest quarter, section 33
center of southwest quarter, section 36

This is demonstrated in Figure 1.

The Permanent Sample Plots should be plotted on the township maps for the areas under immediate planning. Following this, the plots should be transferred very exactly to the best quality, most recent photographs,or Ortho-Photos available. The procedure for transferring plots from Cover TypeMaps to Aerial Photographs is as follows:

a) Determine the scale of the photograph - measure the distance between three different sets of two points on the map, then measure the distances between these same points on the photograph. In doing this, select for points combinations of the following: creek junctions, obvious change in timber type (map type) boundaries, well defined trails, and/or seismic lines. These selections of points must be clearly defined both on map and photo. Road boundaries are generally too ambiguous to be used for plotting purposes. This example illustrates scale calculation: This process must be repeated a total of three times using three different sets of two points on the photo and map.

Points	Distance On Map 1 to 15,000 (distance in mm)	Distance On Aerial (distance in mm)
Creek Junction To Map Type	46.5	40.3
Seismic Line to Seismic Line	44.8	38.6
Map Type To Seismic Line	50.3	47.5
TOTAL	141.6	126.4

Therefore, the map total multiplied by 15 (map scale) divided by the "Photo Total" will determine the scale of the photo.

141.6 x 15 = 2124 divided by 126.4 = 16.8
Photo scale = 1 mm = 16.8m

b) Determine the north line on the photograph - using sets of two points as in (a) above, then draw the North arrow on the photograph.

Locate the plot on the Aerial Photo - using distances and bearings from reliable points on the map (map type boundaries, old seismic lines, creeks) find the plot on the photograph. Use triangulation techniques to transfer the plot from the map to the aerial photo. In some instances when more than one point on the map is used, the distances and bearing from the points will indicate different plot locations from the map to the photo. When this happens, it is necessary to subjectively determine the plot location. In all cases, the plot location should be reviewed after plotting using the photo pair and a stereoscope to see that the plot is close to where it should be within the map type.

Once the plot is plotted on the aerial photograph, a suitable start point and , or , a few suitable helicopter landing locations near the start point should be identified. To be suitable, a start point must meet the following criteria:

- it must be within one kilometer of the sample plot
- it must be relatively permanent (i.e. it will be identifiable on the ground for at least 10 years)
- it must be identifiable on the aerial photograph, or Ortho-Photo

Some examples of possible start points are:

- survey lines and seismic line intersections
- definite points on lake shores (i.e. points, creek mouths, etc.)
- man-made structures such as cabins which are shown on the detailed type map
- creek junctions (but not irregularities in the water course)
- intersection of definite type boundaries identifiable on the ground (e.g. as between burn and timber, open muskeg and timber)

For each day's work, at least two different plots should be prepared. This will facilitate any sudden changes of plans due to a variety of conditions, which may be encountered (i.e. .few or no trees in the first plot, mechanical problems, poor or no access, etc.) Take enough equipment for two plots (extra corner posts, paint, tags, etc.)

As much of the general information on the tally sheet as possible should be filled out on route to the plot, or in the office prior to the field work on the plot.

IV. TRAVELING TO THE PLOT

A. **Start Point**

The tree closest to the start point should be blazed with an axe (30cm sq.) and painted on all four sides at both breast height and at the stump. This tree should be tagged with the plot number, bearing, and distance to the plot. The four closest trees to the start point tree should also be blazed with the axe, and painted, again both at breast height and at the stump. On

these, the blaze and paint should face the start point tree. A small pin -prick, shall be made on the aerial photo or Ortho-Photo to indicate the start point location.

B. **Start Point to Plot**

In order to accurately locate the sample plot, the following survey procedures should be followed:

In this description, person 1 carries all the non-metallic equipment, while person 2 carries equipment with magnetic properties.

Person 1	*Person 2*
– Sets compass on bearing determined for travel from start point to plot	
– Sights along bearing pulling chain out	– Stops Person 1 at 50m then walks up to him/her, painting a tree facing him/her at breast height every 10m. A square painted blaze (aprox. 20x20cm) will suffice.
– Stops at 50m mark, backsights on Person 2 to adjust his/her direction, records slope if necessary on that 50m segment, records any comments about that 50m segment	– Reaches Person 1 and paints two marks on nearest tree to the 50m point Using tight chaining procedures yells "chain" which informs Person 1 that he/she has traveled another 50 meters

The above procedure is repeated until the estimated distance to the plot has been traveled. If before beginning the travel to the plot it can be determined that the distance to the plot and the estimated average slope over this distance will result in less than 6 meters of distance correction, the distance correction portion of the travel sheet need not be filled in. If the distance correction portion is filled in and the cumulative slope correction exceeds 10 meters, then this correction must be traveled past the estimated distance to arrive at the true ground plot location.

Along the way to the plot, progress should be checked against the aerial photograph and type map to see that the line is proceeding correctly. If a bearing deviation is unmistakably evident, then a right angle offset to the bearing should be undertaken. This should be noted on the travel sheet. If a distance discrepancy is unmistakably evident, a suitable correction to the chaining should be made (i.e. traveling a few extra or a few less meters than planned) and this should be described on the travel sheet. Take note of the underlined work unmistakably. It indicates that you should be 100% sure that this correction is necessary. In cases where topographic features cannot be crossed safely (i.e. cliffs, or other extreme geographic conditions) it is permissible to offset around these. Again, these offsets, together with the reason for the offset, should be recorded on the travel sheet. In either case, in order to ensure

an unbiased sample, no offsets should be made within 80m of the estimated distance to the plot center.

All blazing (painting) should stop 50 meters from the estimated distance to the plot center.

V. WORK AT THE PLOT

A. **Arriving at the Plot Location**

The sample plot center should be chosen exactly as the measurements and bearing dictate; it should be Established where it falls. No subjectivity whatsoever should enter into the location of this plot center. This means that plot centers may fall in dense stands of trees, areas with no trees, roads, seismic lines, rivers, and lakes. If it can be ascertained beforehand that the entire plot will fall in such places as active roads, major permanent creeks, or lakes, than no plot shall be established at that location. If however, an established plot encompasses a cutline, trail, or straddles a stand boundary, than it is considered a valid Permanent Sample Plot and will be Established as such.

A conduit post should be driven one-half of its length into the ground at plot center.

B. **Laying Out The Sample Plot**

A **Full Sized PSP** consists of a square area of .08 hectares with outside boundary dimensions of 28.28m, by 28.28m and is physically aligned in Cardinal directions .To attain this true ground dimension of .08ha, diagonals of 20 meters from center post to each individual corner post will be used.
A **Reduced Size PSP** consists of a square area of .04 hectares with outside boundary dimensions of 19.99m, by 19.99m and is also physically aligned in Cardinal directions. To attain this true ground dimension of .04ha, diagonals of 14.14m from center post to each individual corner post will be used.

The first plot corner to be established should be the northwest corner. One person should set their compass on 315° and (standing far enough back from the post so that the compass is not effected by the metal), sight along this bearing using both the compass and the post as sighting plains . Using the tight chaining method, the other crew member would measure out 20m along this bearing and establish the first corner post. If the northwest post cannot be seen from the center post (impeded by a hill or tree, etc.) then choose another corner that is visible. This first corner post is used as a double check on other corners and should, therefore, be accurate and easily seen.
The cross-head is then be mounted on the center post and one of its sighting planes aligned with the northwest corner. From then on, care should be taken not to knock the center post or cross-head. The other three corners can then be sighted through the mounted cross-head and their locations can be marked with additional 150 cm posts (painted) at the 20 meter mark from

the plot center. Each time a corner post is thought to be in position, the person at the center post should first check back to the northwest post by looking through the cross-head to ensure that the cross-head has not been bumped into or moved. Use the bottoms of the wires to sight since the centers may be bent and thus inaccurate. If vegetation or branches are in the way, when sighting corner posts, remove them if they are dead, but just tie them back if they are still alive.

This 20 meter length is measured in a straight line from the base of the center post to the base of the corner posts. The distance should be measured form the bottom of the center post to the bottom of the particular corner post. This will give a true ground plot area of 800 square meters or .08 hectares.

Following the location of the corner posts, flagging should be run between these corners making sure that borderline trees are correctly treated. For true borderline trees, ***include every second tree as being "in" the plot***. If stump is in the plot, but bole of the tree is leaning out of plot, then the tree shall be considered in. The flagging itself can be tied to the corner posts. It can also be tied at about breast height so it can be easily seen. **At the completion of the plot , all flagging used in the plot set-up is to be removed from the plot site . This also applies to lunch bags , juice boxes , and any other debris brought in by the Inventory Crew.** This debris will be disposed of at an approved recycling or disposal site.

As a final aid to plot recovery, all trees just outside the plot boundary should have a 30 cm area painted in "**BLUE**" at breast height on the side facing away from the plot.(See "Installation of PSP Buffers" , in this manual).

If a tree is mistakenly painted here or elsewhere, an "X" should be painted over the incorrect paint mark.

C. **Regeneration Plot Layout**

Layout four .001 hectare regeneration plots at cardinal bearing from the center post. The distance to the Regen plot center will be eight meters. Regeneration plot radius is 1.78 meters. These nested sub-plots will not be permanently marked in fire origin PSPs.

D. **Tagging and Numbering Trees**

The plot should be divided with flagging into six approximately equal width strips, oriented in an east-west direction. This can be done by running flagging tape through the center of the plot and then dividing each half into two parts, again using flagging tape with distances between strips estimated by pacing.

Following this plot subdivision, tree tagging, measuring, and tallying can proceed. Using local, dead slash, or straight willow or alder found outside the plot boundary, cut meter sticks to a 1.3m length. These should be placed on the high side of the tree (to ensure the highest DBH).

The nail with attached tag will be nailed into the tree at the 1.3m mark. Leaning trees should be measured along the lean. One person performs the following tasks (tree numbering and DBH measurement). The other person performs the remaining tasks (tree height measurement position and crown height determination and tallying).

Only living trees with a DBH greater than or equal to 51 mm should be tagged and measured. A tree must have either live foliage or live buds to be classified as living. If foliage or buds are not useful, a small cut made in the bark will help to determine a living tree. DBH, or diameter at breast height is defined as being 1.3 meters above the ground on the uphill side of the tree. **Alder, willow, and related shrubs are not to be tagged.**

The tree tag should be nailed into the tree so that the nail penetrates 1 to 2 cm into the tree and so that the tag hangs at the lower end of the nail.
Tree tagging, measuring, and tallying should proceed in spiral fashion through the plot, with tree #1, located in the northwest corner. All tags should face either east or west depending on the strip.
This procedure will allow re-identification of the strips at re measurement and thus any trees that have lost their tags, may be identified by their position in the tree sequence of a strip. Any deviation from this procedure must be noted under “PLOT DESCRIPTION” on the PSP Header page.

E. **Regeneration Plot Procedure (Full Tree-Fire Origin Plots)**

Count the total number of viable Deciduous - (Trembling Aspen, Black Poplar, and White Birch) and Coniferous stems - (White Spruce, Black Spruce, Lodgepole Pine, Larch, Balsam Fir, and Engelmann Spruce) which are < 51 mm at DBH and are within the "Regen Plot" boundaries. This number will be recorded under SFT-ING (softwood ingress) and HRD-ING (hardwood ingress) on the PSP header page. Refer to "Regeneration Plot Layout," under section -C-of manual.

F. **Reduced Plot Size-(.04 hectares)**

In stands where the average stems/hectare (ha) exceeds 2500, stand characteristics are often homogeneous enough to enable the reduction of plot size by half. This results in a saving of time (i.e. money) without a significant reduction in the accuracy of the sample. Therefore, in those stands that meet the following criteria, plot size may be reduced to 0.04 ha.

Criteria:

1) Must have more than 2,500 stems/ha (200 stems for full size plot)
2) Stem distribution size must be constant throughout plot
3) Plot must be mono species or have constant mixture throughout
4) Height and ages throughout plot must be constant

In summary, it is necessary to ensure that the characteristics in reduced plots reflect exactly the qualities of the full sized plot.

Field Procedure

1) Determine if criteria 2-4 are met in an area you suspect to be over 2,500 stems/ha. This will be a subjective decision based on your practical forestry experience.

2) If the above conditions are met, determine if there are more than 2,500 stems/ha. To do this, you will use a 5m^2/ha prism and make a sweep at the plot center. Since

$$\text{\# trees/ha} = \frac{\text{BAF}}{\text{BA of Class midpoint}}$$

estimate average DBH in millimeters and compare with the table below. For a given average diameter, the corresponding number of trees MUST be counted in the sweep in order to justify the reduced plot size.

Average Diameter (mm)	*# Trees/Sweep (for BAF 5m^2/ha)*
50	1
75	2
100	4
125	6
150	9
175	12
200	16
225	20
290	25
275	30
300	35

If the plot meets all the criteria, mark "reduced plot size" after the plot #, under "Plot Description", and Plot Size (ha) will be 0.04 on the tally sheet.

3) Establish plot in usual manner using diagonals of 14.14 meters from center post to corner instead of 20 meters.

G. **Recording Plot Data**

1) *Location and Survey #-* Location consists of 1 digit for Meridian, 3 digits for Township, and 2 for Range, in that order. Survey # indicates Section (and plot number) and will be recorded as a two digit number. (e.g. Township 67- Range 10- W6Meridian Section 1 would be 6 067 10 01).

2) *Survey Date-* Survey Date indicates date of plot Establishment or Re measurement and consists of two digits for Year, two digits for Month, and two digits for Day of month, recorded in that order. (e.g. July 24,1990, shall be recorded as 90-07-24)

3) *AFS Stand ID* - This is a number assigned to each polygon on the Phase-3-Cover type Maps presently provided by the Alberta Provincial Government. The GPS file collected at plot center will verify actual plot location. In all cases, the corrected GPS file will be the determining factor in actual plot field location.

4) *Area-* This denotes plot size (in hectares) and will always be one of the following.
0.08--Full Tree Plot
0.04--Reduced Full Tree Plot

5) *Overstory/Understory-*This is a subjective field description of the Forest Cover Type within the PSP ONLY! As of January 1, 1995, all field typing will be recorded as per the Alberta Vegetation Inventory Standards Manual -(AVI)

6) *Watershed*- **Not Required** (as of 1997) This two digit number defines which specific major watershed a PSP resides in.

7) *Aspect*- Aspect refers to the range in degrees which the pre-dominant slope in the plot faces. It will be recorded as a one or two digit code number as listed on the PSP Master Code sheet.

8) *Slope*- Slope will be measured and recorded in percent and will be taken along the same bearing used to determine "*Aspect*".Only one slope measurement is required.

9) *Crew ID-* This is a list of the personnel involved in collecting PSP data. Initials for the Crew will be recorded in the space provided on the header page.

10) *Photo #-*. **Not required** (as of 1997) Leave this field blank on tally sheet

11) *Arda -* **Not required** (as of 1997) Leave this field blank on tally sheet

12) *Slope Position* -Refers to the plot position in regards to the overall landscape profile. (refer to PSP master code sheet for appropriate letter code.)

13) *Soil Texture*-- Soil classifications are found on the PSP Master Code Sheet This information can be collected while determining duff depth. Subjective analysis of the soil is all that is required. Only **one** soil type is allowed.. (see Appendix I, Soil Sampling By Feel).

14) ***Drainage***- The following descriptions of drainage should be used in determining this category:

a) **VR-** *Very rapidly drained*-- Water is removed from the soil very rapidly in relation to supply. There may be very rapid subsurface flow during heavy rainfall provided there is a steep gradient. Soils have a very low available water storage capacity (usually less than 2.5cm) and are also usually coarse textured, shallow or both. Water source is precipation.

b) **R**- *Rapidly drained*-- Water is removed from the soil rapidly in relation to supply. Soils have low available water storage capacity (2.5-4cm) and are usually coarse textured,shallow or both.Water source is precipitation.

c) **W**- *Well drained*-- Water is removed from the soil readily but not rapidly. Excess water flows downward readily into underlying pervious material or laterally as subsurface flow. Soils have intermediate available water storage capacity (4-5cm) and are generally intermediate in texture and depth. Water source is precipitation.

d) **MW**- *Moderatly well drained*-- Water is removed from the soil somewhat slowly in relation to supply. Excess water is removed somewhat slowly due to low perviousness, shallow water table, lack of gradient, or some combination of these.Soils have intermediate to high water storage capacity (5-6cm) and are usually medium to fine textured. Precipitation is the dominant water source in medium to fine textured soils.

e) **I-** *Imperfectly drained*-- Water is removed from the soil sufficiently slowly in relation to supply to keep the soil wet for a significant part of the growing season.Excess water moves slowly downward if precipation is the major supply.

f) **P**- *Poorly drained*-- Water is removed so slowly in relation to supply that the soil remains wet for a comparatively large part of the time the soil is not frozen.Excess

water is evident in the soil for a large part of the time. Subsurface flow or groundwater flow or both in addition to precipitation are the main water sources.Soils are gleyed subgroups, Gleysols, and Organic.

g) **VP**- *Very poorly drained*-- Water is removed from the soil so slowly that the water table remains at or on the surface for the greater part of the time the soil is not frozen. Groundwater flow and subsurface flow are the major water sources. Soils are Gleysolic or Organic.

15) *Duff* -The depth, recorded in centimeters of the organic and litter layer of the forest floor to Mineral Soil.

16) *Softwood Ingress/ Hardwood Ingress*- A stem in this category is defined as any viable tree that is too small to be tagged and tallied (<51mm @ dbh). The "**total number**" of both hardwood and softwood stems in this category which fall in the nested sub-plots (refer to sections "C" and "E" of manual) will be recorded on the header page, under the headings of SFTWD INGR, and HRDWD INGR, respectively.

17) *Plot / Tree Condition-* Collect data as documented in the PSP Field Manual using the following condition codes when necessary. Tree Damage Codes can be used to describe the "***condition*** " of an individual tree, (e.g.-disease, or broken top,) and shall be recorded in the proper column adjacent to the specific tree number on the PSP tally sheet. Plot Damage Codes can be used to reflect some other influence on the growth of trees within the PSP as a whole, (eg-flood, or mechanical damage, due to seismic line through plot.) In the latter case the appropriate code will be recorded under "**Plot Cond**" on the PSP header page. **DO NOT USE PLOT DAMAGE CODES TO REFLECT INDIVIDUAL TREE CONDITIONS. DO NOT USE TREE CONDITION CODES AS AN INDICATOR OF PLOT DAMAGE**. They are exclusive to each other.

Tree Damage Codes

7 The tree is dead and fallen down
8 The tree is dead and standing
9 The tree cannot be found
10 Non-suspect (in pure trembling aspen stands only)
11 Scars and other defects
12 Conks and punks
13 Broken tops
13.1 Forked tops
15 Insects
16 Disease
16.1 Crook or sweep (current definition of sweep is 6 inches in 12 feet)
17 Browsed above DBH
17.1 Browsed below DBH
17.2 Rubs/scars caused by ungulates or fur bearers
18 Climatic; hail, snow, redbelt

Plot Damage Codes

14.0 Fire; plot or tree completely destroyed
14.1 Fire; plot or tree partially destroyed
19.0 Mechanical; seismic lines
19.1 Roads
19.2 Pipeline or utilities
19.3 Wellsites
19.4 Floods

18)**Hardwood Age and Softwood Age-**

Trees must be increment bored at 30 centimeters above ground level. Age is determined by counting the number of radial growth rings taken from the increment bore sample. The age should then be recorded beside the tree number from which the age was taken. "***TEN***" **years should be added to actual growth ring count for SW, SB, FB, SE and LT. "*FIVE*" years should be added to PL. "*TWO*" years to all hardwoods (i.e. PB, AT, BW).**

Our growth projection calculations are based on measurements taken on "top height" trees. Top height trees are defined as being "**three of the largest diameter trees within a PSP plot"**. (Trees with broken tops, top die-back, or other excessive defect or disease, excluded). ***Tree ages must be taken on "Top Height" trees only!***

Tree Age Selection Criteria

Over 90% of the trees tallied are Coniferous	**3 Coniferous samples**
All trees tallied are Deciduous	**3 Deciduous samples**
More than 50% of the trees are tallied Coniferous, but at least 10% of the trees tallied are Deciduous	**2 Coniferous and 1 Deciduous sample**
More than 50% of the trees tallied are Deciduous, but at least 1 Conifer has been tallied	**2 Deciduous samples, and 1 Coniferous sample**

19) *Comments*

a) Plot Description - this requires a brief description of topography, vegetation, and other general information.

b) Wildlife - this includes wildlife sightings, browse, droppings, or tracks. Indicate also some measure of frequency of any observations.

c) Shrubs - indicate the three most common shrubs, plants, or mosses, not previously recorded under "Indicator Species".

d) Indicator Species - information on various "Indicator Species" as part of our Ecologically based forest management policy will be collected at each plot site. This information will be recorded on the PSP Header Page under the abbreviated headings of "IND SPEC 1 - %, IND SPEC 2 - %, IND SPEC 3 - %. The indicator species are listed on the PSP Code Sheet in the crew clipboard. A density table is also listed.

"Percent" of cover is determined by estimating the total plot area that is covered by a downward projection of a species foliage (or crown). Small gaps in foliage cover of a single stem are considered normal and are not deducted from the cover calculations. Presence of *Arboreal Lichen*, and percent of stems hosting it up to a 2-meter browse line will also be recorded.

	Common Name	Scientific Name
	Shrubs	
1.1	Blueberry	Vaccinum Myrtilloides
1.2	Devils Club	Oplopanax Horridum
1.3	White Flower Rhododendron	Rhododendron Albiflorum
1.4	Labrador Tea	Ledum Green Landicum
1.5	Redosier Dogwood	Cornus Stolonifera
1.6	Alder	Alnus Crispa
1.7	Willow	Salix Bebbiana
	Dwarf Woody Plants	
2.1	Cranberry (low bush)	Viburnum Edule
2.2	Bearberry	Arctostaphylos Uva-Ursi
	Ferns	
3.1	Woodlands Horsetail	Equisetum Sylvaticum
3.2	Oak Fern	Gymnocarpium Dryopteris

	Forbs	
4.1	Sarsaparilla	Aralia Nudicaulis
4.2	Raspberry	Rubus Pubescens
	Grasses	
5.0	All	
	Lichens	
6.1	Reindeer	Cladina Mitis
6.2	Greendog	Peltigra Aphthosa
6.3	Arboreal	--
	Mosses	
7.1	Feather	All
7.2	Sphagnum	--

Density Table for Indicator Species	
1	0- 30%
2	31- 50%
3	51- 70%
4	71-100%

e) *Trees Out Of Sequence* - any trees missed in the tree tally and subsequently numbered out of sequence should be mentioned here.

f) *Other* - any additional comments not covered under the previous categories (e.g. gravel, plus trees, problems in plot layout, etc.)

20) *Tree Number* - Tree number on the tally sheet refers to the number assigned to trees in the plot. A corresponding number will be clearly etched onto the metal tag nailed into the tree. Space on the tally sheet is provided for 300 trees per plot. If more is required, the numbering must be filled in on the additional blank tally sheets.

21) *DBH* - Diameter at breast height in millimeters should be measured just above the tree tag nail on each tree (1.3 meters above ground). On trees forked below the 1.3 meter mark, DBH should be recorded at 1.3 meters above ground on each stem as in normal trees. If the tree has a gall or some other defect at DBH, it should be measured just above the defect. DBH must be measured very precisely with the diameter tape to the nearest 1 millimeter. All trees that met the minimum 51 millimeter criterion for tagging will be measured and recorded.

22) *Total Height and Crown Length* - Total height refers to tree height form ground level to the top of the tree. Live crown length will be measured from the top of the tree to the point on the stem where there are live branches on all four quadrants (see diagram "Determining live crown length"). Height is measured using a Vertex Hypsometer, or Clinometer. If using a Clinometer, the person taking the tree height should stand a known distance from the tree. Convenient distances are 10, 20, or 30 meters. This distance is determined using a 30m tape and tight chaining method on each tree. Standing at the known distance, a reading is taken at the tree bottom and tree top on the clinometer percent scale. Add readings having opposite signs; subtract readings with the same signs [e.g. + 60 (top); - 15 (base) = 75 . This figure is then multiplied in decimal form by the distance from the observer to the tree. The total tree height should be determined and recorded to the nearest 0.1 meter. As an example, if the observer is 10 meters from the tree and he records a total reading of 75% on the Clinometer, the tree height will be .10 x 75 = 7.5 meters total tree height.

Measured heights must be taken (using a Vertex, or Clinometer), on every viable tree 51mm or greater at "BH" in the plot. Measured crown heights need only be taken on tree #1, 5, 10, 15, 20, 25 and every fifth tree thereafter throughout the plot.

23) *Species, Position, Condition*

a) Species : codes, can be found in the descriptions of map and field types in the coding master sheet under "Viable Species".

b) POS refers to crown position code and is also described in the coding master sheet. This is determined by ocular estimation.

c) COND refers to tree, or plot condition code, also found on the master coding sheet.

24) **Finishing Up the Plot and collecting a GPS File**

Tie a tree tag to the center post that has the plot number on it, then paint the post. Five trees around this should be painted at breast and stump height (30sq cm) facing the center post. **Do not blaze any trees in the plot with an axe.** Corner posts must also be painted. Double check all tally sheets for completion and legibility.

One member of the crew should then walk through the plot to make sure that all trees were included that should have been, while the other person readies the equipment for the trip back out. Ensure that a GPS file of no less than 300 signal points has been collected at plot center. The GPS file will be recorded as, e.g.: "PT650701 where ;"(P=PSP, T=full tree, 65=Township, 07=Range, 01=Section and Plot number)

25) **Installation of PSP Buffers**

If required, and as a final visual aid to plot identification and recovery, Two plot buffer zones will be established. ***The intent of these buffers is to protect PSPs from Industrial influence other than Harvesting Operations.*** The primary buffer will feature trees just outside the main plot boundary painted with a 30cm square **blue** paint blaze located 2-3m up the stem of the tree. The paint will face away from the plot. The secondary buffer,(in blue paint also) will be established in the following fashion;

1) using a hip chain, travel 106.08m at 315°, from the center post. This will be the northwest corner of the buffer.
2) travel 150m at 90°, painting the perimeter trees facing away from the plot. This will establish the North face of the buffer.
3) travel 150m at 180°, painting the perimeter trees facing away from the plot. This will establish the East face of the buffer.
4) travel 150m at 270°, blazing the perimeter trees facing away from the plot. This will establish the South face of the buffer.
5) travel 150m at 360°, blazing the perimeter trees facing away from the plot. This will establish the West face of the buffer.

26) **Travel Sheets**

Travel Sheets will indicate in a neat and accurate fashion:

a) Bearing and distance to plot center from Start Point
b) Species and estimated ht. of Start Point tree
c) Location of start point tree in relation to access road or cutline.
e) Travel Sketch will show (using Phase 3 mapping symbols,)general access to Start Point from nearest road or other obvious geographic feature
f) Start Point will be indicated on the sketch by the abbreviation "SP"
g) Plot Center will be indicated on the sketch by the abbreviation "CP"
h) North arrow will be illustrated on Travel Sheet
i)Distances traveled on roads or cutlines to the "SP" should be clocked on the odometer and recorded on the Travel Sheet.

27) **Alberta Vegetation Inventory-(AVI)**

Crown Closures

This is the percentage of ground area covered by a vertical projection of tree crowns onto the ground.

Crown Closure %	Interpretation and Database Code
6-30	A
31-50	B
51-70	C
71-100	D

Height

Stand height is interpreted or determined through field measurements and recorded to the nearest meter. Stand height is the **average height** of the dominant and co-dominant trees of the leading species. Adjacent stands separated on the basis of height alone must have a difference equal to or greater than 3 meters.

Species Composition

List species (five maximum) in decreasing order based on **crown closure.** Indicate the percentage of each species to the nearest 10% with a subscript, e.g.,Sw8AT2=80% Sw, 20% AT.The subscripts must add to 10 (or 100%).

When more than five species occur in a stand, these additional coniferous or deciduous species are added to the appropriate dominant coniferous or deciduous species in the covertype. For example , a stand composed of 24% Sw, 20%P, 16% Sb, 14%Pb, 10%Bw, 9% AT, 7%Fb would be labeled -SW3P2 PB2SB2BW1.

VIABLE TREE SPECIES	**CODE**
White Spruce - Picea glauca	**Sw**
Engelman Spruce - Picea engelmanni	**Sw (Se)**
Black Spruce - Picea mariana	**Sb**
Lodgepole Pine - Pinus contorta	**P (Pl)**
Jack Pine - Pinus banksiana	P (Pj)
White-bark Pine - Pinus albicaulis	P (Pa)
Limber Pine - Pinus flexilis	P (Pf)
Balsam Fir - Abies balsamea	**Fb**
Alpine Fir - Abies lasiocarpa	Fb (Fa)

Douglas Fir - Pseudotsuga menziesii	Fd
Alpine Larch - Larix lyallii	Lt (La)
Tamarack - Larix laricina	**Lt**
Western Larch - Larix occidentalis	Lt (Lw**)**
Trembling Aspen - Populus tremuloides	**AT**
Balsam Poplar - Populas balsamifera	**Pb**
Paper Birch - Betula papyrifera	**Bw**

Understory

Understoreys are defined and recorded when there are two or more distinct, visible layers. Most stands have only two layers. Generally the two layers are intermixed, i.e., when viewed vertically, one layer is above the other. ***The average height of the top layer must differ from the average height of the lower layer by 3m or more.***

NON-PRODUCTIVE

0-UNCL
1-BR - BRUSH
2-BS - BARREN SOIL
3-BU - BURN
4-CC - CLEARCUT
5-CL - CLEARING
6-CS - CONIFEROUS SCRUB
7-CU - CULTIVATED
8-DS-DECIDUOUS SCRUB
9-FL - FLOOD
10-GL - GLACIER
11-GR - GRASS
12-OM - OPEN MUSKEG
13-RB - ROCK BARREN
14-SA - SAND
15-TM - TREED MUSKEG
16-UC - UNCLASSIFIED
17-WA - WATER
18-WF - WINDFALL

V1. PERMANENT SAMPLE PLOT CODING MASTER SHEET

Pre-dominant Aspect:

A) Aspect

Aspect refers to the range in degrees which the predominant slope in the plot faces. It will be recorded as a one or two digit code number.

CODE	ASPECT	BEARING RANGE
1	E	68^{O}-112^{O}
2	S	158^{O}-202^{O}
3	N	337^{O}-22^{O}
4	W	248^{O}-292^{O}
5	NE	23^{O}-67^{O}
6	NW	203^{O}-336^{O}
7	SE	113^{O}-157^{O}
8	SW	203^{O}-247^{O}
9	FL	Flat(no aspect)
10	AL	All Aspects

B) *Soil Texture:*
(Soil Component)

L-LOAM	**C**-CLAY	**G**-GRAVELLY
SiL-SILT LOAM	**HC**-HEAVY CLAY	**R**-RUBBLY
Si-SILT	**SL** SANDY LOAM	**F**-FIBRIC
SCL-SANDY CLAY LOAM	**LS**-LOAMY SAND	**M**-MESIC
CL-CLAY LOAM	**S**-SAND	**H**-HUMIC
SiCL-SILTY CLAY LOAM	**A**-BLOCKY	**W**-WOODY
SC-SANDY CLAY	**B**-BOULDERY	**O**-UNDIFFERENTIATED
SiC-SILTY CLAY	**K**-COBBLY	**ROC**-ROCKY

Spec: Species - same codes as per AVI

VIABLE TREE SPECIES (in bold)	**CODE**
White Spruce - Picea glauca	**Sw**
Engelman Spruce - Picea engelmanni	**Sw (Se)**
Black Spruce - Picea mariana	**Sb**
Lodgepole Pine - Pinus contorta	**P (Pl)**
Jack Pine - Pinus banksiana	P (Pj)
White-bark Pine - Pinus albicaulis	P (Pa)
Limber Pine - Pinus flexilis	P (Pf)
Balsam Fir - Abies balsamea	**Fb**
Alpine Fir - Abies lasiocarpa	Fb (Fa)
Douglas Fir - Pseudotsuga menziesii	Fd
Alpine Larch - Larix lyallii	Lt (La)
Tamarack - Larix laricina	**Lt**
Western Larch - Larix occidentalis	Lt (Lw)
Trembling Aspen - Populus tremuloides	**AT**
Balsam Poplar - Populas balsamifera	**Pb**
Paper Birch - Betula papyrifera	**Bw**

C. *POS: Crown Position*

1 - Dominant

Above the general level of the crown canopy and receives light from above and from all sides - generally large, well developed crown.

2 - Co-Dominant

Forming the general level of the crown cover and receives full light form above, but comparatively little direct light from the sides. This is the most common category in average and dense stands.

3 - Intermediate

Trees shorter than the two above, but with crowns extending into the crown cover formed by dominant and little direct light from above, but none from the sides - usually small crown crowded on the sides.

4 - Suppressed

Trees entirely below the general level of the crown cover and receiving no direct light from above or from the sides.

5 - Open Crown

Trees with crowns receiving full light from all sides due to the openness of the canopy.

D. *CON: Tree Condition*

7	The tree is dead and fallen down
8	The tree is dead and standing
9	The tree cannot be found
10	Non-suspect (in pure trembling aspen stands only)
11	Scars and other defects
12	Conks and punks
13	Broken tops
13.1	Forked tops
14	Fire; plot completely destroyed
14.1	Fire; plot partially destroyed
15	Insects
16	Disease
16.1	Crook or sweep (current definition of sweep is 6 inches in 12 feet)
17	Browsed above DBH
17.1	Browsed below DBH
17.2	Rubs/scars caused by ungulates or fur bearers
18	Climatic; hail, snow, red belt

D-1 PLOT CONDITION CODES

14.0 Fire ; plot completely destroyed
14.1 Fire ; plot partially destroyed
19 Mechanical; seismic lines
19.1 Roads
19.2 Pipeline or Utilities
19.3 Wellsites
19.4 Floods

F. SLOPE POSITION

A- crest
B- upper slope
C- mid slope
D- lower slope
E- toe
F- depression
G- level
H- other

I. Remeasurement of Permanent Sample Plots

1. Objective

It is our proposal to remeasure Permanent Sample Plots according to the following schedule:

Stand - Age (years)	Remeasurement Interval
0-20	**2 years**
21-50	**5-years**
51-140	**10-years**
140+	**5-years**

2. Procedures

a) Office

Plot data is available from the PSP files or the plot validation report from the PSP Data Program.

If more recent photography is available, transfer the plot locations and starting point. Examine the Land Use records for any activity in the area since the last measurement. If there is an alternate route to the plot that is appreciably closer, then we can establish a new starting point.

b) Field

Establish a new starting point if there is better access to the plot or the old start point was destroyed.

Update the travel sheet as required. If a new starting point is established, try to show the location of the original starting point on the topographic sketch.

All survey equipment, paint, nails, tape, and five posts will be required to complete the re measurement.

- Repaint starting point
- Repaint travel route
- Repaint plot boundary and plot center witness trees
- Re-establish all posts
- Replace missing tree tags if the missing tree number can be accurately deduced
- Replace nails that have less than one inch showing to prevent over-growth

Do not move the tag from its establishment position. Even if the tag is not at 1.3 meters, DBH will be taken at the tag. Deviations from diameters taken at 1.3 meters will be noted in the comments.

Do not remove tags from dead trees.

Data will be recorded as if you are doing a new plot. Use original tally sheets to check for obvious deviations in Species, Height, Diameter, Aspect, etc..

Age information , etc. will be reported at each re measurement using “Top Height” trees

If there is excessive mortality, determine the cause and note in comments.

APPENDIX III – CURRENT REGENERATED STAND PSP FIELD MANUAL

REGEN / SAPLING PSPs

I. INTRODUCTION *2001/03/14*

The Permanent Sample Plot system is designed to provide up-to-date volume and growth information for the Management Area. To accomplish this, each plot will be measured, on average, every ten years. The difference between volume estimates at the measurement times will provide an estimate of both past and future growth.

Since this is an ongoing system, it is extremely important that all measurements are taken very accurately and that plots are marked and recorded in such a way that they can be relocated in the future. Because of this emphasis on accuracy and permanence, check cruising will be carried out as an integral part of this system.

II. EQUIPMENT

A. **Mensurational**

Each crew of two people should carry the following mensurational tools:

- two compasses adjusted for declination
- one metric scale
- photographs and or maps of the plot vicinity, and access to the plot
- one 30-meter tape
- one 50-meter chain
- five cans of orange paint (more if long distance into the plot)
- two cans of blue paint (for plot buffer)
- one ax and case
- nails
- tree tags
- pencils
- tally sheets
- increment borer
- one Suunto clinometer
- one tally board
- one cross head (if Establishing PSPs)
- two hammers and nail pouches
- wedge prism: 5 square meters per hectare
- one navigational protractor
- flagging tape
- metric calipers
- one metric diameter tape - cloth
- one pocket stereoscope
- one Global Positioning System -(GPS)

B. **Safety & Survival**

A crew will ensure they have the following equipment:

1) For All Plots:
   - ♦ CSA approved hardhats and all other required PPE.
   - ♦ first aid kit (pocket variety)
   - ♦ one portable radio
   - ♦ safety glasses
   - ♦ gloves
   - ♦ CSA approved ATV helmets

2) For helicopter plots:(winter season)
   - ♦ two sleeping bags
   - ♦ one tent
   - ♦ freeze dried food
   - ♦ cooking utensils
   - ♦ one orange helicopter location market
   - ♦ one inflatable splint
   - ♦ water-proof matches
   - ♦ canned fuel
   - ♦ stove
   - ♦ first aid kit

In addition, each person is required to provide his/her own steel-toed boots and rain suit.

III. OFFICE PREPARATION

Permanent Sample Plots are to be located throughout the Management Area on a pre-determined systematic fixed grid basis. This grid is the same for every township and consists of twelve plots per township. The locations of the plots in each township are:

center of northwest quarter, section 1
center of northeast quarter, section 3
center of northwest quarter, section 4
center of northeast quarter, section 6
center of southwest quarter, section 13
center of southwest quarter, section 16
center of northeast quarter, section 19
center of northwest quarter, section 21
center of northeast quarter, section 22
center of northwest quarter, section 24
center of southwest quarter, section 33
center of southwest quarter, section 36
This is demonstrated in Figure 1.

The Permanent Sample Plots should be plotted on the township maps for the areas under immediate planning. Following this, the plots should be transferred very exactly to the best quality, most recent photographs,or Ortho-Photos available. The procedure for transferring plots from Cover TypeMaps to Aerial Photographs is as follows:

a) Determine the scale of the photograph - measure the distance between three different sets of two points on the map, then measure the distances between these same points on the photograph. In doing this, select for points combinations of the following: creek junctions, obvious change in timber type (map type) boundaries, well defined trails, and/or seismic lines. These selections of points must be clearly defined both on map and photo. Road boundaries are generally too ambiguous to be used for plotting purposes. This example illustrates scale calculation: This process must be repeated a total of three times using three different sets of two points on the photo and map.

Points	Distance On Map 1 to 15,000 (distance in mm)	Distance On Aerial (distance in mm)
Creek Junction To Map Type	46.5	40.3
Seismic Line to Seismic Line	44.8	38.6
Map Type To Seismic Line	50.3	47.5
TOTAL	141.6	126.4

Therefore, the map total multiplied by 15 (map scale) divided by the "Photo Total" will determine the scale of the photo.

141.6 x 15 = 2124 divided by 126.4 = 16.8
Photo scale = 1 mm = 16.8m

b) Determine the north line on the photograph - using sets of two points as in (a) above, then draw the North arrow on the photograph. Locate the plot on the Aerial Photo - using distances and bearings from reliable points on the map (map type boundaries, old seismic lines, creeks) find the plot on the photograph. Use triangulation techniques to transfer the plot from the map to the aerial photo. In some instances when more than one point on the map is used, the distances and bearing from the points will indicate different plot locations from the map to the photo. When this happens, it is necessary to subjectively determine the plot location. In all cases, the plot location should be reviewed after plotting using the photo pair and a stereoscope to see that the plot is close to where it should be within the map type.

Once the plot is plotted on the aerial photograph, a suitable start point and , or , a few suitable helicopter landing locations near the start point should be identified. To be suitable, a start point must meet the following criteria:

- it must be within one kilometer of the sample plot
- it must be relatively permanent (i.e. it will be identifiable on the ground for at least 10 years)
- it must be identifiable on the aerial photograph, or Ortho-Photo

Some examples of possible start points are:

- survey lines and seismic line intersections
- definite points on lake shores (i.e. points, creek mouths, etc.)
- man-made structures such as cabins which are shown on the detailed type map
- creek junctions (but not irregularities in the water course)
- intersection of definite type boundaries identifiable on the ground (e.g. as between burn and timber, open muskeg and timber)

For each day's work, at least two different plots should be prepared. This will facilitate any sudden changes of plans due to a variety of conditions that may be encountered (i.e. .few or no trees in the first plot, mechanical problems, poor or no access, etc.) Take enough equipment for two plots (extra corner posts, paint, tags, etc.)

As much of the general information on the tally sheet as possible should be filled out on route to the plot, or in the office prior to the field work on the plot.

IV. TRAVELING TO THE PLOT

A. **Start Point**

The tree closest to the start point should be blazed with an axe (30cm sq.) and painted on all four sides at both breast height and at the stump. This tree should be tagged with the plot number, bearing, and distance to the plot. The four closest trees to the start point tree should also be blazed with the axe , and painted, again both at breast height and at the stump. On these, the blaze and paint should face the start point tree. A small pin -prick, shall be made on the aerial photo or Ortho-Photo to indicate the start point location.

B. **Start Point to Plot**

In order to accurately locate the sample plot, the following survey procedures should be followed:

In this description, person 1 carries all the non-metallic equipment, while person 2 carries equipment with magnetic properties.

Person 1	*Person 2*
– Sets compass on bearing determined for travel from start point to plot	
– Sights along bearing pulling chain out	– Stops Person 1 at 50m then walks up to him/her, painting a tree facing him/her at breast height every 10m. A square painted blaze (aprox. 20x20cm) will suffice.
– Stops at 50m mark, backsights on Person 2 to adjust his/her direction, records slope if necessary on that 50m segment, records any comments about that 50m segment	– Reaches Person 1 and paints two marks on nearest tree to the 50m point Using tight chaining procedures yells "chain" which informs Person 1 that he/she has traveled another 50 meters

The above procedure is repeated until the estimated distance to the plot has been traveled. If before beginning the travel to the plot it can be determined that the distance to the plot and the estimated average slope over this distance will result in less than 6 meters of distance correction, the distance correction portion of the travel sheet need not be filled in. If the distance correction portion is filled in and the cumulative slope correction exceeds 10 meters, then this correction must be traveled past the estimated distance to arrive at the true ground plot location.

Along the way to the plot, progress should be checked against the aerial photograph and type map to see that the line is proceeding correctly. If a bearing deviation is unmistakably evident, then a right angle offset to the bearing should be undertaken. This should be noted on the travel sheet. If a distance discrepancy is unmistakably evident, a suitable correction to the chaining should be made (i.e. traveling a few extra or a few less meters than planned) and this should be described on the travel sheet. Take note of the underlined work unmistakably. It indicates that you should be 100% sure that this correction is necessary. In cases where topographic features cannot be crossed safely (i.e. cliffs, or other extreme geographic conditions ,) it is permissible to offset around these. Again, these offsets, together with the reason for the offset, should be recorded on the travel sheet. In either case, in order to ensure an unbiased sample, no offsets should be made within 80m of the estimated distance to the plot center.

All blazing (painting) should stop 50 meters from the estimated distance to the plot center.

V. WORK AT THE PLOT

A. **Arriving at the Plot Location**

The sample plot center should be chosen exactly as the measurements and bearing dictate; it should be Established where it falls. No subjectivity whatsoever should enter into the location of this plot center. This means that plot centers may fall in dense stands of trees, areas with no trees, roads, seismic lines, rivers, and lakes. If it can be ascertained beforehand that the entire plot will fall in such places as active roads, major permanent creeks, or lakes, than no plot shall be established at that location. If however, an established plot encompasses a cutline, trail, or straddles a stand boundary, than it is considered a valid Permanent Sample Plot and will be Established as such.

A conduit post should be driven one-half of its length into the ground at plot center.

B. **Laying Out The Sample Plot (Plot "*Establishment*")**

A **Full Sized PSP** consists of a square area of .08 hectares with outside boundary dimensions of 28.28m, by 28.28m and is physically aligned in Cardinal directions .To attain this true ground dimension of .08ha, diagonals of 20 meters from center post to each individual corner post will be used.
A **Reduced Size PSP** consists of a square area of .04 hectares with outside boundary dimensions of 19.99m, by 19.99m and is also physically aligned in Cardinal directions. To attain this true ground dimension of .04ha, diagonals of 14.14m from center post to each individual corner post will be used.

The first plot corner to be established should be the northwest corner. One person should set their compass on 315° and (standing far enough back from the post so that the compass is not effected by the metal), sight along this bearing using both the compass and the post as sighting plains. Using the tight chaining method, the other crew member would measure out 20m along this bearing and establish the first corner post. If the northwest post cannot be seen from the center post (impeded by a hill or tree, etc.) then choose another corner that is visible. This first corner post is used as a double check on other corners and should, therefore, be accurate and easily seen.
The cross-head would then be mounted on the center post and one of its sighting planes aligned with the northwest corner. From then on, care should be taken not to disturb the center post or cross-head. The other three corners can then be sighted through the mounted cross-head and their locations can be marked with additional 150 cm posts (painted) at the 20 meter mark from the plot center. Each time a corner post is thought to be in position, the person at the center post should first check back to the northwest post by looking through the cross-head

to ensure that the cross-head has not been bumped into or moved. Use the bottoms of the wires to sight since the centers may be bent and thus inaccurate. If vegetation or branches are in the way, when sighting corner posts, remove them if they are dead, but just tie them back if they are still alive.

This 20 meter length is measured in a straight line from the base of the center post to the base of the corner posts. The distance should be measured form the bottom of the center post to the bottom of the particular corner post. This will give a true ground plot area of 800 square meters or .08 hectares.

Following the location of the corner posts, flagging should be run between these corners making sure that borderline trees are correctly treated. For true borderline trees, ***include every second tree as being "in" the plot***. If the stump is in the plot, but the bole of the tree is leaning out of plot, then the tree shall be considered in. The flagging itself can be tied to the corner posts. It can also be tied at about breast height so it can be easily seen. **At the completion of the plot, all flagging used in the plot set-up is to be removed from the plot site. This also applies to lunch bags, juice boxes, and any other debris brought in by the Inventory Crew.** This debris will be disposed of at an approved recycling or disposal site.

As a final aid to plot recovery, all trees just outside the plot boundary should have a 30 cm area painted in "**BLUE**" at breast height on the side facing away from the plot.(See "Installation of PSP Buffers" , in this manual).

If a tree is mistakenly painted here or elsewhere, an "X" should be painted over the incorrect paint mark.

. **PSP Procedures In Young Stands**

1. *Introduction*

At present, there is little information on growth and mortality in young stands (0-20 years). This information will be of value for constructing and validating yield equations for managed stands and for filling the 20-year gap that currently exists in the data being collected by the PSP system. The data collected in these age classes will provide:

- ♦ the growth rates of young stands
- ♦ optimum planting densities
- ♦ a baseline in which to compare intensive silvicultural treatments
- ♦ improved ability to plan the harvest of reserve blocks under the 2-meter rule

PSP's established in young stands will be subject to the same objectives, scope, and sampling scheme as described for regular PSP's.

2. *Stand Description* - stands in the 0-20 age classes will be classified as outlined below:

Regeneration Stand - trees which are less than or equal to 1.29 meters in height
Sapling Stand - trees which are greater than or equal to 1.3 meters in height and whose diameter at 1.3 meters is less than or equal to 50 mm
Tree Stand - trees which are greater than or equal to 51 mm diameter at 1.3 meters

3. *Plot Establishment*

Sample plots will be established in harvested areas or burns when it is determined that Silvicultural Treatment has been completed. Sample plots are to be located in "Regenerated Stands" using the identical "Systematic, fixed grid system" as is used in the establishment of "Natural Stand" Permanent Sample Plots.

The "Regen Sapling Plot" will consist of the initial Establishment of a square plot with outside dimensions of 28.28 meters -(.08ha). Nested within this plot (in the NW quarter,)is a square "Sapling Plot," with outside dimensions of 14.14m -(.02ha).
Nested within the Sapling Plot are 4 circular "Regen Plots", each having a radius of 1.78m -(0.001ha).

If a part of the plot falls within the residual stand, move the entire plot (using increments of 50m at Cardinal Directions), into the disturbance area. The center post should be relocated to ensure a 50 meter buffer between the plot and the residual stand.

The "Regen Sapling" plot is located in the entire northwest quarter of the .08ha plot. If the method of scarification resulted in windrows of slash covering more than 50% of the sapling plot, then the sapling plot will be moved to that corner of the tree plot with the most ground surface uncovered by windrows. The frequency and location of plots in disturbance areas is identical to those currently used in the PSP system.

There will be plots established in cutovers that have residual stems. In these cases, any residual stems will be measured and included as part of the Regen Sapling Plot stem tally.

4. *Equipment*

Take all equipment as required for a fire originated PSP Establishment. Include the following :

- seven conduit posts
- four regen posts
- one leveling rod - metric (sapling stage)
- four pin flags
- one plot center stake with attached radius chain-(1.78m)

- ♦ one metric measuring tape
- ♦ calipers
- ♦ paint stick (for marking dbh on saplings)
- ♦ wired sapling tags
- ♦ witness stake-(if required)
- ♦ GPS unit
- ♦ witness post

5. *Plot Layout*

The full tree plot and all sub-plots will be set up at the initial plot establishment. Office preparation and travel to the plot are the same as for plots in mature stands which are documented in Section III and IV of the Natural Stand PSP Manual. The reserves will be harvested sometime during the life of the plot, so if the face of the reserve is used as a starting point, the plot should also be referenced by a witness post with a tag attached at roadside showing the bearing and distance to the plot. Layout the full tree plot as described in Section IV (b) of the fire originated PSP Manual.

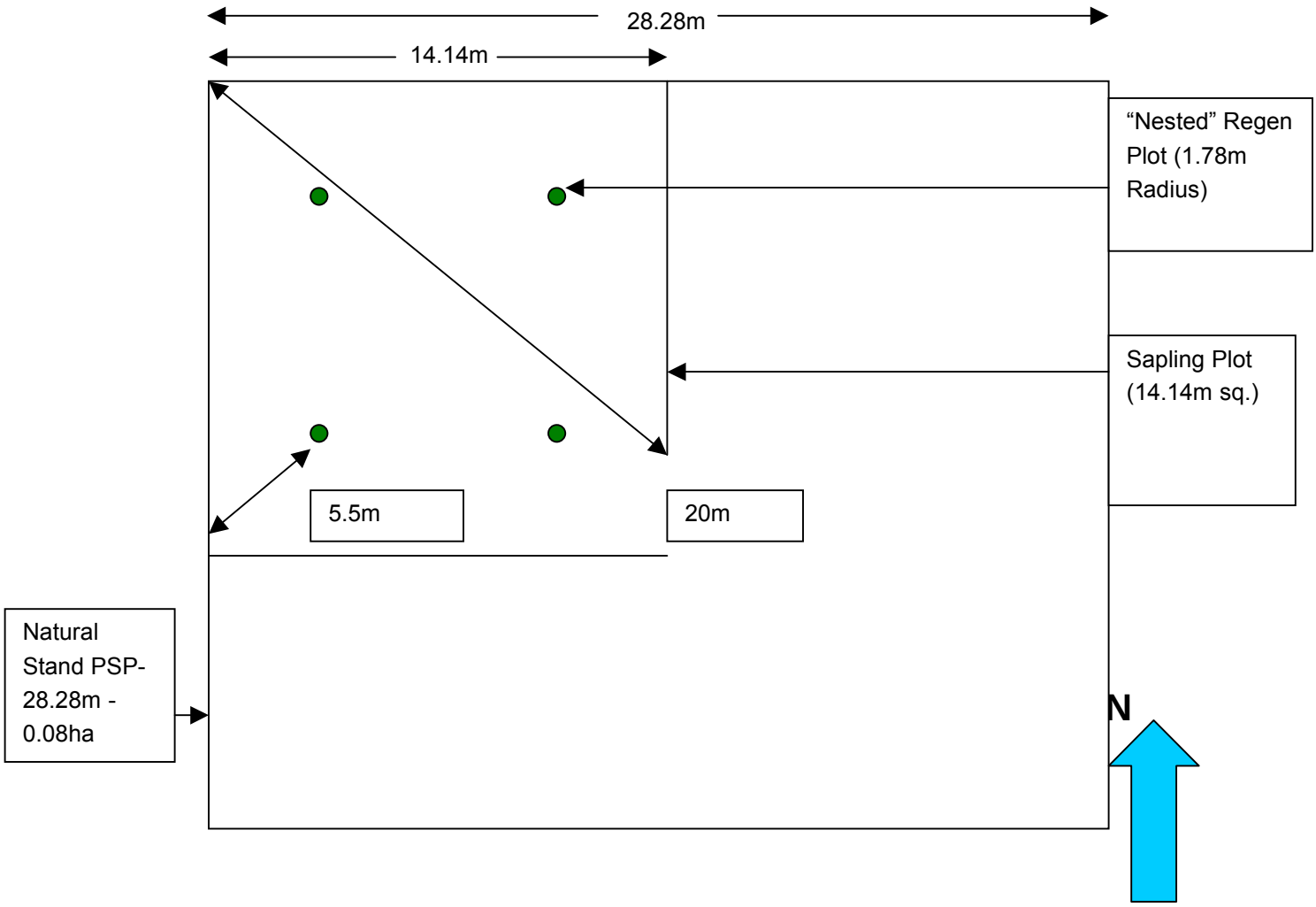
The Regen/Sapling plot will be 0.02 ha, 14.14 meters per side, and located in the entire northwest quarter of the full tree plot. Use the NW and NE corner post to align a post 14.14 meters from the NW corner post. This will establish the NE corner post for the regen sapling plot.

Use the NW and SW corner posts of the full tree plot to align a post 14.14 meter south of the NW corner post. This will establish the SW corner post of the sapling plot. The center post and NW corner post are common to both plots.

The regeneration plots will be 0.001 ha with a radius of 1.78 meters. Four plots will be nested within the sapling plot. The regeneration plots will be located 5.5 meters from the corner posts of the sapling plots at bearings of 45 degrees, 135 degrees, 225 degrees, and 315 degrees.

Use the 70 centimeter conduit post provided to stake the regeneration plot center. To assure exact plot boundaries, a straight, unobstructed, taut line is used to measure from plot center or plot corner posts, to the center of the regen plot (5.5 meters).

REGEN SAPLING PLOT LAYOUT DIAGRAM



6. **Measurement**

Regeneration Plot

A separate tally sheet labeled **"REGEN ONLY"** will be used for the "Regeneration Plot" data. Regen stems will be coded on this Tally sheet under “tree type” as **“1”**)

Tree Numbering (Regen Stems)
Regen trees will be numbered using a decimal system to describe tree number, and plot measurement number.
Example:

Tree # 1	**Measurement # 1**	**= 1.1**
Tree # 2	**Measurement # 1**	**= 2.1**
Tree # 3	**Measurement # 1**	**= 3.1**
Tree # 1 @	**Measurement # 2**	**= 1.2**
Tree # 2 @	**Measurement # 2**	**= 2.2**
Tree # 3 @	**Measurement # 2**	**= 3.2**

NO Diameter, or Crown Heights are required for "Regen" trees.
Total height will be measured to the nearest centimeter (0.01 meter) and recorded for each tree. Individual trees will not require tagging and numbering. The field type will be based on the full tree plot. Data will be collected on these regen plots until all stems are sapling size. All other data will be collected as per instructions in the PSP field manual.
Species will be recorded for each regen tree tallied
Condition Codes will be recorded for any stem if applicable.
Once any regen either within the 0.02ha sapling plot or any of the four nested 0.001ha regen sub-plots reaches a height of 1.3m, it will be tagged, numbered and tallied as a "**Sapling**", (**tally sheet code “2”**).

Sapling Plot

. Divide the NW quarter into three approximately equal strips and number the saplings in the same sequence as used for the full tree plot. Mark each sapling at breast height (1.3m) with a paint stick. The tags will be wired onto a viable, healthy, lateral branch in such a way that the branch will not be girdled by the wire, but the wire will not slip off due to climactic or animal occurrences. If no viable lateral branch is available (as in the case of young trembling aspen or balsam poplar), then the main stem can be used. Great care must be taken in this instance that sufficient room is left by the wired tag for the tree to expand without becoming girdled by the wire. The tags will be wired as close to 1.3 meters as possible. At the time of each re measurement, DBH may have to be remarked (for diameter reading) with a paint stick and tags (wires) may have to be adjusted for increased tree diameter, lateral branch growth, or decay. Once any “Sapling” reaches 51mm at Breast Height, it will be permanently tagged at Breast Height, numbered, and tallied as a **“Tree”, (tally sheet code “Wholtype 3”).**

Tree Plot

All viable stems located within the full .08ha plot, which are equal to or greater than 51mm at breast height will be measured for “normal tree values” (diameter, height, crown height etc.) These residual stems will be coded with a “**3**” under the “Wholtype” (formerly titled – “PL-STA”) column on the tally sheet to indicate “Tree”.

Total Height will be measured and recorded on every viable sapling included in the Regen Sapling portion of the plot using a metric leveling rod and recorded to the nearest CENTIMETER. If the average height (>4m) of the saplings make the use of a leveling rod inefficient, than use a Suunto Clinometer, or Vertex for measureing heights. Heights to the nearest tenth of a meter need only be recorded if a Clinometer, or Vertex is used to determine heights. Measured tree heights will also be taken on residual stems encountered within the entire plot.

Crown Height will be measured and recorded on every fifth tree in the Regen Sapling Plot, commencing with tree #1, and continuing with trees 5,10,15,20,etc. Crown heights are not required on Deciduous saplings or on "Regen". Crown heights are required on any "fifth" residual stem encountered within the entire plot.

Diameter at 1.3 meters (dbh) will be measured to the nearest 1 millimeter on ALL viable sapling and residual stems in the plot. All other data will be collected as per instructions in the PSP Field Manual. As an aid to locating trees at re measurement, use the "Regen Plot/Strip #" column on the tally sheet to list which tree numbers are in each strip.

Age of Stand

The age of the stand will be determined by counting annual whorls on three " Top Height " stems (excluding residual trees) in the Regen Sapling portion of the plot. These ages will be recorded in the appropriate section of the tally sheet adjacent to the individual tree on which the age was determined.

Tree Age Selection Criteria

Over 90% of the trees tallied are Coniferous	**3 Coniferous samples**
All trees tallied are Deciduous	**3 Deciduous samples**
More than 50% of the trees are tallied Coniferous, but at least 10% of the trees tallied are Deciduous	**2 Coniferous and 1 Deciduous sample**
More than 50% of the trees tallied are Deciduous, but at least 1 Conifer has been tallied	**2 Deciduous samples, and 1 Coniferous sample**

G. **Recording Plot Data**

1) *Location and Survey #-* Location consists of 1 digit for Meridian, 3 digits for Township, and 2 for Range, in that order. Survey # indicates Section (and plot number) and will be recorded as a two digit number. (e.g. Township 67- Range 10- W-6-Meridian Section 1 will be "6 067 10 01").

2) *Survey Date-* Survey Date indicates date of plot Establishment or Re measurement and consists of two digits for Year, two digits for Month, and two digits for Day of month, recorded in that order. (e.g. July 24,1990, shall be recorded as 90-07-24)

3) *AFS Stand ID* - This is a number assigned to each polygon on the Phase-3-Cover type Maps presently provided by the Alberta Provincial Government. This number can be recorded on the PSP Header Page in the field if, and only if, the Establishment Crew can determine that the Plot falls within a specific stand. If this can not be unmistakably determined while in the field, than the GPS file collected at plot center will verify actual plot location. In all cases, the corrected GPS file will be the determining factor in actual plot field location.

NOTE: ***As of 1998/12/31 this data will no longer be recorded by field crews. The GIS will assign a stand number based on a GPS file collected at plot center.***

4) *Area-* This denotes plot size (in hectares).

5) ***For Regen Sapling "*****.08" will be recorded on the Fixed Header Page**

0.08--Full Tree Plot

0.04--Reduced Full Tree Plot

0.02-- Sapling Plot (in harvested areas)

0.001--Regen Plot(nested sub-plot)

Understory

Understoreys are defined and recorded when there are two or more distinct, visible layers. Most stands have only two layers. Generally the two layers are intermixed, i.e., when viewed vertically, one layer is above the other. ***The average height of the top layer must differ from the average height of the lower layer by 3m or more.***

Non-Productive

30 - scrub
31 - water
34 - open muskeg, bog, marsh
35 - treed muskeg
36 - grassland
38 - above tree line
42 - cutbank

5) *Overstory/Understory*-This is a subjective field description of the Forest Cover Type within the PSP ONLY! As of January 1, 1995, all field typing will be recorded as per the Alberta Vegetation Inventory Standards Manual -(AVI)

6) *Watershed*- No longer recorded

7) *Aspect*- Refers to the range in degrees in which the dominant slope in the plot faces. Aspect will be recorded as a one or two digit code number as listed on the PSP Master Code sheet.

8) *Slope*- Slope will be measured and recorded in percent and will be taken along the same bearing used to determine "*Aspect*". Only one slope measurement is required.

9) *Crew ID*- This is a list of the personnel involved in collecting PSP data. Full names will be recorded in the space provided on the header page.

10) *Photo #-* No longer recorded

11) *Arda -* No longer recorded

12) *Slope Position* -Refers to the plot position in regards to the overall landscape profile. (refer to psp master code sheet for appropriate letter code.)

13) *Soil Texture*-- This information can be collected while determining duff depth. Subjective analysis of the soil is all that is required. (see Appendix I, Soil Sampling By Feel).

14) ***Drainage***- The following descriptions of drainage should be used in determining this category:

a) **VR-** *Very rapidly drained*-- Water is removed from the soil very rapidly in relation to supply. There may be very rapid subsurface flow during heavy rainfall provided there is a steep gradient. Soils have a very low available water storage capacity (usually less than 2.5cm) and are also usually coarse textured, shallow or both. Water source is precipitin.

b) **R**- *Rapidly drained*-- Water is removed from the soil rapidly in relation to supply. Soils have low available water storage capacity (2.5-4cm) and are usually coarse textured, shallow or both. Water source is precipitation.

c) **W**- *Well drained*-- Water is removed from the soil readily but not rapidly. Excess water flows downward readily into underlying pervious material or laterally as subsurface flow. Soils have intermediate available water storage capacity (4-5cm) and are generally intermediate in texture and depth. Water source is precipitation.

d) **MW**- *Moderately well drained*-- Water is removed from the soil somewhat slowly in relation to supply. Excess water is removed somewhat slowly due to low perviousness, shallow water table, lack of gradient, or some combination of these. Soils have intermediate to high water storage capacity (5-6cm) and are usually medium to fine textured. Precipitation is the dominant water source in medium to fine textured soils.

e) **I-** *Imperfectly drained*-- Water is removed from the soil sufficiently slowly in relation to supply to keep the soil wet for a significant part of the growing season. Excess water moves slowly downward if precipitation is the major supply.

f) **P**- *Poorly drained*-- Water is removed so slowly in relation to supply that the soil remains wet for a comparatively large part of the time the soil is not frozen. Excess water is evident in the soil for a large part of the time. Subsurface flow or groundwater flow or both in addition to precipitation are the main water sources. Soils are gleyed subgroups, Gleysols, and Organic.

g) **VP**- *Very poorly drained*-- Water is removed from the soil so slowly that the water table remains at or on the surface for the greater part of the time the soil is not frozen. Groundwater flow and subsurface flow are the major water sources. Soils are Gleysolic or Organic.

15) *Duff* -The depth, recorded in centimeters of the organic and litter layer of the forest floor to Mineral Soil.

16) *Softwood Ingress/ Hardwood Ingress*- A stem in this category is defined as any viable tree that is too small to be tagged and tallied (<51mm @ dbh). This stem count is only performed in the Natural Stand Permanent Sample Plot, and is recorded on the Fixed Header under the heading of SFTWD INGR, and HRDWD INGR, respectively.

17) *Plot / Tree Condition-* Collect data as documented in the PSP Field Manual using the following condition codes when necessary. These codes can be used to describe an individual trees condition, (e.g.-disease, or broken top,) and shall be recorded in the proper column adjacent to the specific tree number on the PSP tally sheet under the abbreviated title “Cond”, or they can be used to reflect some other influence on the growth of trees within the PSP as a whole, (e.g.-climatic, or mechanical due to seismic line through plot.) In the latter case the appropriate code will be recorded under "PLOT CONDITION" on the PSP header page.

18) **Tree Condition**

7 The tree is dead and fallen down
8 The tree is dead and standing
9 The tree cannot be found
10 Non-suspect (in pure trembling aspen stands only)
11 Scars and other defects
12 Conks and punks
13 Broken tops
13.1 Forked tops
15 Insects
16 Disease
16.1 Crook or sweep (current definition of sweep is 6 inches in 12 feet)
17 Browsed above DBH
17.1 Browsed below DBH
17.2 Rubs/scars caused by ungulates or fur bearers
18 Climatic; hail, snow, redbelt

Plot Condition

14 Fire; plot or tree completely destroyed
14.1 Fire; plot or tree partially destroyed
19 Mechanical; seismic lines
19.1 Roads
19.2 Pipeline or utilities
19.3 Wellsites
19.4 Floods

19) *Comments*

a) Plot Description - this requires a brief description of topography, vegetation, and other general information.

b) Wildlife - this includes wildlife sightings, browse, droppings, or tracks. Indicate also some measure of frequency of any observations.

c) Shrubs - indicate the three most common shrubs, plants, or mosses, not previously recorded under "Indicator Species".

d) Indicator Species - information on various "Indicator Species" as part of our Ecologically based forest philosophy will be collected at each plot site. This information will be recorded on the PSP Header Page under the abbreviated headings of "IND SPEC 1 - %, IND SPEC 2 - %, IND SPEC 3 - %. The indicator species are listed on the PSP Code Sheet in the crew clipboard. A density table is also listed.

"Percent" of cover is determined by estimating the total plot area that is covered by a downward projection of a species foliage (or crown). Small gaps in foliage cover of a single stem are considered normal and are not deducted from the cover calculations. Presence of *Arboreal Lichen*, and percent of stems hosting it up to a 2-meter browse line will also be recorded.

	Common Name	Scientific Name
	Shrubs	
1.1	Blueberry	Vaccinum Myrtilloides
1.2	Devils Club	Oplopanax Horridum
1.3	White Flower Rhododendron	Rhododendron Albiflorum
1.4	Labrador Tea	Ledum Green Landicum
1.5	Redosier Dogwood	Cornus Stolonifera
1.6	Alder	Alnus Crispa
1.7	Willow	Salix Bebbiana
	Dwarf Woody Plants	
2.1	Cranberry (low bush)	Viburnum Edule
2.2	Bearberry	Arctostaphylos Uva-Ursi
	Ferns	
3.1	Woodlands Horsetail	Equisetum Sylvaticum
3.2	Oak Fern	Gymnocarpium Dryopteris
	Forbs	
4.1	Sarsaparilla	Aralia Nudicaulis
4.2	Raspberry	Rubus Pubescens
	Grasses	
5.0	All	
	Lichens	
6.1	Reindeer	Cladina Mitis
6.2	Greendog	Peltigra Aphthosa
6.3	Arboreal	--
	Mosses	
7.1	Feather	All
7.2	Sphagnum	--

Density Table for Indicator Species

Code	Percent of Cover
1	**0-30%**
2	**31-50%**
3	**51-70%**
4	**71-100%**

Veteran Trees:
Primarily applies in this context to Regenerated Stands and delineates individual Residual trees from a much older stand (on average, 40 years older than the mean age of the main stand) **Recorded as "1"** in the **"Veteran"** column on the tally sheet if applicable (leave blank if not applicable)

20) **Finishing Up The Plot and collecting a GPS File**

Tie a tree tag to the center post that has the plot number on it, then paint the post. Five trees around this should be painted at breast and stump height (30sq cm)facing the center post. **Do not blaze any trees in the plot with an axe.** Corner posts must also be painted.

One member of the crew should then walk through the plot to make sure that all trees were included that should have been, while the other person readies the equipment for the trip back out. Ensure that a GPS file of no less than 300 signal points has been collected at plot center. The GPS file will be recorded as, e.g.: "PT650701 where ;"(P=PSP, T=full tree, 65=Township, 07=Range, 01=Section and Plot number)

21) **Installation of PSP Buffers**

As a final visual aid to plot identification and recovery, Two plot buffer zones will be established ***when required***. ***The intent of these buffers is to protect PSPs from Industrial influence, other than Harvesting Operations.*** The primary buffer will feature trees just outside the main plot boundary painted with a 30cm square blue paint blaze located 2-3m up the stem of the tree. The paint will face away from the plot. The secondary buffer ,also blue in color will be established in the following fashion;
1)using a hip chain, travel 106.08m at 315°, from the center post. This will be the northwest corner of the buffer. 2)travel 150m at 90°, painting the perimeter trees facing away from the plot. This will establish the North face of the buffer.
3)travel 150m at 180°, painting the perimeter trees facing away from the plot. This will establish the East face of the buffer.
4)travel 150m at 270°, blazing the perimeter trees facing away from the plot. This will establish the South face of the buffer.
5)travel 150m at 360°, blazing the perimeter trees facing away from the plot. This will establish the West face of the buffer.

22) **Travel Sheets**

Travel Sheets will indicate in a neat and accurate fashion:

a) bearing and distance to plot center from Start Point

b) species and general ht. of Start Point tree

c) direction of start point tree in relation to access road or cutline.

e) Travel Sketch will show (using Phase 3 mapping symbols,)general access to Start Point from: nearest road or other obvious geographic feature

f) Start Point will be indicated on the sketch by the abbreviation "SP"

g) Plot Center will be indicated on the sketch by the abbreviation "CP"

h) North arrow will be illustrated on Travel Sheet

i)Distances traveled on roads or cutlines to the "SP" should be clocked on the odometer and recorded on the Travel Sheet.

23) **Remeasurement of Permanent Sample Plots**

It is our proposal to remeasure Permanent Sample Plots according to the following schedule:

Stand - Age (years)	**Remeasurement Interval**
0-20	**2 years**
21-50	**5-years**
51-140	**10-years**
141+	**5-years**

Alberta Vegetation Inventory-(AVI)

Crown Closures

This is the percentage of ground area covered by a vertical projection of tree crowns onto the ground.

Crown Closure %	Interpretation and Database Code
6-30	A
31-50	B
51-70	C
71-100	D

Height

Stand height is interpreted or determined through field measurements and recorded to the nearest meter. Stand height is the **average height** of the dominant and codominant trees of the leading species. Adjacent stands separated on the basis of height alone must have a difference equal to or greater than 3 meters.

Species Composition

List species (five maximum) in decreasing order based on **crown closure.** Indicate the percentage of each species to the nearest 10% with a subscript, e.g.,Sw8AT2=80% Sw, 20% AT.The subscripts must add to 10 (or 100%).

When more than five species occur in a stand, these additional coniferous or deciduous species are added to the appropriate dominant coniferous or deciduous species in the covertype. For example , a stand composed of 24% Sw, 20%P, 16% Sb, 14%Pb, 10%Bw, 9% AT, 7%Fb would be labeled -SW3P2 PB2SB2BW1.

VIABLE TREE SPECIES	CODE
White Spruce - Picea glauca	**Sw**
Engelman Spruce - Picea engelmanni	**Sw (Se)**
Black Spruce - Picea mariana	**Sb**
Lodgepole Pine - Pinus contorta	**P (Pl)**
Jack Pine - Pinus banksiana	P (Pj)
White-bark Pine - Pinus albicaulis	P (Pa)
Limber Pine - Pinus flexilis	P (Pf)
Balsam Fir - Abies balsamea	**Fb**
Alpine Fir - Abies lasiocarpa	Fb (Fa)
Douglas Fir - Pseudotsuga menziesii	Fd
Alpine Larch - Larix lyallii	Lt (La)
Tamarack - Larix laricina	**Lt**
Western Larch - Larix occidentalis	Lt (Lw**)**
Trembling Aspen - Populus tremuloides	**AT**
Balsam Poplar - Populas balsamifera	**Pb**
Paper Birch - Betula papyrifera	**Bw**

Understory

Understoreys are defined and recorded when there are two or more distinct, visible layers. Most stands have only two layers. Generally the two layers are intermixed, i.e., when viewed vertically, one layer is above the other. ***The average height of the top layer must differ from the average height of the lower layer by 3m or more.***

Non-Productive

30 - scrub
31 - water
34 - open muskeg, bog, marsh
35 - treed muskeg
36 - grassland
38 - above tree line
42 - cutbank

PSP MASTER CODE SHEET

AVI

psp/code.doc/update/2000/01/12

CROWN CLOSURE-

A: 6-30
B: 31-50
C: 51-70
D: 71-100

HEIGHT

Average height of dominant and codominant trees of leading species recorded to the nearest metre.

SPECIES

SW-WHITE SPRUCE
SE-ENGELMAN SPRUCE
SB-BLACK SPRUCE
PL-LODGEPOLE PINE
PJ-JACK PINE
FB-BALSAM FIR

SPECIES

FA-ALPINE FIR
LT-TAMARACK
AT-TREMBLING ASPEN
PB-BALSAM POPLAR
BW-PAPER BIRCH

SOIL TEXTURE

L-LOAM
SiL-SILT LOAM
Si-SILT
SCL-SANDY CLAY LOAM
CL-CLAY LOAM
SiCL-SILTY CLAY LOAM
SC-SANDY CLAY
SiC-SILTY CLAY
C-CLAY
HC-HEAVY CLAY
SL-SANDY LOAM
LS-LOAMY SAND

SOIL TEXTURE

S-SAND
A-BLOCKY
B-BOULDERY
K-COBBLY
G-GRAVELLY
R-RUBBLY
F-FIBRIC
M-MESIC
H-HUMIC
W-WOODY
O-UNDIFFERENTIATED
ROC-ROCKY

PREDOMINANT ASPECT

Aspect refers to the range in degrees which the predominant slope in the plot faces.It will be recorded as a one, or two digit code as listed below (updated 2000/01/12/)

CODE	ASPECT	BEARING RANGE
1:	E	68^{o}-112^{o}
2:	S	158^{o}-202^{o}
3:	N	337^{o}-22^{o}
4:	W	248^{o}-292^{o}
5:	NE	23^{o}-67^{o}
6:	NW	293^{o}-336^{o}
7:	SE	113^{o}-157^{o}
8:	SW	203^{o}-247^{o}
9:	FL	Flat(no aspect)
10:	AL	All Aspects

SPECIES COMPOSITION

List species (5 maximum)in decreasing order based on crown closure , indicating the percentage of each species to the nearest 10% , with a subscript , e.g. ,Sw8 Aw2. The subscripts must add up to 10 (100%)

SLOPE

Record the measured slope in percent

DRAINAGE

VR-Very Rapidly Drained
R-Rapidly Drained
W-Well Drained
MW-Moderately well Drained
I-Imperfectly Drained
p-Poorly Drained
VP-Very Poorly Drained

TREE DAMAGE CODES

7- tree is dead and down
8 -tree is dead and standing
9 - tree can't be found
10 - non suspect (pure AW stands only)
11 - scars and other defects
12 - conks or punks
13 - broken tops
13.1 - forked tops
15.0 - insect damage
16.0 - disease
16.1 - crook or sweep
17.0 - browsed above dbh
17.1 - browsed below dbh
17.2 - rubs/scars caused by wildlife
18.0 - climatic/hail ,snow , redbelt

PLOT DAMAGE CODES

14.0 - fire; plot completely destroyed
14.1 - fire; plot partially destroyed
19.0 - seismic line
19.1 - roads
19.2 - pipeline or utilities
19.3 – well sites
19.4 – floods

SLOPE POSITION

A-Crest
B-Upper Slope
C-Mid Slope
D-Lower Slope
E-Toe
F-Depression
G-Level
H-Other

INDICATOR SP DENSITY TBL.

1 = 0-30%
2 = 31-50%
3 = 51-70%
4 = 71-100%

TREE TYPE CODE (wholtype_val)

1 = REGEN
2 = SAPLING
3 = TREE

INDICATOR SPECIES

SHRUBS	***Dwarf Woody Plants***	***Ferns***	***Forbs***	***Grasses***	***LICHENS***	***MOSSES***
1.1-blueberry	**2.1**-cranberry	**3.1**-horsetail	**4.1**-sarsaparilla	**5.0**-all	**6.1**-reindeer	**7.1**-feather
1.2-devil's club	**2.2**-bearberry	**3.2**-oakfern	**4.2**-raspberry		**6.2**-greendog	**7.2**-sphagnum
1.3-rhododenddron					**6.3**-arboreal(0-2m)	
1.4-labrador tea						
1.5-red osier - dogwood						
1.6-alder						
1.7-willow						

Crown Position

1.- **DOMINANT**: Trees with crowns extending above the general level of the canopy and receiving full light above and partly from the side; taller than the average trees in the stand and with crowns well developed but possibly somewhat crowded on the sides.

2.- **CODOMINANT**: Trees with crowns forming the general level of the canopy and receiving full light from above but comparatively little from the sides; usually with medium sized crowns more or less crowded on the sides.

3.- INTERMEDIATE: Trees shorter than the two preceeding classes with crowns either below or extending into the canopy formed by codominant and dominant trees; receiving little direct light from above and none from the sides; usually with small crowns considerably crowded on the sides.

4.- SUPPRESSED: Trees with crowns entirely below the general level of the crown cover, receiving no direct light either from above or from the sides.

5.- OPEN GROWN: Trees with crowns receiving full light from all sides due to openness.

VETERAN: Primarily applies to Regenerated Stands, and delineates Residual trees from a much older stand (on average, 40 years older than the mean age of the main stand) **Recorded as "1"** in the **"Veteran"** column on the tally sheet if applicable (leave blank if not applicable)

APPENDIX IV – ADDENDUM TO THE CURRENT REGENERATED STAND PSP FIELD MANUAL

Using "Growth Intercept" to determine "Site Index" in Regenerated Stands

Wednesday, May 19, 1999

Updated March 22, 2002

Site Index

Site Index is a measure of site productivity and is commonly expressed in terms of **"the height of the tree when it is 50 years at breast height age".**

- A *Site Index* of "17" means the tree was, or will be 17 meters in height when it is 50 years old.

Growth Intercept

- A non traditional approach must be applied to measure site index on regenerating stands, due to the young age (and relatively short heights of the target regenerated stems)
- The adopted approach uses an early measure of growth, growth intercept at a pre determined, fixed height, or reference height.
- Growth Intercept can therefor be defined as "the total height of a tree to 3, 4, or 5 complete growing years above breast height age *or some other* pre defined, height reference point,"i.e:(.75m)..

Growth Intercept Points

The reference height has been set at the following points in order of preference:

ABOVE BREAST HEIGHT

- 5 complete years of growth above **breast height(BH)**
- 4 complete years of growth above **breast height(BH)**
- 3 complete years of growth above **breast height(BH)**

.75m ABOVE POINT OF GERMINATION

- 5 complete years of growth above .75m
- 4 complete years of growth above .75m
- 3 complete years of growth above .75m

Measurement Errors

The greatest variable for error is the identification of yearly growth periods,(whorl counts).

- One year's difference can have a large influence in a 3 to 5 year measurement period.
- **If an accurate assessment of age can not be done, within 95% confidence limits, then void that plot for Growth Intercept /Plot Age measurements.**

GROWTH INTERCEPT PROCEDURE IN REGENERATED

PERMANENT SAMPLE PLOTS

If the plot (stand) age is greater than thirty (30) years @ "BH Age", Growth Intercept data collection is <u>NOT</u> required!

Target Species for Growth Intercept	Non Target Species
White Spruce	Black Spruce, Balsam Fir
Lodgepole Pine	Larch(Tamarack)
Trembling Aspen	Balsam Poplar, White Birch

Step	Action
1	Select the 3 "top height" trees from the leading species in the **0.02ha** Sapling plot. • **Top Height stem selection will be based on "<u>CURRENT MEASURED</u>" tree data.** • If the "lead" species in the plot is NOT a GI target species, but there are **3 or more target Coniferous** stems in the plot, then sample the second species. • **Do Not Use Residual (Veterans)Stems!!**
2	Determine reference point for Growth Intercept (.75m, or Breast Height), on the target species. • **The first measurement point (year - "0") will always be the first whorl above the reference point.**
3	**REFERANCE HEIGHT:** • Use 0.75m reference height for Pine, and 1.3m for White Spruce whenever possible. • Three (3) year intervals are sufficient, and will meet a minimum GI requirement**, but use 4 or 5 years whenever possible**. 1. Record which reference height was used: (e.g. .75m or BH) 2.Record the number of interval years in the Growth Intercept measurement: (e.g. 3, - 4, - or 5 yrs.) Record the total length measured: (e.g. total of all 3, 4, or 5 yrs. combined).

GENERAL AGING REQUIREMENTS

FOR REGENERATED PSP'S

Coniferous Species	Deciduous Species
White Spruce	Trembling Aspen
Lodgepole Pine	Balsam Poplar
Black Spruce	White Birch
Balsam Fir	
Larch (Tamarack)	

Selection process for Ages on Coniferous and Deciduous stems will be treated independent of each other. Select and determine Age for 3 top height Deciduous stems (if >20 % content) If there are "**3" or more Coniferous stems in the same plot**, then select 3 top ht. Conifers for aging in addition to the Deciduous stems.

Coniferous Stems

- Select 3 "top height" Coniferous stems within the **0.02ha** plot for aging.
- If stems do not meet the requirements for "top ht", then use average height of the target species to select 3 samples for aging based on whorl count.
- Record Total Age (on Permanent Sample Plot tally sheet) based on "whorl" count from germination point.
- If required, select one Conifer for Destructive sample and ring count outside plot to verify whorl count taken inside plot.

Deciduous Stems

A destructive sample will be performed on selected Deciduous stems outside the plot when the total stem content within the plot indicates **>(greater than) 20 %** Deciduous content.

- Select 2 "Top Height" Deciduous stems outside the plot with diameters similar to top ht stems in the plot.
- If stems do not meet the requirements for "top ht", then use average height of the target species to select 3 samples for aging based on ring count.
- Outside Plot, cut the stem through at ground level (germination point), and at Breast Height.
- Record Total Age @ BH on the Growth Intercept Tally Sheet (when total tree height allows).
- Count the annual growth rings at germination point.
- Record under "Ring Count @ germination point" on Growth Intercept Tally Tally Sheet.

Definitions

Definitions

Top Height

- ***"Top Height"*** is defined as the average height of the 100 **largest diameter** suitable trees per hectare.

A suitable tree will meet the following criteria:

- is one of the 3 largest DBH trees in the plot
- have no damage affecting height growth
- not have been suppressed
- is standing and live with good vigor and;
- not be a veteran (residual)

BH

- ***Breast Height*** is defined as 1.3m above ground (point of germination)

BH Age

- Age of sampled tree at 1.3m determined by ring count or increment bore sample

Comparative Top Height Stems

- Any stem of the same species under sample, and meeting all the criteria for "top height" within a range of +/-3mm @ BH

Total Age

In order to determine "stand age", the following definition will apply to Total Age for this project:

Age of a specific stem at "***germination point***"

(a) **Coniferous Species**; Whorl count on 3 top height stems within the plot, and verified by destructive sampling on comparative stem outside the plot if required .

(b) **Deciduous Species**; Destructive sampling and annual growth ring count outside plot on ***comparative top height stems***.

GROWTH INTERCEPT TALLY SHEET

(REGENERATED STANDS)

LOCATION [_____] SURVEY DATE [_____] BLOCK. # [_____] CREW ID [_____]

GROWTH INTERCEPT

PLOT (Stand) AGE

Tree #	Species	DBH (nearest mm)	Total Tree Height (nearest cm)	Reference Height (BH-or .75m)	Total Years in "GI" (3,4,5)	Total "GI" Length Measured (nearest cm)	Total Conifer Age (Whorl Count)	Total Age @ Breast Height (Whorl Count)	Sample taken outside Plot? (Y / N)	Ring Count (@ germination point)	Ring Count @ BH

COMMENTS:_____

_____

_____

_____

APPENDIX V - ADDITIONAL NOTES ON GENETIC GAIN VERIFICATION

BACKGROUND

To aid the discussion the following definitions are provided along with a general description of the differences between monitoring and experimentation.

Treatment response is the difference between the treated stand growth (in this case the genetically improved stand) and the untreated (wild stock) stand. The response is what you are buying with your silviculture investment dollars. Treatment response is the incremental gain (or loss) due to the treatment.

Estimating treatment response is the process of quantifying the treatment effect.

Monitoring operational treatment response requires estimating treatment response on a representative sample of sites from the population of interest (e.g., all genetically improved plantations) and comparing this to the expected treatment response.

Typically, treatment responses are estimated in research or operational trials. In either type of trial, plots are chosen to be as homogeneous as possible and treatments are randomly assigned to plots. While the distinction between the two approaches is not always clear, there are some commonly accepted differences. Research trials typically have more intensive measurements, are conducted on a few sites, and have smaller plots to increase the homogeneity between plots. In addition, the treatments are carefully applied to minimize variation. In contrast, operational trials typically have less intensive measurements, are established across a wide range of sites, and have larger plots so that treatments can be operationally applied.

The trade-off between the two approaches is in the ability to detect treatment response and the applicability of the results to current operational treatments. The steps taken in a typical research trial to increase the chances of observing a treatment response often decrease the applicability of the results to current operational treatments. Conversely, the steps taken in an operational trial to increase the applicability of the results decrease the chance of observing a treatment response and the ability to make any statements about the treatment effect.

If monitoring operational treatment response is the objective, then the sites chosen on which to estimate treatment response must be representative of the population of treated sites. Therefore, sites must be randomly chosen from the population of sites to be treated prior to treatment. Portions of these sites must then be randomly chosen to be set aside as control areas and plots must be randomly established within treated and control areas. This results in heterogeneous plots, which greatly reduces the likelihood of observing the treatment effect. The difference between control and treated areas will be as much or more a function of site differences as treatment effect. Treatment effect will be present, but it will be very difficult to quantify without a large sample size. Treatment effects are often small relative to the natural variability.

We do not recommend attempting to monitor operational treatment response. While theoretically possible, it is not practically feasible.

WHY COLLECT INFORMATION ON ACTUAL GAINS?

There are three potential reasons to collect information on the actual gains (responses) obtained from planting genetically improved stock:

1. To provide data for the development of growth & yield models to predict future gains.
2. To provide feedback on whether or not the investment in genetically improved stock is worthwhile.
3. To ensure that the gains assumed in timber supply analyses are actually being obtained.

Data for G&Y Model Development

In order to predict the growth of genetically improved stock, key functions in most growth models will need to be modified, including:

- Site quality
- Height growth
- Growth and growing space
- Mortality

Data from progeny (individual tree) trials will not provide all the necessary data. Information is needed to translate individual tree attributes to unit area statistics. Breeding strategies may lead to selection of characteristics (e.g., wide crowns) that affect competition and competition-related mortality. Mortality analysis requires long-term records and records from mature stands. Well designed area based trials can initially be used to compare differences in early stand development. Predictions of differences at harvest will depend heavily on relationships observed in current PSP database.

Is Investing in Genetically Improved Stock Worthwhile?

It is obviously prudent to determine if the additional investment in improved stock provides an acceptable return by sufficiently increasing the value of the final harvest. In order to do this we need to make assumptions about the yields (volume and value) of stands planted with wild stock and the yields of stands planted with improved stock. Sensitivity and risk analysis can be used to determine the probability of success when the accuracy of future yield predictions are in question. Since we are typically planting improved stock today that is different than what was planted in the past we need to rely on model projections for our analyses.

Are the Improved Stands Growing as Predicted?

From a timber supply analysis perspective it really doesn't matter how the yield curves used are developed, as long as they have an acceptable margin of error. An acceptable margin of error is one that does not cause any "practically significant"[9] changes to the timber supply analysis. Yield curves for genetically improved stands may end up being correct for the wrong reasons, but from the timber supply perspective this does not matter (it could very well matter from an investment perspective, but not from a timber supply perspective).

[9] A practically significant difference is one that will change a management decision.

PROPOSED APPROACH TO DATA COLLECTION FOR GENETIC IMPROVEMENT

The proposed approach is to establish a series of research (realized gain) trials complemented with growth & yield monitoring plots. This approach will provide two types of data:

1. Research trial data with a high probability of observing the treatment effects and providing data for G&Y model development.
2. A large observational unbiased sample of the population of interest that can be used to check or calibrate G&Y model outputs, timber supply assumptions, and can also be analyzed on its own for response trends.